Social Capital and Fisheries Co-management in South Africa: The East Coast Rock Lobster Fishery in Tshani Mankozi, Wild Coast, Eastern Cape.

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Abstract

It is evident that natural fish stocks are in rapid decline and that millions of people around the world rely on these resources for food and for securing a livelihood. This has brought many social scientists, biologists and fisheries experts to acknowledge that communities need to take more control in managing their natural resources. The paradigm shift in fisheries management from a top-down resource orientated control to a participatory people-centred control is now being advocated in many maritime nations in facilitating community-based natural resource management. At the heart of these projects is the establishment of institutions and social networks that allow for clear communication and information sharing, based on scientific data and traditional knowledge which ultimately allow empowered communities to collectively manage their resources in partnership with government, market actors and many other stakeholders.

Central to the problem is the issue of access rights. In many situations where co-management of natural resources through community-government partnerships is advocated, the failure of coastal states to provide adequate legislature and regulatory frameworks has jeopardised such projects. A second issue is the failure of many states to provide adequate investments in social and human capital which will enable communities to become the primary stakeholder in the co-management of their natural resources. Whilst investments like capacity building, education, skills training and development, communications and institution building can initially require high financial investments, the regulatory costs for monitoring, controlling and surveying fish stocks along the coastline will go down as communities take ownership of their resources under sustainable awareness.

The main unit of investment therefore is social capital which allows for the increase in trust, cooperativeness, assertiveness, collective action and general capabilities of natural resource governance. High levels of social capital require good social relations and interactions which ultimately create a social network of fishers, community members and leaders, government officials, market players, researchers and various other stakeholders. Co-management thus has an inherent network structure made up of social relations on a horizontal scale amongst community members as well as on a vertical scale with government and fisheries

authorities. These bonding relations between people and the bridging relations with institutions provide the social capital currency that allows for a successful co-management solution to community-based natural resource governance.

The South African coastline is home to thousands of people who harvest the marine resources for food security and securing a basic income. Fishing is a major cultural and historical component of the livelihoods of many people along the coastline, particularly along the Wild Coast of South Africa located on its South-eastern shoreline. Due to the geopolitical nature of South Africa's apartheid past many people were located in former tribal lands called Bantustans. The Transkei, one of the biggest homelands, is home to some of South Africa's poorest people, many of whom rely on the marine resources.

By 1998 the government sought to acknowledge the previously unrecognised subsistence sector that lived along the South African coastline with the promulgation of the Marine Living Resources Act. The act sought to legalise access rights for fishers and provide opportunities for the development of commercial fisheries. The act and many subsequent policies largely called for co-management as a solution to the management of the subsistence sector. This thesis largely explains the administrative and legislative difficulties in transporting the participatory components of co-management to the ground level. As such co-management has largely remained in rhetoric whilst the government provides a contradictory policy regarding the management of subsistence and small-scale fishers.

This thesis attempts to provide qualitative ethnographic research of the East Coast Rock Lobster fishery located in a small fishing village in the Transkei. The fishery falls somewhere on the spectrum between the small-scale and subsistence sector as there are a basket of high and low value resources being harvested. It will be argued that in order to economically and socially develop the fishery the social capital and social networks of the community and various stakeholders needs to be analysed in order to effectively create a co-management network that can create a successful collective management of natural resources thereby sustaining these communities in the future.

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List of Abbreviations

4x4	Four Wheel Drive
ANC	African National Congress
CBNRM	Community-Based Natural Resource Management
CPUE	Catch-per-Unit-Effort
DAFF	Department of Agriculture, Forestry and Fishing
DEAT	Department of Environmental Affairs and Tourism
EBFM	Ecosystem-Based Fishery Management
ECRL	East Coast Rock Lobster
EEZ	Exclusive Economic Zones
EIA	Environmental Impact Assessment
FAO	United Nations Food and Agriculture Organisation
GEAR	Growth, Employment and Redistribution
HDI	Historically Disadvantaged Individual
IFQ	Individual Fishing Quotas
IRDP	Integrated Rural Development Programmes
ITQ	Individual Transferable Quota
IUU	Illegal, Unreported and Unregulated
LSC	Local Subsistence Committee
MEY	Maximum Economic Yield
MCM	Marine and Coastal Management

MCS	Monitoring Control and Surveillance
MLRA	Marine Living Resources Act
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
NGO	Non-governmental organisation
PCD	People-centred Development
RDP	Reconstruction and Development Programme
SADC	Southern African Development Community
SDI	Spatial Development Initiative
SFMU	Subsistence Fisheries Management Unit
SFTG	Subsistence Fisheries Task Group
SNA	Social Networks Analysis
TAC	Total Allowable Catch
TAE	Total Allowable Effort
TURFs	Territorial User Rights Fishery
UNCED	UN Conference on Environment and Development
WCRL	West Coast Rock Lobster
WSSD	World Summit on Sustainable Development
ZAR	South African Rand (currency)

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Introduction

The practise of fishing finds its place alongside some of the oldest forms of natural resource utilisation known to humankind. Over time the market has become less artisanal as it has moved through rapid social and economic change, expanded into boisterous commercial fishing and becoming one of the leading industries in today's economic order. The practice of fishing however remains still largely artisanal around the world providing food security for over one billion people (United Nations Environmental Programme, 2011: 83). Today there are more than 150 million people world-wide that are directly involved in fishing for a livelihood of which 90% are still subsistence or artisanal fishers (Masifundise, 2007: 1). With the industrial reform of fisheries and the need to expand into markets, there have arisen many social, economic and ecological issues that threaten the oceans' resources. Most disturbing is that it is reported that 70% of fish stocks around the world are fully exploited or overfished (Committee on World Food Security, 1999), and thus the ecological crisis is a crisis of society. This crisis exists not only with the future of fisheries but also in sustaining the livelihoods of coastal communities around the world.

Many communities were and still are unable to make the transition to commercial fishing methods as a result of, amongst other things, poverty and underdevelopment. These communities still utilise the ocean as they have for thousands of years, however they are facing massive regulation and reform based on Western scientific data within a neo-liberal economy that requires socio-economic adaptation of even the most isolated of communities. The global crisis in fish stocks and the privatisation of common property rights as governments attempt to take control of their countries' fisheries has largely resulted in community adaptation of an illegal nature in the name of survival. In other words, without an efficient management system and an all too often incapable fisheries administration, communities are forced to poach in order to secure a livelihood resulting in a rapid decline in global fish stocks.

This holds true for the 30 000 fishers that inhabit South Africa's coastline. In the past these fishers had no legal access to South Africa's marine resources (reserved for white commercial and recreational use) because the methods and quantities of harvesting

required did not conform to conditions set for recreational or commercial permits (Cockroft et al., 2002), and thus subsistence activity was found in the realm of the informal sector; the same sector as poachers and criminals. The apartheid system and the protection of white capital further alienated subsistence fishers along the coastline who relied on the resources for food security and basic incomes. This was and still is particularly evident in the former "Bantustan" homelands of the apartheid regime in which unregulated and incompliant fishing communities exist.

The first democratic election in 1994 brought with it the promise of social, economic and political transformation. Many previously criminalised and isolated fishers sought to gain fishing rights and formal recognition from the new government. This happened in 1998 when the White Paper on Fisheries (which outlined the new fisheries policy for South Africa) also included and recognised subsistence fishing. This was in line with many international and regional protocols and policies. Subsequently the Marine Living Resource Act of 1998 (MLRA) provided a definition of subsistence fishing thereby legalising the subsistence sector alongside commercial and recreational fisheries (MLRA, 1998).

The transformation of the industry under the MLRA embraced the three major pillars of sustainability equity and economic stability (Branch & Clark 2006: 3) which were all infused with co-management, ecology and participation rhetoric. These concepts are central components of sustainable development in which people participate in their own development and management of their natural resources whilst focusing on ecological outcomes under democratic principles. Of course balancing the three core elements is a difficult imperative (Kleinshmidt, Sauer & Britz, 2003; Cochrane, 2000) and the MLRA has been criticised for implementing a "one size fits all approach" to access rights, requiring it to compete with the large-scale commercial sector for the same resources (Isaacs, 2006: 51).

The Eastern Cape Province of South Africa and more specifically the Wild Coast coastline is particularly standing on a knife's point with regard to small-scale fishing access to resources, an increasing commercial presence, and evident ecological degradation. The area has the largest concentration of South Africa's subsistence fishers and due to South Africa's apartheid history a commercial presence is yet to fully develop in the same way it has for the West Coast in South Africa.

The difference is easily comparable when contrasting the harvesting of West Coast Rock Lobster (WCRL) *Jasus lalandii* and East Coast Rock Lobster *Panulirus homarus* (ECRL). The former has seen mass commercial exploitation and as a result Marine Coastal Management (MCM) has embarked on a stock rebuilding strategy (DEAT, 2002: 23). The ECRL has been previously harvested and sold to recreational fishers, cottage owners and hotels but has in recent years undergone a similar high-value ban as the WCRL. The ban however, works under exemption clauses and intricate legislative loopholes which leaves the fisheries somewhere in between the subsistence and commercial sector.

The tradition of lobster diving has in recent years evolved and adapted as harvesters compete with growing populations, commercial fisheries and even a growing number of recreational fishers. The Wild Coast provides a unique socio-economic landscape based on tribal tenure, homeland hangover, mass poverty, lack of infrastructure and most importantly unstable social networks that extend beyond the community. The question thus is how to accommodate the East Coast Rock Lobster fishery into South Africa's fishing industry without compromising sustainability but still facilitating socio-economic development?

This research is thus focused on bringing to attention the need for more sociological research to be undertaken in formalising a successful subsistence management system. The international trend on co-management and South Africa's social, political, economic and ecological appropriateness for such a strategy is addressed by looking at the social fabric of the Tshani Mankozi community, a small fishing village located in between the Mdumbi and Mthatha rivers, just a few kilometres north of Coffee Bay. A community needs to have a high abundance of social capital and systematic social networks in order for governmental and non-governmental institutions to co-manage the resources and ensure public participation. The research will focus on the high-value ECRL resource as it has been targeted as a main small-scale fisheries enterprise along the Wild Coast of South Africa, particularly around the Tshani Mankozi community.

Problem statement

The post-apartheid South African government has failed to properly accommodate the needs of the thousands of small-scale and subsistence fishers living along the coastline of South Africa. The MLRA has not sufficiently spelled out how this sector is supposed to be accommodated and developed in the new South Africa and with that over a decade of confusing access rights and administrative reforms has left the sector very much in the same circumstance under which they found themselves during apartheid. The failure to develop these fisheries and properly monitor and enforce fishing laws has dramatically increased the pressure on the marine living resources as well as on the livelihoods of fishers who rely on such resources. Whilst the government is full of empty promises based on co-management rhetoric and the promise of fisheries development, the reality is that poor coastal communities along the coastline, especially in the Eastern Cape, have not participated in the formation of fisheries regulations and governance procedures and as such the government has maintained a top-down enforcement of fisheries management which is slowly changing the social fabric of these communities and possibly putting more pressure on marine resources.

Research question:

- Using the ECRL fishery in Tshani Mankozi as a case study, what are the current implications for South Africa's small-scale sector in terms of the Marine Living Resources Act of 1998; and under what social circumstances is a co-management solution achievable in order to make these fisheries more sustainable and beneficial to subsistence fishers?

Goals of the research:

- Determining the socio-economic effects of South Africa's current legislation on the governance and regulation of the subsistence and small-scale fisheries sector in South Africa by using the ECRL fishery as a case study.
- Showing that there is a necessity for more sociological research in the development of fisheries in South Africa by determining levels of social capital and defining the social network structures in fishery arrangements in order to set up successful co-management arrangements and collective natural resource governance.

This thesis is therefore set out as follows: *Chapter 1* deals with the fisheries management development paradigm and its shift from a modernisation paradigm into more community-based approaches. South Africa's fishing legislation and policy with regards to small-scale fisheries is described in *Chapter 2* by showing that South Africa has adopted an individual rights-based management framework that has largely been implemented in a top-down manner creating some problematic administrative and social issues. The theory of co-management is further analysed in *Chapter 3* under a sociological point of view in which social relations and the concerns of affected communities are at the centre of the enterprise. *Chapter 4* uses the theories of social capital and social networks as a central unit of analysis in which it is argued that these elements are critical areas that may provide a co-management solution to South Africa's small-scale fisheries governance issues. The methodology of the research is described in *Chapter 5*. An overview of Eastern Cape policies and the ECRL fishery are described in *Chapter 6* with a brief background to the study site and the historical developments that have shaped the socio-economic landscape of the Wild Coast. *Chapter 7* provides a detailed account of the ECRL fishery along the Wild Coast with reference to the Tshani Mankozi community. *Chapter 8* describes the ethnographic study of fisher behaviour and an analysis of bonding social capital within fisher groups and the fishing community. *Chapter 9* describes the social capital and social networks in the community and between various stakeholders in the fishery, thus largely focusing on governance arrangements and fisheries controls and how they affect the community's ability to manage their natural resources. *Chapter 10* concludes the thesis with key areas of concern and positive steps forward.

Contribution of the thesis

This thesis can be used in the current formation of a new small-scale fishing policy by advocating for the acknowledgement of formal social network structures and levels of social capital within coastal communities which can ultimately help identify possible co-management solutions to the sustainable natural resource management of common-pool resources. It can also reveal areas for social capital investments that can create strong co-management networks and more efficient management of natural resources along the coastline.

Chapter 1

Fisheries and Development

All coastal states have ambitions for the development of their fisheries because they play an important role in the overall economy and more importantly in sustaining people's livelihoods (Hersoug, Jentof and Degnbol, 2004: 11). With the increase of new technologies and the demand for fish products on international markets the sustainability and renewability of marine resources has been put at risk. Fisheries development must therefore balance the common goals of development: poverty alleviation, sustaining livelihoods, food security, providing employment, and generating export earnings for the national economy, without undermining the capacity of the natural resource to replenish (Hersou et al., 2004: 11).

The development of fisheries and their management around the world has in fact experienced astounding success, particularly in the developing world which produces more than three quarters of the total volume (catch and aquaculture), increasing exports by 850% since 1976 (Kurien, 2004) thereby making "fisheries development in the Third World […] a success story" (Hersoug et al., 2004). Fisheries in the developing world may be economically more stable now but they are not as successful in terms of other indicators like sustainability and social responsibility.

Since the 1950s to the early 1990s, world fisheries have been transformed from being about 60% under-exploited to 60% over-exploited (FAO, 1997). The reason for the economic success of many fisheries around the world is fisheries followed the modernisation paradigm of development that dominated development discourse between the 1950s and 1970s at the expense of social and ecological concerns. The modernisation model of development can be blamed for many of the ecological problems and social inequalities that exist today (see Kenneth Boulding's description of the "cowboy economy"[1]).

[1] Kenneth Boulding wrote in *The Economics of the Coming Spaceship Earth (1966)*: "I am tempted to call the open economy the "cowboy economy," the cowboy being symbolic of the illimitable plains and also associated with reckless, exploitative, romantic, and violent behaviour, which is characteristic of open societies. The

This being said, there has been an insurgence of methods, systems, and strategies designed to advance fishers and their fisheries around the world in ways previously ignored by the modernisation approach. The paradigm shift in fisheries management has followed that of development discourse with theories like dependency theory, basic-needs, world-systems theory, people-centred development (PCD) and many more.

In the first period (1950-1977) the management of fisheries was based on neo-classic economics with the new nation states trying to mimic the fisheries of the developed West, thus the development state played a central role in fisheries development. During the period 1977-2002 the international community passed new laws and created new trends in management systems including new humanist elements like social-ecological systems and co-management. This was particularly more evident in the 1990s with the collapse of a politically dominated era of development (Cold War) and the increasing concern of sustainability and the environment. In this regard fishing management incorporates a wide array of concerns, issues and subjects that borrows from biological, economic, social and cultural disciplines (Degnbol, et al., 2006).

1.1. Modernisation of fisheries management

One of the most influential papers on fisheries management was entitled "*The Tragedy of the Commons*" by G. Hardin (1968) in which he called for the closure of the "open-access" system to the ocean. He stated that the current open-access system (non-property) to marine resources was unsustainable around the world, particularly in fishing communities that thrive on the self-interested individual and the perception that the ocean's resources are infinite. Therefore "all resources held in common will inevitably suffer over-exploitation and degradation" (Hara, 2003: 17). Hardin's theory thus states that communal property resources that are not managed by a centralised government or by individual or private

closed economy of the future might similarly be called the "spaceman" economy, in which the earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of material form even though it cannot escape having inputs of energy."

owners will become overexploited. As such at the centre of his analysis and at the centre of fisheries debates around the world, is the topic of property rights.

The topic of common property has always been controversial (Hara, 2003: 14) but by and large it is the system used by most fishing communities around the world for thousands of years. Although viewed as a cultural and often sustainable form of property rights by traditionalists, economists feel that property is either private or belongs to the state. In this regard, and within the economic determinism of the modernisation approach to development at the time, the fishing commons were subject to privatisation, thereby providing a solution to Hardin's hypothesis on the tragedy of the commons. The expansion of world marine fisheries in the 1950s meant that free and unregulated fisheries had depleted ocean fish stocks and squandered away potential economic returns (Huppert, 2005). In response and in line with Hardin's argument, several countries extended their political jurisdiction from three to two hundred nautical miles from shore (Juda, 1991; Nadelson, 1992). By 1982 the United Nations Convention on the Law of the Sea that governed customary marine law assigned 200 mile Exclusive Economic Zones (EEZs) to ensure the closure of open-access regimes (Mansfield, 2004). The modernisation theory of development dictated that the developing world copy the first world by leading away from traditional pre-industrial societies towards more modern industrial ones.

Between these periods and largely still today, fisheries management remains a command-and-control type strategy with most of the command and management decisions lying with the state (Raemaakers, 2009: 5; Hersoug et al., 2004: 42). The research and details that informed the conservative management strategies of fisheries management was provided by economists and biologists. The goal was to catch more fish with less effort and increase the supply of fish, both for national and international consumption (Hersoug et al., 2004). The process was highly centralised and biologically determined through mathematical modelling of single-stock resources. The bionomic optimisation models were based on single-species fish population dynamics and calculated the Maximum Sustainable Yield (MSY) of a particular resource (Caddy, 1999; Larkin, 1977). The MSY objective was also the only target reference point referred to in the Law of the Sea Convention (Caddy, 1999; Hilborn, 2007a in Raemaakers, 2009: 4). This approach based on biological-science maintained that resource management, not fisher management, was at the centre of

fisheries development and therefore the calculation of the annual Total Allowable Catch (TAC) through analysis of catch and effort statistics provided the basis for restricting the world's fisheries.

The biological and statistical data calculated by the MSY and TAC informed the management of fisher behaviour. Fisher behaviour was thus controlled through input regulations such as closed seasons, closed areas, gear restrictions, and output controls that restricted aspects of the catch both quantitatively and qualitatively (Cochrane, 2002; Morison, 2004). Examples of these output controls are size limits, protected species, restrictions on sex and maturity stage of the species, TACs, quotas, Total Allowable Effort (TAE), and bag limits (Raemaakers, 2009: 4). These conventional forms of management were aimed largely at protecting the resource, based on Western technical scientific data, and little input from the social sciences or traditional knowledge systems.

Despite the scientific and technical fixes to fisheries management, resources were still largely in decline. The focus of different disciplines and the over-focus on biology created narrow perspectives of fisheries management based on a tunnel vision of standardised fixes (Degnbol et al., 2006). The economist's reason for the lack of economic effectiveness and sustainability (based on Hardin's theory) was attributed to the flaws in the institutional framework that governed the fisheries, namely economic incentives and behaviour (Caddy, 1999). The economist's solution (see Gordon, 1954; Scott, 1955) therefore, was to create private property rights, thereby closing the commons and creating a rights-based management system through limited access (Hersoug, 2006; Mansfield, 2004).

1.1.1 Individual Transferable Quotas (ITQs)

Due to the focus on single species stock assessments and the implicit tragedy of the commons, the privatisation of the oceans was introduced through Individual Transferable Quotas (ITQs) or Individual Fisheries Quotas (IFQs). ITQs allocate shares of the TAC among fishermen who subsequently are allowed to buy, sell or lease quota shares among themselves. In this regard Hara defines private property as "an individual (or household)

that is assigned the rights to undertake socially acceptable uses and has the duty to refrain from socially unacceptable uses; other (non-owners) have a duty to respect exclusion from the resource; usually private property rights are recognised by the state, are exclusive and also transferable" (2004: 16). ITQs create a degree of ownership over a share of the allocated quota and hence a small control over fishing practice, thereby in theory, ending the race for fish and minimising costs whilst maximising revenue for fishermen (Degnbol et al., 2006: 16). These rights created legal licensing limits and individual harvest allocations which were preferred as they were aimed at restricting fishing effort whilst simultaneously improving economic efficiency through the harvesting of the Maximum Economic Yield (MEY) (Hilborn, 2007a). In this regard the commons were closed, traditional free access was abolished, and the state had assigned use rights of a public good which remained under the control and management of state powers. The next chapter shows how the South African state took control of its resources along the coastline in 1998 by developing a problematic ITQ system for subsistence and small-scale fishers previously unrecognised under Apartheid law.

The introduction of quota-based fisheries management of commercial fisheries meant that rights-holders could give away, sell or auction their quotas off to other fishermen, vessels or corporations, whilst the ownership of the resource and the right to control it remained in government hands. By distributing the shares of the TAC and allowing for the purchasing, selling, or leasing of shares, the idea was for less efficient users to sell their quota and leave the industry, which in return reduces excess capacity (Degnbol et al., 2006), and ensures long-term sustainable use of the stock (Costello et al., 2008; Hilborn et al. 2005). The main function of this was to limit use, coordinate users and respond to changes in environmental conditions (Hara, 2004: 17).

ITQs have subsequently been implemented in countries such as Iceland, New Zealand and Australia with varying results (Grafton et al., 2006). ITQs have been criticised on the grounds of equity and distributional effect, especially in more temperate waters and traditional fishing communities (Copes, 1997). ITQs tend to exacerbate social inequalities between fishers as is the case in South Africa (see Chapter 2) with *bona fide* fishers being more marginalised from resources and the national economy. In Iceland the quota rights tend to become geographically concentrated, thus removing from a number of coastal communities

an important part of their economic base (Helgason & Palsson, 1998). In other cases however ITQs remain the solution and are rather effective as Davis (1996: 97) writes: “herein and elsewhere, ITQs have received positive endorsement and, in some instances, enthusiastic championship. They are associated with the achievement of long sought fisheries management goals, goals such as resource conservation, economic efficiency, fisheries sustainability, and, even harvester co-participation in fisheries management”. ITQs thus remain a contested issue and their appropriateness in the third world is questioned. ITQs seem to be better adapted to single species fisheries in the North rather than in the multi-species and extremely labour intensive fisheries in the South (Kurien, 2002: 20).

When discussing property rights regimes it is essential to distinguish between *de jure* classification of state property rights and *de facto* common property practices that exist in reality (Feeney, 1994). Illegal, unreported and unregulated (IUU) fishing has been identified as one of the largest contributing factors to the worldwide collapse of fish stocks (Ainsworth & Pitcher, 2005; Berkes et al., 2006; Le Gallic & Cox, 2006; Pitcher et al., 2002; Sumaila et al., 2006; Vince, 2007). In this regard it is important for all maritime nations to implement measures consisting of a Monitoring, Control and Surveillance (MCS) network which include aspects like patrol boats and personnel, fishery observers, port state controls, beach monitors, vessel monitors, to name but a few (Raemaakers, 2009: 6). The introduction of ITQs is a contested issue that requires rigorous administration and an effective MCS, two aspects that many third world countries may struggle to invest in or simply lack and thus the implementation of ITQs in third world counties is questionable. When this is the case it is sometimes easier to completely close areas by creating pristine protected areas through exclusive conservation and limiting natural use.

1.1.2 Marine Protected Areas

An increasingly attractive strategy to deter IUU fishing is the creation of Marine Protected Areas (MPA) which has long been advocated by biologists and conservationists as an effective management tool (Clark, 1996). By ignoring single-species conservation, MPAs are

suited to protect entire ecosystems along a spectrum of input and output measures (gear restrictions; size limits etc) depending on the severity of ecological degradation. MPAs thus promote the restoration of natural processes, as well as the sustainability of biodiversity and fisheries resources (Attwood et al., 1997). In this regard the MPA as a technical fix is the conservationist's solution to fisheries management (Degnbol et al., 2006).

MPAs are expected to reduce fishing on spawning stocks to increase fish abundance within protected areas thereby prompting a spill over effect of the fish into neighbouring areas where it may lead to improved catches. Quite simply, by reducing fishing effort, MPAs can contribute to ecosystem conservation and may enhance or preserve local biodiversity, while increasing non-consumptive use like tourism and recreation (Degnbol et al., 2006).

While it is not the focus of this thesis to discuss MPAs it must be noted that they too have their disadvantages. One of the main criticisms is that MPA protection is limited to relatively stationary species and that they do little to protect migratory species (Degnbol et al., 2006). Typically a lack of information on migration and transport rates of species and life-stages across boundaries make it difficult to determine the biologically optimal size and number of protected areas needed to achieve objectives (Halpern & Warner, 2002). The socio-economic benefits of MPAs are also difficult to measure as classic fortress-type conservation criminalises traditional subsistence or at best limits harvesting with few options as an alternative (Farrow, 1996). Kelleher et al. (1995) found that less than 31% of MPAs could be classified as achieving their management objectives. There is simply a lack of social science and economic input in their establishment, insufficient stakeholder participation and involvement, as well as an often inadequate institutional capacity for monitoring and enforcement. One can argue that even the introduction of MPAs has followed the development paradigm that excludes indigenous behaviour and social inputs in a classic fortress-type conservation that reaps few benefits to surrounding communities.

1.2. A paradigm shift in fisheries development and management

It wasn't until the end of the 1970s that there was official interest in small-scale fisheries. Prior to that, any management solution followed economic modernisation through biological data inputs with no social considerations. The term small-scale describes a spectrum of fishing operations which share common features that are not of an industrial scale, including artisanal, subsistence or inshore fishers. The term 'small-scale fisher' often alludes to commercial interests where the fish has value as food or money, but generally the characteristics of small-scale fishers are:

- Fishers who operate close to shore and are dependent on local resources
- Their fishing activities that are labour intensive eg. small vessels
- Their fishery constitutes an integral part of the livelihoods in coastal communities
- They gave a greater reliance on labour than on capital in the fishery
- They do not see themselves as being part of an offshore or industrial fishery (McConney & Charles, 2008)

The increased interest in small-scale fishers was generated by the failure of the industrial approach discussed above combined with the development of EEZs (Hersoug, 2006: 36), whereby developing countries had the possibility of controlling the resource utilisation themselves (Troadec, 1983: 105); and the social-economic potential of many undeveloped fishing areas. The introduction of EEZs represented a "watershed in fisheries development, for both developing and developed nations" (Hersoug et al., 2004: 37). While developed nations had to reduce their operations, developing nations had new opportunities to develop new fisheries in their own exclusive zones. In this regard new resources became available and new development modes were possible, and since Third World fleets could not compete with international fishing fleets, the development of small-scale fishing was a new option (Hersoug, 2004: 38). Kaczynski (1989) notes however that with a lack of

international control many distant water fleets still continued operations in developing nation's EEZs whether through negotiations, corruption or pure poaching, thus further debilitating local fisheries development from the start as they competed with commercial pressures.

Uncertainty and complexity are now acknowledged and addressed in various ways regarding conventional approaches like MSY and MEY. There was a growing concern for the effectiveness of most fisheries stock assessment approaches that relied on too many assumptions and not enough reliable information (Caddy, 1990). Many conventional management measures like catch restrictions and limited entry were in theory supposed to result in sustainable fisheries. The dramatic drop in fisheries resources however, meant that traditional input and output measures had become increasingly stringent in a desperate attempt to conserve resources (Raemaakers, 2009: 8). These management measures in combination with a poorly defined limited access system in developing nations had exacerbated the race for fish and therefore created perverse incentives among fishers with effects such as high by-catches, high rates of discards and habitat damage (Fujita & Bonzon, 2005; Turner et al., 1999). In order to compliment the biologically driven discourse on fisheries management, social systems started being placed side by side with ecological systems. This was at a similar time when more humanist elements were being incorporated into the economic determinism of the modernisation approach to development.

Some of these changes therefore in fisheries management have started incorporating human elements and it has even become popular to say that "we should manage people, not fish" (Berkes et al., 2001), although this trend is far from becoming a conventional fashion. It has been come clear that small-scale fishing would suffer overexploitation, through a combination of poor management and overcapitalisation, as had been the case in industrialised fisheries, if economic development and technological advances for maximisation of harvest and products for commodity markets stayed the course (McConney & Charles, 2008).

The 1980's was a specific turning point in development discourse with the debt crisis and the perceived failure of previous development policies. There was a larger interest in basic

needs strategies and Integrated Rural Development Programmes (IRDPs). In 1984 the FAO officially recognised small-scale and artisanal fishing sectors, according to the Programme document

> "As the focus of national and international assistance is increasingly directed towards small-scale fisheries and as the production of small-scale fisheries devoted almost entirely to domestic consumption and represents about half the world supply of fish for consumption, special efforts should be made to increase the production of small-scale fisheries and give priority to this sector in fisheries development polices" (FAO, 1985: 25).

Since the focus on small-scale fishing was more labour intensive as opposed to the usual capital intensive and technologically driven industrial sector, as well as the fact that many small-scale fishers relied on the larger community for their trade, there was a merging in fisheries thinking which amalgamated natural and social systems.

1.2.1. Ecosystem-based fishery management

The delineation between social and ecological (between nature and culture) is artificial and arbitrary (Berkes & Folke, 1998), yet it cannot be separated. This interface is at the epicentre of the sustainable development spectrum that seeks to satisfy both social and environmental justice. It is not surprising therefore that the view of an integrated social and ecological system applies to world fisheries, especially in a globalised world where the vulnerability of local developing fisheries to international markets have emphasised the interconnected nature of the world (Berkes et al., 2001: 19). Ecosystem-based fishery management (EBFM) is conceived as a new direction for fishery management taking the entire ecosystem as the starting point rather than single target species (McClanahan, Castilla, White Defeo, 2008: 9). The systems approach to fisheries management under EBFM implies several objectives for protecting ecosystems and the effects of fishing: (1) to maintain predator-prey relationships; energy flow and balance; and diversity (Livingston et al., 2005); and (2) to balance diverse societal objectives by taking into account the

knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions within ecologically meaningful boundaries (FAO 2003b; Garcia & Cochrane, 2005). The strength of EBFM lies within its focus on whole ecosystem health and the emphasis on protecting the productive potential of the system (Berkes et al., 2001: 21).

While this approach was a positive step forward in progressive fisheries sciences as well as for social sciences with the acknowledgement of social indicators in ecosystem models, there were and still are many problems with this approach. The first and most obvious problem is what Charles (2001) refers to as the "illusion of uncertainty" and the "fallacy of controllability". Ecosystems are intrinsically and fundamentally unpredictable (Holling et al., 1995). The ability of scientists to predict the behaviour of a multi-equilibrium complex system, such as the ocean, is severely limited and governed by an approximate knowledge. Ecosystem management tends to be non-linear and characterised by discontinuities, thresholds and sudden changes (Berkes et al., 2001: 22). Piet & Jennings (2005) also attribute the fact that the response of some indicators may depend on environmental conditions and historic fishing regimes rather than on current conditions, and that these kinds of indicators may often be unsuitable to assess the effects of fishing conditions.

Most importantly however, the ecosystem information in developing countries is poor, especially in areas where artisanal or small-scale fishing predominates (Castlilla & Defeo, 2005). Future challenges therefore must include the improvement of predictive models and the identification of meaningful ecosystem indicators so as to provide simple and effective indices of stock and ecosystem statuses which inform appropriate input and output control measures (Livingston et al., 2005). The uncertainty in EBFM has largely given rise to the precautionary principle which aims to deal with issues of ambiguity and risk. The precautionary approach to environment and natural resource management made its global debut at the UN Conference on Environment and Development (UNCED) in Brazil in 1992. Principle 15 of the Rio Declaration states that:

> "…in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

This was subsequently adapted to fisheries by FAO and incorporated into the *Code of Conduct for Responsible Fisheries* (FAO 1995, Section 6.5 and 7.5). What this subsequently means for fisheries management is that any management system should favour conservation, particularly where there are signs of irreversible damage or scientific uncertainty. In developing nations where the latter conditions are common, this means that there is all too often a top-down resource management of fisheries with a lack of social consideration in the developing world. While the importance of the precautionary principle cannot be undermined for conservation efforts, management systems in the developing world struggle to provide a scientific basis for many small-scale fisheries. These management systems that cannot rely on scientific data require clearly specified processes, means of communication among stakeholders and transparency in processes and decisions in order to effectively manage the fisheries. This requires resilient and adaptive fishery systems with a great deal of by-in from communities under a balanced form of co-management with government and scientific institutes.

1.2.2. Fishery systems and adaptive management

While EBFM is an important benchmark for biological scientists in determining the health of an ecosystem and the production potential of certain species, it is also important to view fisheries as larger "fishery systems" (Charles, 1995). Charles (2001) describes fishery systems as "webs of interrelated, interacting ecological, biophysical, economic, social and cultural components, not as fish separate from the fishers". A fishery system can thus be broken down into the natural system, the human system and the fishery management system, each with its own set of systematic and scientific strategies. EBFM emphasises the importance of the natural system as it tries to maintain ecosystem health by managing both target and non-target species. EBFM thus provides scientific advice to management systems based on precautionary principles and risk analysis. As discussed above however it fails to provide the role for economic, institutional and socio-cultural components within the fishery system (De Young et al., 2008)

There is no doubt that fishery systems are complex, unpredictable, dynamic systems (Folke, 2006) and that they typically face complexities of: (1) multiple and conflicting objectives; (2) multiple groups of fishers and fishing fleets and conflicts among them; (3) multiple post-harvest strategies; (4) complex social structures and socio-cultural influences on the fishery; and (5) interactions with the socio-economic environment and the larger economy (Charles, 2001). The interactions among the different sub-systems and the complexities that arise have resulted in complex ecological, social and economic crises (McClanahan & Castilla, 2007). In many ways the command and control type of resource management limits some systems in favour of others, typically favouring biological systems at the expense of social systems. It is thus suggested that there is a necessity to focus on the human element of fishery systems in order to advocate that more adaptive styles of management would be able to respond to complex social-ecological systems (Armitage et al., 2008).

A fishery management system learns from its successes and failures (Berkes et al., 2001) and thus adaptive management relies on systematic feedback learning. Adaptive management thus uses common-sense logic that emphasises learning-by-doing by eliminating the barrier between research and management. The unpredictable interaction between people and ecosystems requires adaptive management that can treat resource management policies as experiments in which researchers and managers can learn (Holling 1978). In this regard organisations and institutions can learn and thus adaptive management is based on social and institutional learning. Adaptive management differs from the conventional practice of resource management by emphasising the importance of feedback from the environment in shaping policy. It is thus co-evolutionary in the sense that it involves two-way feedback between management policy and the state of the resources (Berkes et al., 2001). Adaptive management is thus an inductive approach, relying on comparative studies that combine ecological theories with observation and with active human interventions in nature and with an understanding of human response processes, all in the context of purposeful learning (Gundrson et al., 1995).

Adaptive management is thus a critical component of EBFM as well as for fisheries policy and governance. It is imperative that there are inputs (including traditional knowledge) from multiple stake-holders, that these interactions are governed well, and that there are clear communication procedures to facilitate the learning feedback mechanisms. It is likely that

adaptive co-management is the best alternative to conventional, top-down management and that it will be increasingly endorsed and adopted, particularly in small-scale fisheries (Mahon et al., 2008; McClanahan et al., 2008). It is the focus of this research to apply an adaptive management solution to small-scale fisheries in South Africa by viewing the adaptive and social capacities of fishing communities, policy-makers and the natural environment.

1.2.3. Co-management

It is critical that fisheries management systems increasingly orientate towards enhancing the resilience of the system (social, ecological and management systems). The concept of resilience describes the capacity for scale-ecological systems to 'bounce' back from unexpected shocks and perturbations such that the integrity of the system as a whole is sustained, without collapsing, self-destructing or otherwise entering an intrinsically undesirable state (Berkes & Folke, 1998). In many ways conventional management approaches that focus on control and stability can be detrimental to resilience and lead to critical system problems in small-scale fisheries (McConney & Charles, 2008). In this regard it is important to introduce new approaches as well as to focus at policy and institutional levels.

Recently these new approaches focus on the governance of fishery systems. As discussed above the top-down fisheries management approach, based on scientific information-gathering in a centralised control, was the most common institutional arrangement managed by fishery bodies. The interaction between the human subsystem (fishers) and the management subsystem saw the adoption of co-management as an effort to increase participation and decentralisation in order to change the top-down management paradigm. Thus, to capture the adaptive nature of a fishery system and ensure interactive governance and resilience, it is crucial to import more participatory methods of management (Armitage et al., 2008). This form of management follows neatly with the more participatory paradigm of development in the latter half of the 20th century.

In order to challenge the *tragedy of the commons* hypothesis and the privatisation of the commons under a central government, a large amount of literature gave rise to common property-based resource management (Agrawal, 2001; Berkres, 1989, Ostrom, 1990). This was followed by an era of community-based natural resource management (CBNRM) which was adopted in many conservation and natural resource-use contexts outside of fisheries as well. CBNRM is the sociologist's fix to fishery problems in which it is argued that managers must recognise the tradition, capacities and natural rights of communities in managing access to, and extraction of, the marine resources they depend on: management thus needs the support of the community (Degnbol et al., 2010: 20).

The approach is largely based on common property theory and the collective management of common property resources. The capacity of communities to self-regulate and to manage natural resources, including fisheries, was and still is demonstrated in a large number of cases (Agrawal, 2001; Lobe & Berke, 2004; Hara, 2003; Jentoft & McCay, 1995). Therefore, in the last two decades, CBNRM has received increased acceptance as a new paradigm in resource management (Hara, 2003), being translated into an overarching rights-based tool in fisheries management. The creation of CBNRM projects and accompanying rights such as traditional marine tenure or Territorial User Right Fisheries (TURFs) emphasised the importance of community stewardship, ownership and management of community resources.

It was also evident however that CBNRM did not work in many cases (Blaikie, 2006), especially in places with weak institutional support; areas that struggled to adapt to increasingly global economic pressures; or a community's capacity to adapt to environmental degradation. A major criticism is that communities are often too small or ill-equipped to manage an entire ecosystem or encompass all ecosystem processes. Management must be exercised at a higher level than the community (Degnbol, 2006: 20). The social complexities in communities mean that some communities are simply better suited for constructive community involvement than others and that some require improved management capacities and integrative intuitional support. In an attempt to take on the best aspects of state control, private and communal property, new management methods were investigated. It is widely recognised that in many cases a more dynamic partnership was needed between the state, local fishers and the communities (Raemaakers,

2009: 10). This saw the advent of co-management in the 1980s which defined fisheries management as the sharing of fishing responsibilities between government and organisations of resource users (Jentoft, 1989).

Co-management is thus a dynamic partnership using the capacities and interests of the local fishers and community, complemented by the state's ability to provide enabling legislation, enforcement and other assistance (Berkes et al., 2001: 201). It thus includes CBNRM as an important participatory premise whilst also including the sharing of governance structures between stakeholders in the resource and institutions of local collective governance of common property. Co-management is thus not as informal as community-based management as it requires users to establish organisations with formal leadership and an executive staff. It also requires the creation of a network of government, non-government organisations, academic and research institutions, including other fisheries and coastal resource stakeholders such as commercial buyers, tourism establishments, etc. The management of a fishery can thus be seen along a continuum with government-based management on one side and community-based management on the other. A community will thus fall somewhere along the continuum depending on a range of social, political, economic and environmental considerations.

This reveals that there is no universal method towards fisheries management of small-scale fisheries as each community differs from the other. In many ways a more conventional approach may be found to be more appropriate. Co-management is further described and analysed in Chapter 3 of this thesis alongside some important sociological considerations for the co-management of natural resource; namely social networks and social capital. The latter two terms make up the theoretical basis of this research as it is assumed that social capital and social networks are integral aspects of a fishing co-management arrangement.

1.3. A vision for small-scale fisheries management

In conclusion, when viewing the vast array of strategies in the toolbox of fisheries management it is clear that management of small-scale fisheries has no one technical fix. It

is also clear that the management of resources follows global and historic trends that also fall outside of conservation and ecology, namely that of development and poverty alleviation. The management of these areas requires a revitalised rights-based management as the answer to small-scale fisheries management. Whilst different stakeholders within fisheries have conflicting objectives (i.e. economic efficiency versus social stability), it is important to amalgamate these concerns into one dynamic strategy per fishery. Certain fisheries may be more efficient under a private property regime whilst others will benefit from a communal property regime. Communities with thorough scientific resources and administration may require less intervention from government than poor communities. Certain communities may require more stringent MCS operations whilst others may be in dire need of fishing cooperatives and collective action. Different needs and different objectives have created a dynamic fisheries toolbox that focuses on resource sustainability and social responsibility.

The key to sustainability in small-scale fisheries is the need to eliminate the race to fish, and to bring fisheries into ecological, economic and/or social wellbeing (Hilborn et al., 2005). Foremost there needs to be a national policy within a rights-based framework[2] that acknowledges small-scale fishing in the national economy as well as provides guidelines for its management. The management process must be performed within a cooperative atmosphere with communities using different management strategies that suit the needs of individual communities. This requires an institutional framework that can facilitate the integration of various tools originating from different academic disciplines into practical fisheries management (Hilborn et al., 2005). Fisheries sciences and management must be pragmatic and open to perspectives, assumptions, insights and methodologies of all disciplines to avoid tunnel vision and standardized technical fixes to complex and diverse management problems (Degnbol et al., 2006: 25).

In this regard we can create a vision of a small-scale fishery as follows:

> Small-scale fisheries not marginalised either by larger scale fisheries or other sectors of the economy; but endowed with human, institutional, physical, and financial resources necessary for management; Participatory, empowering management, with

[2] Rights-based management is supported in the Conduct for Responsible Fisheries (FAO, 1995)

> diverse stakeholders reaching a consensus on the objectives that drive management, and on the means to resolve conflicts. Responsible fisheries ensuring ecosystem and human system sustainability or rehabilitation under conditions of uncertainty in order to maintain or improve quality of life for generations to come (Berkes et al., 2001: 2).[3]

This thesis will largely assume this definition as the ideal type small-scale fishery although it is acknowledged that all small-scale fisheries will differ from geographic contexts to socio-cultural ones. This thesis traces fisheries development of South Africa's post-apartheid fisheries as well as evaluates some of the government's current *de jure* and *de facto* stance on small-scale fisheries' policy and development. This thesis uses the theory of co-management as the best form of fisheries management in South Africa's small-scale fisheries development by looking specifically at the East Coast Rock Lobster (ECRL) fishery in Tshani Mankozi, a small fishing community along South Africa's impoverished Wild Coast (East Coast). Co-management is strictly advocated by the government yet it remains widely unimplemented in most fisheries projects. The Eastern Cape Province is particularly unsuccessful in many fisheries projects and the ECRL is facing a tipping point in stock assessments. Co-management of the ECRL is the best option to facilitate sustainability and economic development yet the process is hindered by a lack of institutional support and weak governance. There is also a growing commercial presence which has a strong relationship with certain fishers yet is often viewed apprehensively by other community members and institutions.

[3] This was a vision created by the relatively successful collaborative, multi-stakeholder management process of small-scale fisheries in Barbados.

Chapter 2

South African Small-Scale Fisheries

2.1. A geopolitical coastline

South Africa has a coastline over 3,000 km long and an Exclusive Economic Zone (EEZ) of 200 nautical miles, constituting an area with the biggest variety of fish species along the African coast (Martin & Nielsen, 1998). Historically there have been subsistence fishers along South Africa's entire coastline, but today they are often regarded as the "poorest of the poor" (Masifundise, 2006). Archaeological evidence suggests that subsistence fishers have been active in South Africa for many thousands of years, even up to 100 000 years along the East Coast (Thackeray, 1988). There are excavations at near-shore caves and shell middens left by *strandlopers*[4] indicating that people seasonally visited the ocean to harvest easily accessible rocky intertidal species, including mussels, patellid limpets, whelks and winkles (Parkington et al., 1988, Lasiak 1992, Jerardino & Yates, 1996).

Today large-scale commercial fishing dominates the economy of many coastal areas and maritime countries like South Africa, and these traditional practices have largely fallen away on the West and South Coasts as a result of the arrival of European settlers in South Africa (Siegfried et al., 1994, Griffiths & Branch, 1997). It is believed that only along the East Coast, in areas that constituted the boundaries of the former homelands, are there still traditional harvesters. This however may be a common misconception (Clark et al., 2002: 433) as many fishers have been forced to fish as a means of survival to supplement their need for food not only in the former homelands but all along the coastline.

Many fishers have adapted their harvesting methods to accommodate the needs of a changing society. The introduction of commercial businesses, cash economies, new

[4] Standlopers is directly translated to mean 'beach walkers' in Afrikaans. This is a reference to indigenous people that lived along the South-East Coast of South Africa surviving off among other things the marine resources.

technologies like nylon that improved fishing gears, as well as other factors such as increases in tourism would have changed and still are changing methods of harvesting along the coastline. Areas like the East Coast and the former Transkei with a virtual lack of infrastructure and high levels of unemployment have left an undeveloped impoverished society that survives off the land and sea whilst some homes are subsidised by migrant workers in faraway towns and cities.

This research will however show how young lobster harvesters are the first generation of modern divers as they attempt, albeit mostly on their own, to modernise with the rest of South Africa's fishing sectors. Whether the methods are traditional or have been adapted to suit the needs of a cash economy the living resources along South Africa's coastline provide diverse opportunities to coastal human settlements along the coastline, and are critical to their survival (Harris et al., 2002: 405).

There are around 150 fishing communities in South Africa with around 30 000 active subsistence fishers. The subsistence sector provides sustenance for well over 150 000 people (Arnason & Kashorte, 2006: 45). Most of these fishers reside in the former homelands of the Transkei and Kwazulu, now part of the Eastern Cape and Kwazulu-Natal provinces. The fishing sector in South Africa has a unique set of distinctive characteristics, many of which are attributable to a combination of bio-geographic patterns of resource distribution, coupled with the implementation of previous policies, all infused under the legacy of apartheid history (Cochrane, 1995, Hersoug, 1998).

There are three central themes according to Branch et al.'s (2002: 455) socio-economic survey study along the coastline, which create the topography of South Africa's coastal subsistence communities. First is the bio-geographic trend in the distribution of animals and seaweeds and the occurrence of particular species in particular habitats which exert a primary influence on what is available and what types of fisheries develop in different regions. The second obvious theme is the legacy of apartheid which has created unequal, underdeveloped fishing communities. These communities exist like many other black communities in South Africa with poor households having limited access to education and other services required to fulfil basic human needs, with survivalist subsistence fisheries being concentrated in the areas once designated as homelands. Lastly, a definitive

characteristic of fishing that follows global trends is that fishing is largely a male preserve (Branch et al.: 2002, 455), although this research has found that many women are involved in post-harvest activities as well as harvesting certain species themselves.

Poor people living in coastal communities have been marginalised from the formal fishing sector (commercial and recreation) and many were and still are forced to depend on informal, non-commercial methods of resource utilisation. This disconnection from formal fishing sectors is a common global phenomenon (Satia, 1993, Berkes, 1989) and is thus not unique to South Africa. What *is* unique to South Africa however are the circumstances founded in its socio-political history. Under apartheid and the "homeland" system the traditional black and coloured fishermen of South Africa were further alienated in impoverished rural communities which thus perpetuated their dependence on natural resources. Not only did the apartheid laws limit the movement of people, but the access and labour policies in existence during apartheid resulted in grossly unequal utilization of, and benefits from, natural resources (Harris, 2002: 406). Despite the restrictions and especially in homelands like the Transkei, subsistence harvesting of all kinds, also known as illegal poaching, continued within the 'informal sector', often in conflict with other sectors and with authorities.

The use of natural marine resources for the subsistence of communities in South Africa cannot be undervalued. The harvesting of such resources usually happens in underdeveloped areas whilst also competing with commercial and recreational fishers. According to Harris et al. (2002) the use of marine resources "usually involves the underprivileged components of the community, has a historical or cultural aspect, is common in rural communities, and involves localised inshore harvesting activities".

The people living in these communities have moved to the ocean to try and secure a sustainable livelihood as a result of a despotic racial past. Due to apartheid type regulation and separate homeland governance and administration, these waters operated under an open access system. Subsistence fishers who depend on intertidal and shallow-water resources create areas that are susceptible to overfishing, thus inevitably leading to Hardin's (1958) "tragedy of the commons" (Branch et al., 2002: 476). In sticking to global trends and

international regulations, South Africa has attempted to manage these communities and the subsistence sector with varying results (these effects are mostly discussed in this chapter).

In fact South Africa is at the forefront of creating a large-scale subsistence fisheries management system along with the International Whaling Commissions' (IWC) special treatment of aboriginal-subsistence whaling in Canada; and the United States' legitimisation of subsistence halibut fishing in Alaska (Schuman & Macinko, 2006: 712), all with their subsequent virtues and vices. By and large the different systems take a co-management stance in including subsistence fishers into the national economy by creating alternative forms of management that transfers the sharing of responsibilities and decision-making between resource users, government and other stakeholders in order to effectively and sustainably manage the resources (Berkes et al., 1990). Co-management is thus a decisive component in the government's post-apartheid fisheries transformation and reform strategy (Hauck & Sowman 2003: 495). This component however remains largely in rhetoric with few successful practical examples. This research will attempt to show the lack of co-management in the East Coast Rock Lobster fishery in Tshani Mankozi, a small coastal town on the Wild Coast of South Africa. It will be shown that there are very efficient social relations that highlight the potential for practical co-management solutions for the subsistence and small-scale sectors in South Africa.

According to Harris et al. (2002: 406), towards the end of the apartheid era these fishers could potentially have gained legal access to resources by participating in recreational or commercial licensing systems. This type of traditional access was however denied, because the harvesting methods used and the quantities required by subsistence fishers did not conform to conditions for recreational permits, and subsistence fishers could not afford licence fees anyway. It is therefore no surprise that for many subsistence fishers in South Africa the situation has not changed except for on paper. Subsistence fishers were, and in some ways still are, disconnected from the national economy. It is also no surprise therefore, that the poorest fishing communities and areas of illegal activity often overlap and exist in the boundaries of the former homelands. In many ways the situation surrounding the subsistence fishing sector in society today is a perfect illustration of the many political maladies the South African government has to redress (Harris et al., 2002: 406).

2.2. The Marine Living Resources Act

2.2.1. Background to the MLRA: International regulations and domestic expectations

In 1997 the *White Paper on Marine Fisheries Policy* for South Africa was published and shaped by the values of the 1996 Constitution where there is a view to redress past injustices and promote substantive equality through a new human-rights based dispensation guided by the rights contained in the Bill of Rights. According to Witbooi (2006: 33) the Bill of Rights plays a significant role in shaping fisheries law reform particularly for fisheries management decisions. This is most important when talking about property rights of communities and individuals. The White Paper on Marine Fisheries Policy came into effect with the passing of the Marine Living Resources Act (MLRA; Act 18 of 1998; Republic of South Africa, 1998a).

According to Raemaekers (2009: 17) it was evident that South African marine fisheries management had been following the 'conventional', 'target resource orientated' and 'rights-based' management paradigms as observed within fisheries management practice worldwide. In the late 1990s, the national fisheries authority in South Africa, a branch within the national Department of Environmental Affairs and Tourism (DEAT) named 'Marine and Coastal Management' (MCM), had the legal authority to manage the marine resources of the EEZ for the benefit of the country. This was a multi-tiered institutional management structure that was recommended by controlling issues of national concern, and supporting and coordinating the activities of provincial and local structures (Harris et al., 2002). At the time of data collection for this research the MCM was relocated from DEAT into the Department of Agriculture, Forestry and Fishing (DAFF), thus moving it from an environmental focus into a more developmental one.

As the national framework for South Africa the MLRA carries with it the three internationally recognised objectives of sustainable development; namely, equity, sustainability and stability (see Van Sittert et al., (2006: 97). The MLRA thus adheres to regional and international policies like the World Summit on Sustainable Development (WSSD), the United Nation's Food and Agriculture Organisation's (UN FAO) Conduct for Responsible Fisheries, and the Southern African Development Community's (SADC) protocol on fisheries.

The main objective of the MLRA was the fundamental restructuring of the domestic fishing industry with a view to redress historical imbalances and achieving substantive equity (Witbooi, 2006: 30). During the 1990s, negotiations between government and the formal and informal fisheries sector led to the consensus that an individual fishing quota system would form the rights-based framework for achieving the goals of the MLRA (Hersoug and Holm, 2000).

The MLRA thus sought to redistribute legal access rights to Historically Disadvantaged Individuals (HDIs) by increasing the number of rights holders 20-fold and the participation of HDIs from 0.75% to 62% (Branch & Clark, 2006: 3). Companies were to undergo internal transformation and subsistence fishers were to be formally recognised. This was largely successful by introducing HDIs into the commercial fishing industry; however there was still a large informal and small-scale fishery that existed and that was essentially unmanaged (Clark et al., 2002). This sector would be introduced to a new human rights-based socio-political environment under the new democratic dispensation of 1994 and the enactment of the Constitution in 1996, with many expectations being raised. Small-scale fishers had expectations of a new South Africa that would redress past injustices and promote substantive equality (Witbooi, 2006).

The ideology of the MLRA took its cue from the ANC's Reconstruction and Development Programme (RDP) which states in its policy framework that "the primary objective of fisheries policy is the upliftment of impoverished coastal communities through improved access to marine resources and the sustainable management of those resources through appropriate strategies" (Article 4.5.3.2).

2.2.2. The economic policy framework

The goals of the MLRA are the same as those of national policy and international agreements. Most of the latter international agreements embrace principles that provide protection for a) the environment, including optimal utilisation of resources, sustainability and maintenance of ecosystem functions and; b) the rights of indigenous peoples and their

cultures (Van Sittert et al., 2006: 97). This is why the balancing of the tripod of sustainability, equity and stability proves difficult in practice because "the revolutionary pursuit of social equity is always powerfully opposed by the conservative demands of sustainability and stability (Van Stittert et al., 2006: 97).

The ANC has therefore created some conflicting policies in their post-apartheid struggle to reform the country. Although initially endorsing a people-centred approach to South Africa's development rooted in the participatory traditions of the Freedom Charter some conflicting polices and frameworks have developed. The RDP emerged to address basic needs, develop human resources, build the economy and democratise the state and society (Isaacs, 2006: 51). These objectives were extended through the policy framework for South Africa and therefore it created the expectation among fishers and HDIs that they would gain access rights and own their own smaller businesses. Soon after the elections in the second half of the 1990s, neo-liberalism and free market principles became an increasingly attractive strategy that proved hard to stray away from with rising global pressures. Equitable redistribution and maintaining an internationally competitive fishing industry was difficult to achieve. In order not to jeopardise international investment, the ANC government succumbed to international pressures and shifted its macro-economic policy from the RDP to Growth, Employment and Redistribution (GEAR) in 1996.

GEAR policies have to date been informed mainly by the modernisation model of development in which a top-down implementation of policies is supposed to create what is known as the trickle-down-effect by creating jobs and increasing trade. While South Africa has implemented a mixture of GEAR and RDP type policies there tends to be a focus on international competitiveness in the fishing industry while communities struggle to live up to these expectations and are in need of more developmental and social programmes. Post-apartheid fisheries succumbed to neo-liberal principles and all markets from commercial to subsistence fall under one larger 'free' market. The policy calls for privatisation, subsidy removal, and downsizing of the public sector and encouragement of small black entrepreneurs (Bond, 2000). The involvement of HDIs in the reform process in the fishing industry was described by Isaacs (2006: 51) as weak. Even during the policy formulation process, impoverished fishing communities were side-lined as government adopted a more neo-liberal stance thus overlooking any kind of participation or co-management. According

to Isaacs, the Fisheries Policy Development Committee, Marine Fisheries White paper and the Marine Living resources Act all reflect the new neo-liberal orthodoxy of government (2006: 52).

According to Van Stittert et al. (2006: 97) "the conflicting objectives are evident in the overarching national policies governing social development and equity, outlined in the RDP, the macro-economic policy articulated in the GEAR strategy and the sustainable principles underpinning the National Environmental Management Act of '98 (NEMA)". NEMA is the framework statute regulating post-apartheid environmental governance in South Africa. Whilst integrating social equity, ecological sustainability and economic development the statutes central principle is that people-centred development must take place within an ecological framework (NEMA, 1998). Whilst polices and statutes like NEMA and the RDP focus on people-centred sustainable development under state supervision, the GEAR macro-economic policy framework aims to stimulate economic growth, reduce inflation and the budget deficit, and enhance the flow of foreign investment by reducing state control and freeing up the market. This is why Van Stittert et al. states that it is largely devoid of sustainable rhetoric and requires a mode of operation that in many respects displaces some of the developmental and sustainability aspects of the RDP and NEMA (2006: 98). The effects of GEAR in terms of fisheries reform has been to side-line issues of poverty and food security in pursuit of economic growth, efficiency and stability (Van Stittert et al., 2006: 98). This has amongst other things created a lack of coherence among key policies governing South Africa's fisheries transformation, if not the path of sustainable development as a whole, thus subordinating the social equity and environmental principles of the RDP and NEMA.

The shift to GEAR has resulted in a number of *bona fide* fishers being excluded up-front from the rights allocation process. This is because they could not show their entrepreneurship through being able to complete the complicated process of rights application as well as participate in a complicated bureaucracy. The MLRA works under the contradictory policies mentioned above and therefore transformation has not been efficiently spelt out. Furthermore the courts have emphasised that it is not their "job" to "tell" the functionaries how to implement transformation (Witbooi, 2005). Nielsen & Hara (2006) thus go further to state that by keeping the goals of transformation vague, the MLRA may have created

strategic advantages for the enforcers of the act i.e. the MCM, who now fall under the Department of Agriculture, Forestry and Fishing (DAFF) rather than DEAT. This has largely resulted in many fishers not being recognised and communities not being able to transform into more competitive markets as fisheries administration and bureaucracy remains weak but rigid.

2.2.3 The Marine Living Resources Act of '98

The condensed goals of the MLRA intends to:

> "…provide for conservation of the marine ecosystem, long-term sustainable utilisation of marine living resources and orderly access to exploitation, utilisation and protection of certain marine living resources; and… control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa…" (Marine Living Resources Act of 1998).

There are thus three key principles that emerge from the MLRA as stipulated by Branch & Clark (2006: 8). Firstly, there is an emphasis on sustainability and the "preservation of marine biodiversity", "protecting ecosystems as a whole" and "conserving resources for present and future generations". Secondly, there is the optimum utilisation of the resources resulting in "economic growth" and "employment creation" but bearing in mind the limited opportunities available to expand fishing without compromising the principle of sustainability. Thirdly, transformation is defined by "restructuring the fishing industry to address historical imbalances to achieve equity". These three main avenues were to re-allocate some rights by reducing the amounts granted to existing companies. Second was the internal re-organisation of existing companies. Lastly is the recognition of a subsistence sector through equitable distribution and the allocation of access rights. In order to achieve these three pillars of the MLRA these changes "require a delicate balance between redressing the past, recognising investment and development by pioneers, maintaining established labour forces, and ensuring sustainable use of resources" (Branch & Clark, 2006: 8).

It must however be noted that the MLRA attempts to satisfy numerous values in the constitution: namely, environmental rights which guarantees everyone the right to an environment (Section 26); socio-economic rights, which guarantees everyone the right of access to food and water (Section 27); and finally property right to redress past imbalances through redistribution and equitable access (Section 25). On top of this, as mentioned above the MLRA also operates under a contradictory development and macro-economic framework and thus any social constituents seem to benefit last in the great number of echelons that desire attention.

The MLRA in fact seems to be more adequately focused on protecting marine living resources rather than transformation or food security as it is backed by the *White Paper on Marine Fisheries, NEMA* and the *White Paper for Sustainable Coastal Development* (2000). While many of these policies and acts promote equitable access to environmental resources to meet basic needs and ensure well-being, including taking special measures to ensure access by previously disadvantaged persons, as this thesis will demonstrate the MLRA still fails to adequately spell out the process of transformation, despite citing it in numerous court cases (Witbooi, 2006), and no definitive action has been taken by government regarding the right of access to food in the context of fisheries.

One of the reasons for this is that social aspects like redistribution of access rights and the intention of equity are by and large governed by the precautionary principle, discussed in the previous chapter. The precautionary principle "takes cognisance of the vulnerability of coastal resources, reflecting the growing emphasis internationally on the need to promote sustainable fishing" (Witbooi, 2006: 30), and thus it is largely governed by ecology and science. In this regard, no increase in fishing effort should be recommended unless there is scientific evidence that this would be sustainable (Harris et al., 2002: 508). Thereby the underlying principle of achieving a balance between equity, sustainability and stability is largely governed by this principle which relies heavily on scientific data. The MLRA is strongly supported by this principle (Cockroft & Payne, 1999). While the MLRA and the governing precautionary principle is an example of a statute enacted with a view to promote the pursuit of sustainable development i.e. securing ecological sustainable development and at the same time promoting "justifiable" economic and social development, it does so largely at the expense of social science inputs and thus almost

disregards the fishers themselves and the connection they have with the resources they harvest (Hauck, 2008: 638).

A careless generalization in applying the precautionary principle is cited by Garcia (1994) to lead to economic and social chaos in fisheries. Whilst not undermining the importance of ecology and sustainability, the MLRA follows the traditional method of managing fisheries resources, under scientific expertise that has focused on national economic objectives rather than the people and livelihoods that are affected (Advisory Commission on Fisheries Research, 2003). The fisheries authority (MCM) also largely receives advice from biological scientists. The major challenge and particular downfall of the MLRA is the balancing of the sustainable utilisation of marine resources with that of equity through fair and broadened access. The major obstacles include the very broad definition of subsistence fishing provided by the MLRA, depressed economic conditions (including unemployment) and unrealistic expectations that near shore marine resources are the key to poverty alleviation in coastal communities (Cockrof et al., 2002: 489).

2.3. The MLRA and subsistence fishers

The intent of the MLRA was to recognize the needs of subsistence fishers to harvest adequate amounts; to legalise modest sales by subsistence fishers; to set aside areas for the exclusive use of subsistence fishers if this was necessary; and to protect the long term sustainability of resources (Branch *et al.*., 2002). Now that subsistence fishers were for the first time recognized in South Africa with the promulgation of the MLRA, the government and acting bodies had to accommodate an entire sector of people who were previously unrecognised by a specific management system and who were largely dealt with by enforcing regulations applicable to recreational fisheries (Cockroft et al., 2002: 491). With no strategy to manage these subsistence fishers the government created a Subsistence Fisheries Task Group (SFTG) in 1999 to advise them on future management of this new sector.

The SFTG were assigned the task of providing recommendations on the definition and identification of subsistence fishers, areas and zones, procedures for allocation of rights, research requirements, management and monitoring systems, as well as the involvement of fishers in decision-making (Hauck, et al., 2002: 463). The process of developing mechanisms for participation and decision-making under a co-management ideology falls under international trends and it is also enacted in Section 35 of NEMA of '98. However, translating these policy objectives and vague legal provisions, into a workable and fair rights allocation as well as a participatory management system has proven a difficult task within the legislative framework (Sowman, 2006: 61). It is no surprise that almost two decades into democracy, despite many new policies, workshops, technical committees, advisory boards and task groups, the subsistence and small-scale fishers have been further marginalised (Isaacs, 2003, Sunde, 2004).

2.3.1 Defining subsistence

The MLRA defines the subsistence fisher as "a person who regularly catches fish for personal consumption or for the consumption of his or her dependents, including one who engages from time to time in the local sale or barter of excess catch, but does not include a person who engages on a substantial scale in the sale of fish on a commercial basis" (MLRA of 1998). It is noted that subsistence can include a number of types of fishers like traditional, artisanal and small-scale and thus scholars have found it hard to define the term (Branch et al., 2002). The terms are largely used inter-changeably and the current consensus favours a description based on, apart from being poor, simple technology, labour intensive methods, relatively low capital inputs, and a wide range of organisational levels (Sowman, 2006: 61). The term small-scale is often argued to be the most encompassing as it distinguishes fishers along a spectrum of a number of indicators, namely, levels of technology, labour, value of catch, total allowable catch and so on.

In this regard the SFTG recognised four fishing sectors – small-scale commercial, subsistence, large-scale commercial and recreational, although the MLRA only recognised

the last three. Following this the SFTG revised the definition of subsistence to: “subsistence fishers are poor people who personally harvest marine resources as a source of food or sell them to meet the basic needs of food security; they operate on or near to the shore or in estuaries, live in close proximity to the resource, consume or sell the resources locally, use low technology gear (often as part of a long-standing, community-based or cultural practice), and the kinds of resources they harvest generate only sufficient returns to meet the basic needs of food security” (Branch et al., 2002). In many ways this revised definition was more restrictive as it included a set of new criteria to decide which resources were suitable for harvesting. It also did not include the fact that most of these fishers would like to move beyond subsistence and operate at the bottom end of the commercial sector i.e. the small-scale sector. The rationale therefore for creating this category was to widen the space for the development of the subsistence sector and it was thus seen as a positive step forward (Russell, May & Roberts, 2000). The actual difference between the subsistence and small-scale sectors however is minimal as far as socio-economic circumstances go. The difference really lies with the type of resource, and thus permit, that the fisher applies for, and so, as this thesis will explore, the fishers who have permits for higher value species are still managed in a similar way to the subsistence sector, leaving little room for development.

2.3.2. Managing the small- scale/subsistence sector

The availability of resources is the first precedent in any management system and thus sustainable exploitation is a central tenet of the MLRA thus requiring sound resource management (Cockroft et al., 2002: 491). Most importantly the main difference between subsistence and small-scale fishers is the value of the resource being harvested. In other words: if the resource is used to generate an income beyond personal consumption, if it is a near-shore species, and therefore sufficiently accessible, it can be harvested by small, medium or micro-enterprises.

The recreational and commercial fisheries in South Africa are managed using output controls (limiting the amount or numbers caught or landed) and/or input controls (limiting

numbers of participants or effort units). Since subsistence fishermen had no previous specific management system they were largely dealt with by enforcing regulations that were applicable to recreational fisheries. Some of these controls included size limits, closed seasons, closed areas, gear restrictions and a ban on the retention of berried females of certain species (Cockcroft et al., 2002: 491).

There are six main types of control being used in South Africa. Total Allowable Catches (TACs) fix the tonnage that can be caught annually; which is divided among right holders. Total Allowable Effort (TAE) limits the number of people, boats or traps that can be employed. Bag limits restrict the numbers of fish an individual can catch (Branch & Clark, 2006: 7). Other indirect measures include closed seasons, closed areas, gear restrictions, limits on sizes of fish, and the development of Marine Protected Areas (MPAs) (Access Rights Technical Committee (ARTC), 1996). Territorial User Rights in Fisheries (TURFs) are also used in small-scale fisheries to refer to an exclusive geographical sector for subsistence fishers to harvest from. Other stakeholders that are not identified within these TURFs are prohibited from fishing in that zone. The key objective is to instil a sense of ownership over each zone to assist with monitoring and compliance (DEAT, 2003). A TURF is a community's right to an area of harvest and they are supposed to be managed by co-management committees and fishing cooperatives (Pederson, Sunde, Jaffer, 2008: 9). This research will explore the problems in dividing the Wild Coast coastline into competitive zones which are not effectively managed, creating conflicts between communities and fishers.

In combination and in theory these management methods described above can contribute towards sustainable fisheries, but Witbooi (2006: 38) notes that a vast body of literature exists outlining their potentially adverse effects on sustainability in the absence of sufficient and effective control. This may be true in South Africa where Hauck & Kroese (2006) remain critical of the government's ability to establish a robust monitoring, control and surveillance system (MCS). This is certainly true in the Tshani Mankozi TURF along the Wild Coast where a period of over a year of fieldwork was conducted. This thesis will detail the lack of evidence of sustained enforcement and control leading to perverse social circumstances and competitiveness among community members. Some of these controls that are not enforced or managed properly mean that commercial businesses work directly with fishers excluding

many other community and government institutions, effectively bypassing any potential for a co-management arrangement.

Essentially, the methods of control and management should preserve community-based fishing rights, which are what most fishers along the coastline want (see Huack, *et al.*, 2002), and is what the MLRA has spelled out. For these measures to be put in place however the government had to accommodate the massive influx of previously unrecognised fishers. The allocation of fishing rights to HDIs after 1994 can be divided into four phases. The quota board (1994-1998) and the MLRA (1998-2000) aimed to increase the number of HDIs in commercial fisheries and a percentage of the Total Allowable Catch was allocated to small-scale fishers, mainly through community welfare organisations and co-operatives representing fishers (Isaacs, 2006: 52). The MLRA provided for a formal direct access to resources however Isaacs notes that an "official interpretation of this clause is that any HDI is eligible for access rights, irrespective of historical links to fishing. This "one size fits all" approach to allocating rights has often meant that *bona fide* fishers have been left out in favour of other HDIs" (Isaacs, 2006: 53).

The first official subsistence permits were only allocated for the first time in 2000-2001 according to the SFTG's recommendations. However, before a formal subsistence fisheries policy could be created the MCM implemented an interim relief measure of allocating subsistence permits. The interim relief measure consisted of mainly limited commercial rights for abalone and West Coast Rock Lobster (WCRL). In the Eastern Cape and KZN provinces some subsistence fishers were authorised to harvest resources in terms of section 81(1) of the MRA which allowed for an exemption clause allowing for the Minister to exempt person(s) from any provision(s) of the Act on the basis of "sound reason". East Coast Rock Lobster harvesters were thus harvesting through exemptions to the MLRA and had no official commercial permits. Other fishers (mainly low-value resources) continued to operate illegally (Sowman, 2006: 67). By the end of 2004, except for the interim relief measure and the exemption clause, no other subsistence fishing permits were allocated.

The MLRA's goals of reaching sustainability, equity and stability by allocating rights to new entrants seemed to be in conflict as there were simply insufficient resources to accommodate all new potential entrants. With respect to the small-scale commercial sector,

the Minister invited applications in 2001 for limited commercial rights. With the medium-term allocation rights in 2002 there were some impressive strides made in allocating abalone, WCRL and line-fish permits where over 66% were majority HDI-owned (ESS, 2002). These high-value resources (such as WCRL and abalone) were argued by the SFTG to be more beneficial to export rather than consume them in the subsistence sector. There was also a tendency to create the space for subsistence fishers to develop into the small-scale sector (SFTG, 2000). According to Isaacs (2006: 54) the conversion of subsistence permits to limited commercial access rights led to confusion at the local level, largely due to fishing forums being split in order to form new organisations to apply for limited commercial rights. The interim relief measure became the limited commercial sector and thus commercial welfare organisations were disbanded in favour of commercial business. While this was mostly the case in the Western Cape, the Eastern Cape saw little progress made in the limited commercial sector and thus fishers are still regulated till this day under an interim sector. Fishers thus ambiguously fall somewhere between subsistence and small-scale, depending on the permits for which they have applied, yet they are still managed in the same way.

Quite simply the goals of transformation and the issue of access rights were treated as a resource management problem rather than a socio-economic problem (Martin & Nielson, 1998) and therefore there was a predominance of what Sowman (2006) calls a top-down resource orientation as opposed to a people-centred approach to local fisheries policy. The goals of transformation were however also in conflict with the principles of resource management since by attempting to accommodate the new HDIs into fishing policy one also finds the problems of a limited room for expansion in sustaining South Africa's coastline resource (Isaacs, Hara, Nielsen, 2005: 20).

This is in line with the Precautionary Principle described above and it largely dictates the criteria for identifying resources suitable for subsistence fishers (Branch et al., 2002). Only species that fulfil the criteria of cash value, accessibility, technology and sustainability become a suitable species for subsistence fishing. In terms of sustainability where information was lacking the Precautionary Principle was applied. Therefore according to Sowman (2006: 66), resource suitability and sustainability ultimately determined whether subsistence fishers gained access to resources or not. "While the principle of sustainability

must underpin any rights allocation and resource management approach, it must be tempered by socio-economic and cultural considerations, and may at times require trade-offs in favour of social equity" (Sowman, 2006: 68).

2.4. The effects of the MLRA

The initial attempt at transformation under the MLRA after 1998 was not very successful (Branch & Clark, 2006: 9). DEAT was thrown into a state of crisis after the dramatic increase in rights applications (fewer than 300 prior to 1990 and almost 12 000 in 1999). The Department were simply too ill prepared for administrative reform on such a level. The MCM acting as the fisheries management authority also found itself faced with massive reorientation problems to manage the rights allocation and redistribution process. The inexperience of understanding the specific needs of the entire subsistence sector was evident (Harris et al., 2002). These issues according to Van Stittert et al. (2006: 103) created an organisational crisis due to increased demands, and thus resulted in high levels of staff attrition and understanding. This was a negative impact on what was once a research-orientated agency when the organisation was known as the internationally renowned Sea Fisheries Chief Directorate. MCM's expanded mandate and its increase in workload, coupled with a staff and expert exodus has created a fisheries authority which is too ill-equipped and understaffed to sufficiently enforce regulations and monitor controls. In other words in remote far-off areas, the MCM has little influence and control, discussed later in Chapter 7 with regards to the case study in Tshani Mankozi, Wild Coast.

In the end Isaacs (2006) describes the MLRA's policy framework; the recommendations of the SFTG and the facilitation of the MCM; as "implementation chaos in communities in South Africa". Most of the chaos stems from the issue of access rights. According to Isaacs (2006) many inhabitants of coastal communities come from a poor socio-economic background in societies that have limited employment opportunities, poor education and a lack of skills and capital. On top of this are the same social issues like HIV and AIDS, alcohol abuse, high level of crime and corruption etc, that exist in most rural areas in South Africa.

Many of the more educated and skilled entrepreneurs who have the necessary skills to fulfil the requirements of the application process and acquire skills for themselves do so “at the detriment of the longstanding traditional fishermen whose only skills, expertise and ambition lie in their artisanal tradition” (Isaacs, 2006: 56). The new entrants, some of whom have no fishing experience, do not invest back into the communities but rather sell their quotas off to big companies that have dominated the industry. These paper quota holders create their own commercial enterprises in high-value resource like lobster and abalone at the expense of other fishermen, whilst the latter simply follow the leadership of local entrepreneurs as they make up the token community welfare cooperatives. The main beneficiaries are the better informed, politically connected and economically astute members of the fishing community, thus only extending social divisions further (Sunde, 2003).

The MLRA and the SFTG simply have not looked into the social dynamics of the communities involved in the transformation process. The key criterion that decides what kind of resources applicants may apply for was based on commercial value: high or low value, with the former proving more beneficial for those that could get access rights. Despite there being good scientific, economic, and even social grounds for this approach (Branch et al., 2002, Harris, et al., 2002), it failed to include socio-cultural value, indigenous knowledge, or livelihood strategies.

Furthermore, Isaacs (2006) notes a number of issues that the SFTG and the MCM did not take into account. Many fishers were simply not equipped to meet the strict technical requirements of written documentation and business plans, thus relying on the more skilled and educated paper quota holders for help. A lack of skill and organisation in communities heeded many attempts at acquiring access rights. Fishing communities have a range of community welfare organisations, fishing co-operatives, community trusts, MCM committees and more, all of which create a spider web of institutions that lack administrative capacity, information, communication and access to resources.

Lack of recognition of heterogeneity amongst HDI fishers has created inconsistent implementation strategies along the coastline with negative social repercussions. For instance fishing for rock lobster in the Western Cape requires no subsistence permits as

they strictly adhere to limited commercial rights. The East Coast however, allows for exemption clauses in their subsistence permits that have the same size and bag limits as recreational permits. In Kwazulu-Natal on the other hand the only rock lobster permits are recreational ones. The Eastern Cape region can be particularly confusing as decisions regarding who qualifies as a subsistence user and which resources can be harvested for subsistence purposes, have been inconsistently applied (Sowman, 2006: 69). The classification of subsistence and small-scale fishers along the entire coastline can be problematic as it favours commercial potential and recreational interests above livelihood needs and therefore marginalises fishers further. According to Sowman (2006: 70), "although MCM's focus is primarily on managing fisheries resources, it is also required to align its activities and procedures to national priorities such as addressing poverty alleviation and food insecurity" of which it has done no more than create high levels of confusion between different tiers of government and authorities, which is further exacerbated in the former homelands that have a traditional authority component to governance as well (Isaacs, 2003).

In conclusion, the shortcoming of South Africa's approach to manage the subsistence and small-scale fishers is due to its top-down application of the MLRA, and the SFTG's recommendations and its failure of implementation. The over focus of sustainability (resource orientated) issues driven by natural science at the expense of social inputs (people-centred); as well as the pressure to conform to commercial interests at the expense of a livelihoods and food security, has led the sector to be further marginalised and socially stratified; leaving an air of administrative confusion and incompetency, and simply providing for a platform of non-compliance as people carry on doing what they were doing during the days of apartheid poaching. Instead of an informal sector there is the interim relief sector and an exemption sector, which allows little room for other traditional fishers to secure a legal livelihood if they struggle to get permits. In effect this has simply created a coastline of non-conformity and non-compliance towards the MLRA.

In terms of compliance both the government and subsistence fishers can be blamed for failing to comply with fishing protocol. On an international and regional level, Cullinan & Daniels (2004) argue that South Africa still falls short of meeting its regional and international obligations to for instance the UN Food and Agriculture Organisation (FAO)

Code of Conduct for Responsible Fisheries. The government has simply focused on large-scale approaches over small-scale ones, thus leaving the resources in fewer hands (Ponte & van Stittert, 2006: 9). The failure of the government to create an effective monitoring and legal enforcement system coupled with the rights allocation problems described above, as well as an absence of a proper co-management strategy, has created a platform for fatalism, distrust, disobedience and noncompliance. This is nowhere more evident than in the former Transkei, as this thesis will explore with evidence from the Tshani Mankozi case study.

It is clear that while co-management is embraced by the MLRA it fails to practically deliver on these promises making Raemaakers (2009) state that the MLRA and subsequent fisheries bodies only went as far as to issue permits to subsistence fishers. Co-management brings the focus back to the local level by giving communities more power in the decision-making process, accommodating principles of participation and an inclusion of traditional knowledge in a dynamic partnership with government and interested stakeholders like research institutions and market actors. While a co-management strategy was recommended by the SFTG, there have arisen many problems as described above. The fisheries authorities have simply not allowed for the perceptions of fishers and community leaders to be included in decision-making. This form of public participation and inclusion of local knowledge is the foundation of co-management. Furthermore it is essential that more sociological research is done when devising an effective co-management strategy. While the fisheries authority had not yet embraced the concept of co-management, several co-management projects, mainly facilitated by research organisations or nature conservation agencies independently from MCM, had been initiated in fishing communities along the coast (Hauck and Sowman, 2003). The most successful co-management initiatives were in the province of KwaZulu-Natal, where the provincial nature conservation department had obtained the mandate from MCM to implement a subsistence fisheries programme and several local co-management structures had been set up to assist the identification of fishers, and the monitoring of catches (Harris et al., 2003 in Raemaakers, 2009).

There are hopes from the subsistence and small-scale sectors that the new fisheries policy will shift its focus from traditional resource dynamics to one that focuses more on people and development issues, as it must be acknowledged that fisheries management is mainly about managing harvesters to achieve goals like sustainability and poverty alleviation

(Caddy, 1999). Furthermore, for there to be an effective fisheries management system in the subsistence and small-scale sector, one needs to employ sound co-management strategies, particularly when linked to access rights, to install a greater sense of local ownership over a particular area and resource. One also needs to allow decision-making to be made at a local level and thus principles of participation and collective rights are important to reach the goals of the MLRA and have a compliant fishing industry along South Africa's coastline. This thesis will largely support a co-management solution to subsistence and small-scale fishers justifying it under a social capital and social networks methodology.

2.5. A new fisheries policy – making amends

The multi-tiered approach to fisheries management recommended by the SFTG with which apparently "national coordination and regional and local implementation structures will open opportunities for cross-fertilization of ideas and solutions across regions and between communities" (Subsistence Fisheries Task Group, 2000) is far from being realised. Instead a top-down approach of fisheries management is pursued under the MCM. In a new and positive move however, and during the data collection phase of this research, the fisheries sector in South Africa which was recently incorporated into the Department of Agriculture, Forestry and Fishing (DAFF), has drafted a new small-scale fisheries policy.

The new draft policy for the small-scale fisheries sector in South Africa (Government Gazette 33530) holds many promises for subsistence and small-scale fishers. Whether the policy is aptly applied and the promises adequately delivered remains to be seen. The new policy firstly, recognises the shortcomings of the MLRA as well as the downfalls of many previous policies and implementation strategies. It also recognises the diversity of the coastline and the potential contribution small-scale fishers can have on poverty alleviation and food security; two aspects not addressed by the MLRA. Whilst the co-management agenda has been superfluously floating around South African fisheries policies for over a decade, the new policy recognises the need to revisit the management of fisheries resources under a community-based co-management approach.

The new policy recognises that small-scale fishers are an integral part of rural and coastal communities and that many households derive their livelihoods from such practices. Thus the new Department that manages the fisheries sector acknowledges the need for infrastructure and support, and that a development agenda must be implemented in order to drive small-scale fisheries. It is further noted that small-scale fisheries allow for a "safety-net" dimension as a livelihood support and coping management structure where there are no alternative employment opportunities. Therefore fishing is sometimes the last resort for people that have no other options. In such cases small-scale fisheries can potentially play a critical role as a welfare system that would otherwise be supported by local, provincial or national government.

The new policy realises the lack of a holistic approach to fisheries policy and management and that existing fisheries governance in the allocation of individual rights is orientated towards the export driven, commercial fisheries sector in South Africa. The unfairness of past decisions and the problems with the allocation of access rights is a common theme in the new policy. The policy thus looks to amend previous decisions by (a) including the principle of preferential access to small-scale fishing communities who have traditionally depended on marine living resources for their livelihood, (b) adopting a multiple species approach in allocating fishing rights to small-scale fishers, (c) adopting a co-management approach to managing the small-scale fisheries sector; and (d) ensuring that the integrity of ecosystems and sustainability of the resource is not compromised.

To ensure the above goals are realised, the policy recognises the need for a paradigm shift with a vision of small-scale fishers that is sustainable and equitable in which the wellbeing and livelihood of fishing and coastal communities is secured and the health of marine ecosystems is maintained. To do this the policy calls for a reformation of rights-holding, management instrument and tools as well as institutional arrangements and capacity building. The policy thus attempt to address labour rights and social security relief; assisting communities with appropriate infrastructure support and advice in the supply chain from catch to markets in order to maximise benefits from marine resources and add value locally; training and education; improving compliance monitoring and enforcement regulations; and research into ecosystems and community-based resource management approach to fisheries management in South Africa.

The policy allows for participation through self-monitoring systems in communities as well as the establishment of community-based legal entities. This is supposed to create a multi-tiered organisational model that incorporates the three spheres of Government and the small-scale fishing sector. The purpose of the community-based legal entities is to serve as a local management structure and formalise co-management and the community-based approach advocated in the policy. This approach however is not new and in fact the multi-tiered approach was recommended by the SFTG. The legalisation and formalisation of such legal entities is probably one of the largest areas of concern for the new policy. A multitude of social factors that are internal and external to a community can hinder the proper management of an institution.

This is why there is a need to explore the social dynamics between institutions as well as the basic social fabric of a community. As this research will reveal, the social dynamics within the community determine the functionality of the local legal entities and co-operatives. In order for there to be a successful participatory institution in which local people can participate, utilising effective communication channels with which both government and non-government organisations can create coastal forums, whilst not undermining their community or community members or succumbing to extortion and bribery, there has to be adequate sociological research of the social capital and social networks at play within a community.

The success of the above-mentioned policy relies on the existence of a high currency of social capital and bargaining power, as well as the existence of transparent social networks between community members, leaders and institutions. In order to install a reciprocal co-management system within a community and instil a sense of ownership over resources, the unpredictable social forces within each individual community needed to be acknowledged and accommodated into the analysis to create a vibrant social network of community members, leaders, institutions and relevant stakeholders that farm part of the small-scale fisheries process.

2.6. Central problem identified by the research

The problem that this research attempts to address is largely depicted in the background to South Africa's post-apartheid fishing transformation with specific reference to the MLRA, the small-scale fisheries policy and fisheries management of subsistence in South Africa, as seen above. Whilst South Africa is making impressive strides in the global arena and within fisheries discourse by setting new precedents in identifying and acknowledging subsistence fishers, the MLRA and its auxiliary policies and institutions have maintained a top-down approach to fisheries management. As the research has revealed in the literature background to the MLRA's implementation, fisheries management in South Africa is far from reaching a co-management credo.

The ambiguity of national policy and legislation and a mere lack of appropriate administration and management have led to the marginalisation of fishing communities along South Africa's coast, as described in this chapter. The inexperience and ineffectiveness of governing authorities has maintained a coastline that has seen little change since democracy. The Wild Coast in the Eastern Cape Province stands as a specific reference to the lack of success since the promulgation of the MLRA. The former homeland houses an almost forgotten coastline that provides illustrious natural beauty and sobering socio-economic conditions at the same time. As a result of the area's underdevelopment and non-commercial scenery, tourism has been cited as a main focus for economic development in the area. The ECRL resource has also been cited as a main focus for small-scale fisheries development in the area, yet the two strategies remain exclusively at arms since the ECRL is reserved for sale to commercial buyers rather than tourists. This research attempts to explore the characteristics of the ECRL artisanal fishery from traditional harvesting to commercial selling, in a backdrop to the dynamic social networks and institutional governance that allow for such a transaction. The research addresses the current dispensation of the ECRL commodity and the legislation governing its development, thus in effect questioning the sustainability, equity and stability surrounding the fishery (as annotated by the MLRA above). The research does so from the viewpoint of the divers within a sociological framework needed in a co-management solution to fisheries

management. This framework relies on analysing fisheries systems as social-ecological systems; the governance of which depends on dynamic social networks and institutional support, both of which grant the community the social capital needed for participatory co-management of marine resources.

The success of the new policy and the effective management of South Africa's subsistence and small-scale sector will rely on a trans-disciplinary and calibrated approach to fisheries management. Technical fixes to governing fishing communities under ITQs, MPAs or CBNRM are not separate universal remedies that can be applied to each community around the world. The universal application of such management techniques results in scientific tunnel vision of specific disciplines (Degnbol et al., 2006). The importance of social inputs in fisheries management research is of critical importance, especially in a country like South Africa where unique social inequalities and social phenomena are part and parcel of any research paradigm.

Chapter 3

Co-Management of Fisheries

It is clear that the South African government has embarked on legislative and institutional reform in its attempt to incorporate coastal communities under an integrated coastal and fisheries management programme. As noted in Chapter 2 the South African government has followed global debates and trends in fisheries management which include principles of equity, participation, social justice, stewardship, sustainability and accountability (international trends briefly described in Chapter 1). On a policy level, South Africa is attempting to move away from a command and control style of management to one that fosters participation, cooperation, and joint responsibility for natural resource management i.e. co-management (Glavovic & Boonzaier 2007, Hauck & Sowman, 2001, Urquhart, 2001). While a number of initiatives have been identified in South Africa that are exploring and experimenting with various partnerships it is also clear that co-management is more difficult to achieve, with various problems ranging from institutional incapacity, programme implementation, and legislative confusion as described in the previous chapter.

One of the main problems is that the government and institutional bodies responsible for marine and coastal management have failed to engage in adequate consultation processes with coastal communities. This has lead to massive sociological gaps in many areas of small-scale fisheries management in South Africa. The unique and complicated social landscape of South Africa makes for a complicated management process, one which must be sensitive to different social contexts and histories, and one which calls for originality in a co-management strategy as the government cannot simply duplicate management strategies imported from abroad. The government has in many ways missed the mark by failing to provide proper sociological research on a concept that relies heavily on social relations, gender differences, power differences, social capital and social networks. The latter two concepts are especially important in a co-management partnership which aims to provide communities with the necessary capacity to be an active stakeholder in the process. This chapter will explain what is meant by co-management with references to successful and

failed international fisheries case studies providing the background that reveals why it is important to provide sociological underpinnings to the theory of co-management by looking at the importance of social capital and social networks in collective and collaborative management of natural resources in the next chapter.

3.1. Co-management

In the wake of the perceived failure of centralised fisheries management there was a need to change the structure of governance. This especially holds true for small-scale and subsistence fishers who harvest on a small ecological scale. In order to protect the ecosystem habitats and local populations, and to secure the health of the complex social-ecological system, fisheries management has to be designed on a smaller local scale such that there is a focus on local-level management, decentralization of management authority and responsibility, and use of fisher's knowledge. The crisis in fish stocks and in coastal communities as well as the ineffectual centralised, top-down control of fisheries management has called for communities to take more responsibility in their own development and management of their natural resources. What this calls for is a more dynamic partnership using the capacities and interests of local fishers and community,

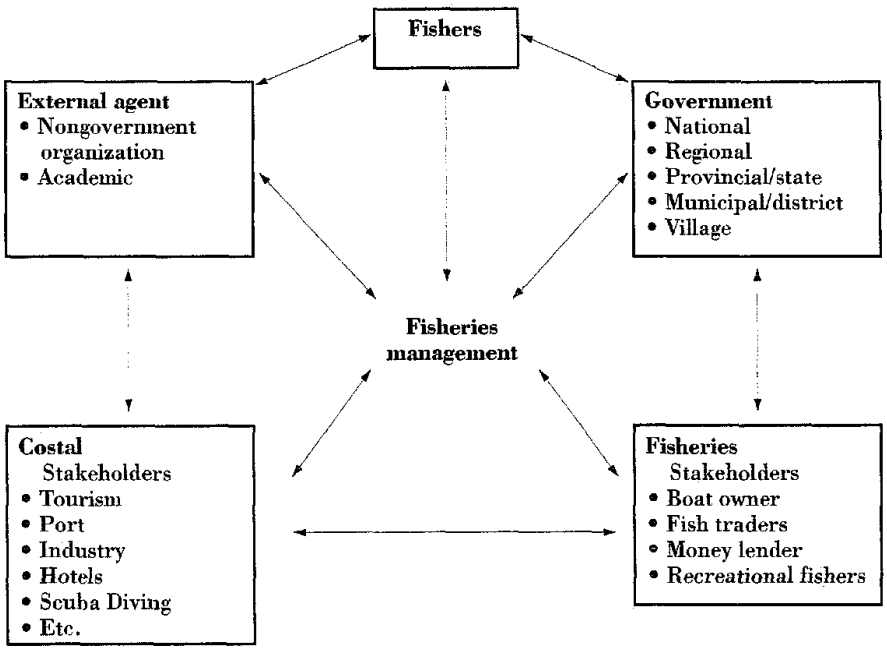


Figure 3.1: Fisheries Co-management as a partnership (Berkes et al., 2001: 201)

complemented by the state's ability to provide enabling legislation, enforcement and other assistance (Berkes et al., 2001: 201). This shift away from a centralised form of government to one which encompasses community participation in fisheries management is often called "co-management" (Jentoft, 1989; Pinkerton 1989a; Berkes et al., 1994b).

While co-management is a term used in development discourse and in many different conservation or natural-resource management contexts, fisheries co-management has a focus on institutional networks and governance. Fisheries co-management can thus be defined "as a partnership in which government, the community of local resources users (fish), external agents (non-governmental organisations, academic, and research institutions), and other fisheries and coastal resource stakeholders (boat owners, fish traders, money lenders, tourism establishments, etc) share the responsibility and authority for making decisions about the management of the fishery" (Berkes et al., 2001: 202; Pomeroy & Rivera-Guiep, 2006: 7[5]). Co-management is thus a sharing of governance structures between stakeholders in the resource and institutions of local collective governance of common property (see Figure 3.1). This partnership can be placed on a

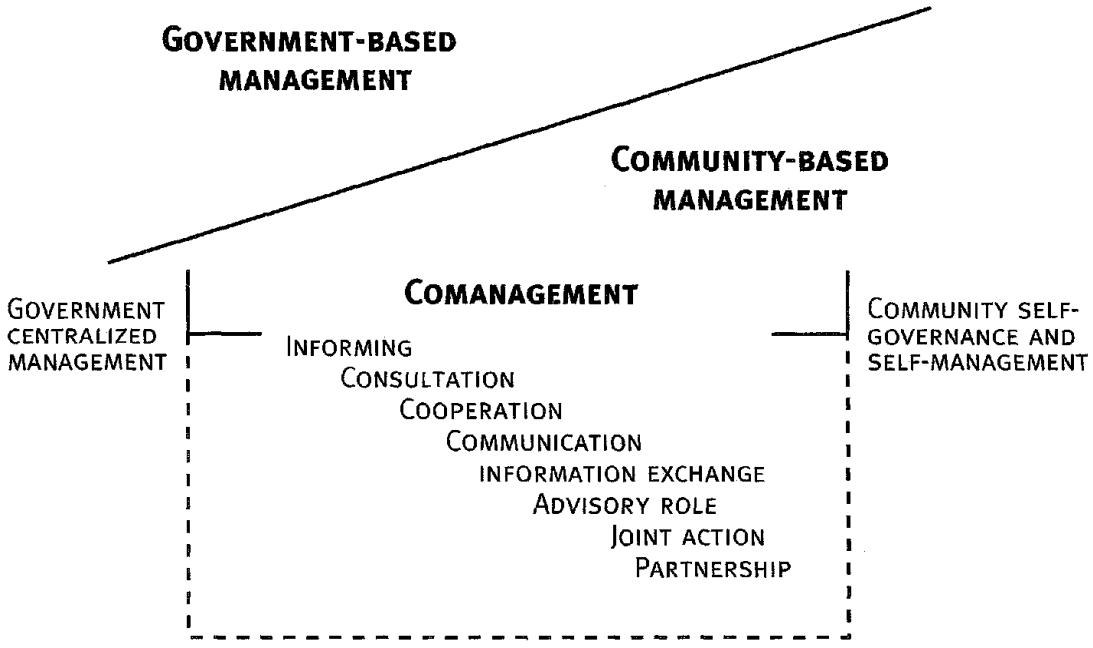


Figure 3.2: A hierarchy and spectrum of co-management arrangements (Berkes et al., 2001)

[5] International Development Research Centre 2006. *Fishery Co-management: A Practical Handbook* (R.S. Pomeroy and R. Rivera-Guieb) use the same definition of co-management.

continuum between purely government-based management and community-based management (see Figure 3.2). It is evident that many forms of co-management exist and that types of partnerships will vary between communities. This further calls for proper sociological research in the form of social networks analysis and stakeholder analysis in order to develop an agreement and specify the roles, responsibilities and rights in the management process. Co-management covers various partnership arrangements and degrees of power-sharing and integration of local (informal, traditional, and customary) and centralised government management systems (Berkes et al., 2001: 202)

There is a hierarchy of co-management arrangements which are decided on in a consultation process where fishers are introduced to the legislation and regulations, which following advice from government, academic institutes or non-governmental organisation (NGOs), the community participates in the design, implementation and enforcement of laws and regulations (Sen & Raakjaer-Nielsen, 1996).

The different levels of co-management depicted in Figure 3.2 between a more centralised and self-governing form of management will vary locally as they are dependent on site-specific conditions. Ultimately the decision is a political one where government will always hold the power of balance in co-management (Berkes et al., 2001: 203). The more informative level of co-management means that the government has made most of the decisions for the community as they engage in a one-way instructive type of relationship. A proper consultative relationship creates mechanisms for consultation whereby government still makes most of the decisions. A cooperative partnership gives the community some input capability. A communicative level of co-management creates a two-way information exchange of decisions where local concerns are represented. An advisory role gives the community the power to inform government of decisions to be taken whereby government will decide whether or not to endorse these decisions. A partnership level gives both the community and government equal power in joint decision-making, and finally some co-management arrangement gives the community most of the power to make decisions and simply inform government of the justification for these decisions (Berkes, 1994a; Sen & Nielsen, 1996).

In essence these decisions, although informed by biological data and existing scientific fisheries controls, are extremely political and historical. This holds true especially in South Africa and the former Bantustan homelands where an era of government dependency, extreme poverty and tribal authority have created a unique social landscape in which agreement in co-management partnerships is difficult; a topic mostly explored in the case study of this thesis. The ensemble of arrangements discussed above also depends on the level that different forms of capital are exchanged. Essentially both parties are directly concerned with the natural capital (resource) but they bring to the table their own forms of capital exchange. The government has a larger degree of human capital in the form of experts and consultants as well as financial capital. The community as a stakeholder however lacks most forms of capital except social capital. Social capital can therefore prove to be a stronghold for co-management arrangements in fisheries governance.

The importance of measuring the social capital and social networks in a community will largely dictate the type of arrangement that is decided on between government and community. The next chapter will explore this issue further, whilst the rest of the thesis will provide a case study highlighting the importance of social capital and social networks in government-community exchanges. Essentially, finding a solution to a co-management strategy will deal largely with the way in which the commons are managed, which in fact requires increasing the value of social capital in the community through empowerment, education, and capacity building. The notion of management within co-management should thus be understood "as a process by which a site is identified, acquired and declared; relevant institutions are built and/or enter into operation; plans are resigned and implemented; research is undertaken; and activities and results are monitored and evaluated, as appropriate" (Borrini-Feyerabend, 1996: 8).

3.1.2. Stakeholders and institutions

Co-management, in the broader sense of collaborative planning and implementation between users, government officials and scientists, may take place at all levels of decision-

making (Jentoft & McCay, 1995). As mentioned above the vast array of stakeholders and institutions are a vital aspect of a fisheries co-management framework for a successful sustainable solution to fisheries resources and community development. The institutional and social networks between the stakeholders are a primary unit of analysis in this research.

It is important to safeguard co-management as an institutional innovation with active participation from various stakeholders. Institutional networks are invaluable to the success of a co-management strategy at a time where increasing populations in coastal and freshwater environments impose pressures leading to overexploitation of resources and conflicts concerning access to resources, space and markets. The development of infrastructure, tourism, hydropower and aquaculture may also lead to further loss of access to and control over fisheries resources by fishing communities. There is also the possibility of environmental changes to due to pollution, deforestation, erosion and climate change. And finally globalisation and the integration of local markets into global markets may lead to exclusion rather than new fishing opportunities (Wilson, Nielsen & Degnbol, 2003).

New institutions enabling fishing communities are essential to deal with these pressures and ensure the sustainable development of coastal communities (see Hersoug, Jentoft & Degnbol, 2004, Ostrom, 1992). The basic challenge therefore, to governance and fisheries management, is to establish and maintain institutions in order to provide norms and rules guiding decisions which enable communities to address complex and fragile situations (Wilson, Nielsen & Degnbol, 2003). These institutions are also important banks where social capital is exchanged and thus can support social capital investments like education, empowerment or capacity building.

Institutions are aplenty in fisheries with families, firms, communities, social networks, private organisations, research institutions, government agencies and legislative bodies all making up crucial aspects of institutions within a co-management framework (Jentoft, 2004: 206). While institutions can among other things be a “clumpish” term (Thompson, 1993), they are essential to fisheries. They can be defined as “humanly devised constraints that structure human interaction... made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behaviours, conventions, and self-imposed codes of conduct), and their enforcement characteristics” (North, 1993). Institutions are “the set of

rules actually used (the working rules or rules-in-use) by a set of individuals to organise repetitive activities that produce outcomes affecting those individuals and potentially affecting others (Ostrom, 1992).

A co-management strategy blueprint does not exist and it is not a regulatory technique (Berkes et al., 2001: 203). Co-management should be viewed not as a single strategy but rather as a process of resource management that adjusts over time and space, and one which involves aspects like democratization, social empowerment, power-sharing and decentralization. It is imperative that co-management is adaptive and goes through a learning process by also maintaining a forum that allows for action, participation, conflict, communication among stakeholders, rule making, leadership, dialogue, power-sharing, knowledge generation and sharing, and development among resource users, stakeholders and government (Berkes et al., 2001: 203).

The different stakeholders within a co-management arrangement derive social and economic benefits from the arrangement. The stakeholders in a co-management process may have a geographic proximity, historical association, dependence on livelihood, economic interests, institutional support or a variety of other interests and concerns (IIRR, 1998). It is important also to note that different stakeholders can have a positive, supportive effect in the management process as well as being a potential threat in the development of coastal resources and communities (Langill, 1999). This thesis later explores the roles and duties of each stakeholder involved in the lobster fishery in Tshani Mankozi. Some institutions have a positive effect whilst others have perverse social effects. Some institutions may be bypassed and others seem to be irrelevant. It is therefore important to conduct a type of stakeholder analysis by revisiting the duties and responsibilities of institutions and their capacity to become part of a co-management arrangement. Again, social capital theory becomes a central tenet as it views the interactions and relations among actors and institutions within a co-management network.

Fisheries management institutions must realise that they are nested in social structures, moral norms and values that impinge on them (Jentoft, 2004: 94). These “nested-systems” (Ostrom, 1990) are never designed in an institutional vacuum but are generally part of a larger network of institutions. These networks are therefore nested in social institutions

(Scott, 1995) and cannot disregard the conditions of civil society institutions, the manner in which they are affected, or the support potential they may have for management systems. Bailey and Zerner (1992: 3) also argue that these management systems must be understood as human creations situated in and made up of the historical contexts in which they are embedded. If co-management institutions fail to consider and integrate these values, their legitimacy will be questioned and their decision opposed (Jentoft, 2004: 9).

A risk of co-management is that it may embed power to administrative elites which can be as impersonal, insensitive and indifferent to local concerns as centralised management by government. This is certainly a concern along the Wild Coast of South Africa in which there is a historical absence of local government or state-community interactions, as well as a traditional authority that has a reputation for elitism and corruption. The cultural histories of fisheries will largely determine levels of social capital which further determines the potential for co-management and effective communication between different actors.

3.2. Governing the commons

Co-management has a relatively short history in fisheries, not more than a quarter of a century (Jentoft, 2004: 1). The concept of community management however has existed in fishing communities for hundreds of years. In some parts of the world co-management and community-based governance systems have existed for centuries (Ostrom et al., 1999). Fisheries co-management therefore has a history of practical successes and failures as do many projects that require self-governing community development. As noted in Chapter 1, fisheries management has neatly followed a similar path to international development discourse over the years incorporating more participatory measures in fisheries control.

It is also safe to say that people have always participated in building their communities and managing their natural resources (Wilson, Nielsen, & Degnbol, 2003: 17). A fisheries management strategy that incorporates a co-management approach recognises that ecological sustainability is only achieved through fisher management (people) and community development i.e. people-centred development. The move from ecological

determinism and a focus on socio-economic and livelihood development is evident in South Africa's fisheries reform, with the fisheries aspect moving away from environmental affairs into the same department as agriculture and forestry. Community development is a fundamental concept in sociology and development discourse which incorporates the principle of participation. The community has largely been missing in fisheries analyses but Wilson, Nielsen & Degnbol (2003) regard co-management as being heavily influenced by community development.

As such the question of the commons is fundamentally a question of community, an aspect ironically missing from much of Hardin's *Tragedy of the Commons* (McCay & Jentoft, 1996). Management systems that are based on Hardin's hypothesis and neo-liberal theory that involve, for instance exchangeable resource rights, typically neglect the existence of community, be it of place or interest, and its potential to fisheries management (Jentoft, 2003: 10). The negligence of community becomes self-fulfilling whereby fisheries management impacts negatively on the social cohesion and solidarity of communities, thereby making communities less capable of managing resources and/or ultimately leading to the tragedy of the commons. Communities become more dependent on the state thus again undermining the potential and investment of the social capital in communities. This point stresses the importance of fisher and community participation and the active engagement of various stakeholders, the most important being the supporting role of the government. This is nowhere more evident than in Tshani Mankozi where an absence of community participation creates an incompliant and open access fishery impacting negatively on social cohesion in and between communities.

One of the biggest flaws of the 'tragedy' idea is precisely that it ignores the social relations that characterise resource users throughout the world (Berkes et al., 2001: 185). Hardin's neoclassical economist reduction of the commons creates self-centred fishers that selfishly harvest resources unrestricted by community and social relations. There is much evidence to suggest from experts who have worked with fishers that even the most selfish and individualistic fishers are subject to an assortment of social pressures which shape behaviour.

It is essential therefore that we include a community perspective and a definition of community to ensure its proper representation in the co-management process. It is important to note several institutional variables within a community. Based on the work of Jentoft et al. (1998: 423), the first variable is the manner in which community is defined. The second is the locus and scale of a community. This is how the various groups within the affected community are represented. Third is how various groups within the affected communities are represented. Fourth is the important issue of property rights. The issues here cannot be viewed from an instrumental point of view or within a technical vacuum. As mentioned above they are highly political, sociological constructs that involve social relations, conflicts and interests; and distributions of power among those that are directly involved in the decision-making process, or affected by the decisions themselves.

3.2.1. The community

It is firstly important to note the geographic and functional aspects of a fishing community. The geographic aspect of fishing communities of course have important implications as to which species of fish are harvested and the accessibility to the marine resources in terms of weather, tides, and seasons. The geographic considerations of a community also reveal the strength of institutional networks in a community as the placement of a community in relation to government institutions or commercial buyers has important repercussions for the effective management of the community and its resources. The functional notion of a community regards the community as webs of social interactions and relations tied to place, history and identity. (Jentoft & Mikalsen, 1994). It must further be noted that sociological aspects of communities like social integration, cohesion, equity and justice are prominent. The role of a fishing community creates the fishing culture of harvesters in forming identities, a sense of belonging, moralities and trust (Jentoft, 2004: 95), thereby creating unique context-dependent social capital that influences harvesting and the management thereof. It is therefore necessary to explore these social phenomena under a social capital theory framework in the next chapter.

Co-management largely involves the functional aspect of communities as certain co-management rights are assigned to the fishing community (Jentoft et al., 1998: 429). The fishing groups (fishing cooperatives) or harvesters within a community are also identified in terms of their functional characteristics like gear dependency, local knowledge, traditional management systems and hierarchies etc. This is important when assigning property rights to a community, whether they are individual or communal. Another important question is whether and how a co-management authority can be vested in or assigned to local communities. There are well documented cases in coastal fisheries management regimes in Japan which are centred in local co-operatives that have elements of this kind of co-management insofar as these cooperatives are deeply embedded in, and represent many of the interests of the larger community (Pinkerton & Weinstein, 1995; Ruddle & Akimichi, 1989; Lim, Matsuda & Shigemi, 1995).

Management systems cannot expect to gain support from communities unless they help to nurture them. Contrarily communities can provide vital support for management institutions. “Consequently, communities cannot simply become regarded as the dependent variable of the fisheries management equation but as a source – an independent variable – of functioning management, responsible fishing and, hence, a sustained resource (Jentoft, 2004: 94).

In the case of common property discussed below, it is essential that these aspects of community are harnessed into a fisheries management strategy. By ignoring the intermediate role of the community one tends to do the same as Hardin did – disregarding the community as nothing more than an aggregate of self-seeking individuals, thus as competitors and not social groups. Therefore a government that does not provide communities with a role or function in fisheries management misses an opportunity to enhance community viability and to make management systems work more proficiently (Jentoft, 2004: 101).

3.2.2. Common property

The concept of property and the manner in which it is defined *de facto* by the government is a large influential factor as to what type of partnership between government and communities is to be reached. The concept of "common property" must not be confused to mean "open-access" as in Hardin's hypothesis (Ciriacy-Wantrup & Bishop, 1975). Common property does not mean everyone's property but is something shared by a community which has rules and regulations, unlike a *laissez-faire* regulation of open-access systems.

Common property rights therefore refer to a class of property rights, usually a right to use something in common with others and a right not to be excluded from its use. In this regard the distribution of such rights requires co-owners with equal shares. In order to solve the "tragedy" problem and enforce common property rights, there are two basic characteristics of the commons that need to be addressed. The first is the exclusion problem which is how to control access to the resources. The second is the subtractability problem which is the enforcement of rules and regulations among resource users and how they impact users and the community (Berkes et al., 2001: 173).

If resource property rights are ill-defined this could lead to perverse-economic incentives among capture fisheries resources (Munro et al., 1998). This again is clearly evident in South Africa where the confusion surrounding access rights has led to incompetence, inefficiency, non-compliance and sometimes even conflict. More so if the rules and regulations are not defined there could be an increase in conflicts among fishers and non-compliance towards regulations and legislations. In this regard it is important to note that the community needs to be empowered to participate in the establishment of property rights and the accompanying rules and regulations. The rules to control access and address the subtractibility problem can be made in partnership with government, market forces, fishing communities and external institutions like NGOs and research units.

In Chile the coastal benthic (bottom-dwelling) resources have been co-managed under the Fisheries and Aquaculture Law (FAL) since 1991 giving the artisanal fishers legal and institutional support under the Management and Exploitation Areas for Benthic Resources

(MEABR) (Castilla, 1994). These fishers were assigned property rights that constituted a geographic coastal area, known as a Territorial User Right Fishery (TURF), which constitutes a common property right institutional incentive for long term resource use and communal ownership. When viewing such a scheme under the exclusion problem of commons governance, the fishers and families that are dependent on local resource create communal property regimes, giving them the ability to exclude people that do not constitute a defined group. The logic behind TURFs is that the *bona fide* fishers are formally acknowledged and manage their fishery, as well as allowing the local community to regulate itself and pursue controlling and monitoring of the resource. Many Pacific Island states have moved in this direction by recognising formal traditional marine systems (Baines, 1989: Ruddle, 1993). In South Africa however, as will be discussed later with regards to the case study, the exclusion of *bona-fide* fishers as a result of a poorly defined legislation and the introduction of TURFs has led to increased and sometimes even antagonistic conflicts between fishers and fishing communities.

In many areas around the world there is no legal recognition of exclusion under communal property regimes. In these situations the exclusion of users is informally enforced through local customs, social sanctions, threats and even violence (Berkes et al., 2001: 177). The lobster fishery in Maine, USA, is a classic example of a fishery that has existed for years and was only recently recognised by the government. The fishery functions well as the fishers contribute to the management of the resource (Acheson, 1988), yet the community has a deeply embedded culture of individual rights and free-access to marine resources. The lobster fishers in Maine exercise a strict regime amongst themselves and strangers, violators of informal indigenous rules are shown little mercy (Acheson, 1988). This is also a good example of tightly bound social capital amongst community actors and the efficient use of collective action to limit access in the fishery.

3.2.3. Capacity-building and collective action

If property rights and management responsibilities are to be vested in the community the community must have the capacity to respond to these duties. In essence, the community must be empowered and must act in collectively. It must also have capacity building institutions that provide important links to larger institutional and legislative support (Jentoft, 2004: 116). Co-management thus needs a formal organisational structure at relevant administrative levels. Institutions must therefore grant collective choice rights (decision-making about harvesting planning) to a group of fishers in order for it to exercise an operational right (taking an allocation of fish)(Schlager & Ostrom, 1993). Co-management is not only a vertical process whereby the state provides institutional and legislative support but it is also a horizontal process whereby actors in the community engage to reform civil society and thus promote stewardship, social capital, and the identification of shared values (Pinkerton, 2003: 73).

It is thus in the interest of the community to exercise their collective choice rights rather than on individual rights (something that ITQs and private rights institute) as they can decide on decisions in collective action. By their very nature, co-management decisions are collective rights decided on in collective action, as the name implies, co-management is achievable through cooperation. It is therefore important to invest in the social capital of communities such that they are empowered to effectively and collectively participate in co-management.

There are many cases around the world where despite supporting legislature or lack thereof, fishers and fisher groups create formal or informal administrative community structures. The inland fisheries of Bangladesh have been granted access rights by the state and they are thus obliged to organise (Tofque, 1997). In Lofoten and Maine co-management systems are based on a system of formal fisherman committees (Jentoft & Kristoffersen, 1989; Acheson, 2003). In Japan, producer cooperatives are lawful rights-holders of the resources and assume the management role on behalf of the community (Yamamoto, 1995). In Malawi there are beach village committees for the same purpose (Hara, 1998). Co-management will only work as well as do these organisations and thus their structure, the

conditions under which they operate, the rules, procedures and processes they obtain, the social relations they build, and the outcomes they produce, become key variables (Jentoft, 2004: 117). In South Africa the formalisation of local co-operatives by the MCM has largely failed as the co-operatives are largely ignored by the community following an absence of proper community consultation and participation.

Fishing cooperatives may fail for many reasons but their importance cannot be understated (Orbach, 1980). While government can and should assist in capacity building and the formation of local organisations, it is also the responsibility of the community to manage their resources through collective action. Collective action is probably the best example of social capital in use.

The ability of fishers to organise themselves for collective action has a number of prerequisites involving local institutions, defined here as the set of rules actually used (rules-in-use) by a group of individuals to organise their activities (Ostrom 1990; North 1990). In areas where fishers have no groups or local institutions, the co-management process will start with institutional capacity building. Institutional support, capacity building and collective action are all interlinked and dependent on each other, and all are dependent on the strength of social capital and vibrant social networks. In Grafton's (2005) study on social capital in fisheries governance, he states that civic engagement and co-operation is a necessary condition for a well-managed fishery. Co-management requires co-operative behaviour among fishers and between fishers and regulators and governing agencies" (Grafton, 2005: 755). In this regard it is of the utmost importance to study and further enhance the social capital in a co-management arrangement, ranging from the community to the institutional networks that support the community.

Chapter 4

Social Capital and Social Networks

What has been stressed in this thesis over and over again is the imperative to include social capital and social networks in any co-management and fisheries governance analysis in order to achieve the vertical and horizontal relationships that are needed for a co-operative arrangement. It is clear that while it is important to create support through institutional networks that stretch vertically and horizontally, it is also important to maintain collaborative social networks within the community and thus analyse a community's social capital. The community is what makes a co-management arrangement successful. What makes a community therefore, and what makes it an important cornerstone of any fisheries management system is "the relations people have, the networks they build, the interactions that occur between them, the history they share, and the identity and the meaning they attribute to it all" (Jentoft, 2004: 101). In this regard it is of the utmost importance to research the social capital and social networks within a community, the existence of internal institutions and the possible collaboration with various stakeholders in capital exchanges.

Social capital from the onset firmly places sociology onto the level of politics and economics and thus reveals itself in the language of the latter. A word spoken by all politicians and economists is of course 'capital'. Social capital provides a new channel of investment particularly in terms of economic development and policy-making. This investment is however not limited to individuals and transactions as it is with human and economic capital but it relies on a multi-disciplinary and highly complex bank of social networks, groups, cohesion, and norms of reciprocity, all of which aim to create a collective investment for social progress and reproduction. Paradoxically this investment can be highly transparent, overseen, or easily influenced by what is essentially a competitive form of similar investment: an external form of social capital from other communities or institutions that provides a strong currency of power and access to resources.

Much to the exasperation of scholars and researchers the difficulty of defining social capital as well as its conceptualisation and operationalization has led to a multitude of views and

methods of measurement. One thing that is for certain is that whether you define it as capital or not, social networks and civic norms play a role in the everyday governing of capital transactions (physical, human, economic capital) and social interactions, and thus there is a need to research its practicability and validity, especially in a fisheries context where a community has important responsibilities towards people and nature.

4.1. Defining social capital

Social capital is not entirely a new term in sociology. In fact it is a term that relies heavily on basic sociological thought and social theory from Marx to Durkheim. The term can refer to things such as "social energy, community spirit, social bonds, civic virtue, community networks, social ozone, extended friendships, community life, social resources, informal and formal networks, good neighbourliness and social glue" (Harper, 2001: 6). These aspects have been studied from classical sociology through until now. The phrase 'social capital' attempts to encapsulate these aspects into one term so as to provide a single unit by which such terms can be measured by in order to describe how communities can "work together for common purposes in groups and organizations" (Fukuyama, 1995: 10) so as "to use your [communities'] financial and human capital' for collective benefits" (Burt, 1992: 9). Thus it refers to the "culture of trust and tolerance, in which extensive networks of voluntary associations emerge" (Inglehart, 1997: 188) and by which "those voluntary means and processes developed within civil society… [and thus] promote development for the collective whole" (Thomas, 1996: 11). Thus the basic idea of social capital is that "a person's family, friends and associates constitute an important asset, one that can be called on in a crisis, enjoyed for its sake, and leveraged for material gain" (Woolcock and Narayan, 2000: 226). This applies not only to individuals but to groups and communities as well.

Since social capital is so context-dependent on both the area of study and the discipline of the researcher, a universal definition is hard to come by. There is some consensus that a definition emphasises the role of networks and civic norms (Cote & Healy, 2001) and that the focus of social capital is on social relations that have a productivity level whether it is

good or bad. This is why Putnam (2000) a leading author in the field, states that social capital is both a private and public good because through its creation as a by-product of social relations it can benefit the creator and the bystander. Social relations and networks however do not escape the prejudices of power relations, hierarchies and bureaucracies such that they work as a collective whole. External forms of social capital like the social capital of an institution can affect other forms of social capital such that we are all interlinked into a web of social relations, hierarchies and forms of power. For instance the money one makes (financial capital) in a community is dependent on the currency, the banking system, economic policies and so on. In the same way, the social capital one uses for oneself or in a collective action situation is dependent on the existence of external relations with other social entities as well as political and economic systems. Therefore social capital is at the same time binding and debilitating, an asset and a liability, it is internally created and externally affected and thus it is not always entirely a community's stronghold.

4.1.1. Social capital as capital

Perhaps the best places to start when defining the term is too look at the two words separately. Can the social be capitalised in a sense? If we take the term as far back as 1920, Hanifan states that " in the use of the phrase 'social capital' no reference is made here to the usual acceptation of the term 'capital', except in a figurative sense" (Hanifan, 1920: 78). What Hanifan meant was that there is no reference to private property, money or tangible substances of people's daily lives but in fact the "good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit" (1920: 78) and that make those types of tangible substances a reality. Hanifan further explains that in the same way a modern business is made up from an accumulation of capital and when these financial resources and different individuals come together, they take the form of a business corporation for which the purpose is production. The same can be said for the social corporation (community) that attempts to create, through association and collective action, a number of benefits for the individuals involved in its inception.

Hanifan states that “the individual is helpless socially if left to himself (sic)” (1920: 79), but through contacting neighbours and accumulating social capital one may satisfy his/her social needs and ensure the substantial improvement of life in the community as a whole. An accumulation of this capital wealth is attained through various means from family traditions to community gatherings and civic engagement. In this regard the act of fishing can be seen as an accumulation of social capital between fishers such that they are not necessarily competitors but partners as well. When people become acquainted with one another and have a habit of coming together then through skilful leadership this social capital may easily be directed towards the general improvement of community well-being (Hanifan, 1920: 79). It is therefore the focus of this thesis to observe such interactions, relations and engagements such that a holistic picture may be painted of the social capital in the community and subsequently incorporated into government co-management strategies.

I tend to disagree however with Hanifan that this social capital can be *easily* directed towards general improvements since the manner in which social capital is processed is subject to power relations and external social, political and economic entities. Bourdieu (1983, 1986) reintroduced the concept by highlighting the possibility of wider society misrecognising the existing social structure as the norm. He also emphasised the role played by different forms of capital in the reproduction of unequal power relations (1988, 1990). Thus Bourdieu introduces a neo-Marxist paradigm placing greater emphasis on access to resources and issues of power in society.

4.1.2. Social capital, economic capital and human capital

There are many similarities and differences between social, economic and human capital however the main difference is that “economic capital is in peoples bank accounts and human capital is inside their heads, social capital inheres in the structure of their relationships” Portes (1998: 7). Ostrom & Ahn state that “all forms of capital involve the creation of assets by allocating resources that could be used up in immediate consumption to create assets that generate a potential flow of benefits for some set of individuals over a

future time horizon" (2003: xiii). The assets thus created under an accumulation of social capital are geared towards future benefits for individuals. The individual's that benefit from its creation can be from smaller groups like families or from larger groups like participants in an economic and/or political system. A crucial facet of social capital is that the benefits created are not always beneficial to all members of its inception, and there can be negative consequences for small and even larger groups.

Social capital like other forms of capital is productive and if it is not renewed Coleman (1990) suggests that it will be depleted. Therefore it is suggested that the more people work together the more social capital is produced, and thus on the contrary the less people work together the more social capital will be depleted (Putnam, 1993). In fisheries co-management where the central theme is collaborations and partnerships, the collective collaboration between community members and facilitating institutions can produce greater yields of social capital.

Many authors also state that social capital qualifies as capital because it involves some investment of time and effort if not always money (Grootaert, 2001; Grootaert & Van Bastelaer, 2002b; Krishna & Uphoff, 2002). It is further argued that capital involves multiple forms and therefore social capital like physical and human capital is presented in a diversity of forms (Osrom & Ahn (2003: xiv). Physical capital constitutes a wide and almost infinite array of forms from roads to factories. Human capital includes many different kinds of knowledge and skills. However the difference is that one can attach a tangible value to physical and human capital like a factory or college degree. Even more so one can measure the value of these forms of capital because one can determine the date of acquisition, the amount of investment and maintenance and the overall measurement of output. Social capital on the other hand is difficult to attach a value to. It is difficult to estimate the beginnings of social capital, its maintenance and its productivity levels. Social capital also comes in a far greater multitude of forms from trustworthiness between people, to rules and regulations of institutions (important facets of fishing communities and governing institutions), and thus its total measurement is difficult to estimate.

One of the biggest differences is that social capital is not as independent and freely transferable as economic capital. Social capital is context-specific to individuals, groups and

communities and therefore is not easily transferable across cultures. Social capital does not reside in individuals but in the relationships among individuals, therefore taking an interactionist sociological perspective. Although an individual can make use of such capital it depends entirely on the group and networks that he/she resides in. Because social capital relies on interactions between individuals or groups, without interaction it loses its value (McOrmond and Babb, 2005: 8). Therefore, while an individual makes up a part of the social capital being accrued and thus in a sense can 'store' it, they too can 'spend' it, however it has no meaning without a specific collective. Within social capital there are norms of reciprocity that encourage mutual exchange or 'favours' and without this interaction social capital cannot be harnessed or indeed created. The mobility of social capital is thus limited to and reliant on the community. The relationships and networks that are established are unlikely to yield a high return for individuals if used in new environments (McOrmond and Babb, 2005: 8). Social capital is thus bound to time (as it must be used before it is depleted) and space (as it relies on the community for its maximisation). This is why Pinkerton (2003: 73) states that co-management is about the values that are expressed within a group towards a collective public good.

As in economic capital certain investments expect returns in the market place but in the case of social capital "the medium of exchange is not saleable, nor can it be stored" (McOrmond and Babb, 2005: 8). One cannot determine the value of social capital outside of the individual relations that it resides (Maloney *et al.* 2000). Therefore it cannot be stored in a bank or remain in memory such as the skill of playing a musical instrument. More so the forms and value of social capital is always changing and thus there are more constraints on exchange in social capital than there are on financial capital and human capital.

4.2. Evolution and theoretical development of social capital

Having addressed the understanding of capital and thus the conceptualisation of social capital the evolution of the theory needs to be addressed. There are a number of differing views and paradigms that inform the social capital debate and thus it is important to trace

its theoretical development in order to examine how it differs from similar sociological concepts so as to establish its validity in social research. As stated earlier the concept is not entirely new and therefore it is presumptuous to call it a new paradigm however its recent development has sparked debates about its applicability in the social sciences and more specifically for natural resource management.

The modern development of social capital is often attributed to the works of Bourdieu, Coleman and Putnam. According to Harper (2001: 7-8) the value of social capital was identified by Bourdieu (1986) and given a clear theoretical framework by Coleman (1988, 1990) who was the first to subject the concept to empirical scrutiny and develop ways of operationalising it for research purposes (Baron et al., 2000: 8). The term and its methods are however most commonly associated with Putnam (1993, 1995, 2000) who "successfully exported the concept out of academia and into a wider media" (Harper, 2001: 8). Today the concept has growingly received much interest and support. Two decades ago there were only two known citations using the concept social capital whereas today there are thousands (Ostrom & Ahn, 2003).

While it was Hanifan (1920) that coined the concept of social capital, the term disappeared for several decades but its core meaning was reinvented in the 1950s by a team of Canadian urban sociologists (Seely, Sim and Loosely, 1956), in the 1960s by an exchange theorist (Homans, 1961), an urban scholar (Jacobs, 1961) and in the 1970s by an economist (Loury, 1977 cited in Woolcock and Narayan, 2000: 229). Although the concept was not defined there was a revival of the importance on community vitality and significance of community ties. These aspects were in turn brought to the attention of Coleman (1988, 1990) on education and Putnam (1993, 1995) on civic participation and institutional performance which subsequently provided the seminal research for the terms inception. Much of what has been discussed in the thesis this far is the parallel between fisheries management and development discourse as they both evolved into more participatory paradigms. The revitalisation of the term 'social capital' came around at a similar time when the focus was returning to the community and the grassroots.

In the seminal "Making Democracy Work (1993)" Putnam attempts to discover the preconditions for the development of a vibrant democracy with responsive representative

institutions and a prosperous economy. Putnam concluded that “in areas with a well-functioning local government and a prosperous economy, the public activity of citizens has created an atmosphere of mutual co-operation, vital social networks, equal political relations and the tradition of citizen participation; and where “behind all of these phenomena radiates the ethos of mutual trust between citizens” (Putnam, 1993: 6-7, cited in Siisiainen, 2000). Putnam concludes that the effectiveness of a civic community is reliant on participation, volunteerism and association thus expressing communal vitality. Putnam thus points to three main components which largely make up the determinants in social capital theory: (i) trust and trustworthiness, (ii) social norms and obligations and (iii) social networks of citizen activity.

In *Bowling Alone* (2000) Putnam documents the decline of American participation and civil activity in politics, civic groups, religious organisations, trade unions and professional organisation. He argues that the decrease in membership to those associations and the increased membership in arbitrary organisations that do not maintain or contribute to social capital indicates a drop in social cohesion, civic vitality and overall social capital. What is important to take out of Putnam’s argument is that he places the value of social capital in social structures and their efficiency thereof. Putnam thus places social capital at the community level. Coleman (1988) also adds a structuralist argument to social capital by defining social capital with a theory of rational action, “in which each actor has control over certain resources and interests in certain resources and events, then social capital constitutes a particular kind of resource available to an actor” (1988: 98). Therefore social capital is described by its function and it is not defined by a single entity but a variety of entities. Social capital consists of social structures that facilitate certain actions of social actors within the structure (1988: 98).

Therefore according to Coleman social capital takes on three forms: the first is the obligations and expectations which depend on the trustworthiness of the social environment. The concept of trust and trustworthiness is central to the development of social capital and thus will be discussed in the next section. The second aspect is the capacity of information to flow through the social structure and social networks. Finally is the presence of norms within the social structure which is accompanied by sanctions (Harper, 2001: 8).

The concept of social capital basically revolves around stock levels of trust, norms and networks by which people can draw upon to resolve social phenomena or to use in socio-economic development for instance. The creation of social capital is thus a solution to many social problems like poverty, crime (Halpern, 1999, Putnam 2000), health (Wilkinson, 1996), and education (Coleman, 1988) because it refers to a community's use of social assets to solve problems and distribute benefits and allocate resources for the betterment of the community.

4.3. Dimensions of social capital

There is a considerable amount of debate in determining the sources of social capital as well as its central unit of analysis. Some theorists position the self-interested individual at the centre of the analysis whilst others attribute the creation of social capital to social networks or institutions. The analysis is further complicated when analysing the horizontal and vertical limits of social capital and the existence of social structures and entities outside its horizon. We are therefore left with a number of perspectives, forms and types of social capital. The forms of social capital incorporate aspects like trust, trustworthiness, norms, obligations, sanctions, information channels and so on (aspects that are crucial in a well functioning co-management arrangement). However these forms exist in different perspectives of social capital namely that of the networks and the institutions involved in its creation. These forms and perspectives therefore create different types of social capital that create horizontal and vertical channels by which social capital operates. These channels are often referred to as bridging, bonding and linking social capital.

4.3.1. Trust and trustworthiness

Trust is often attributed to be the main form of social capital between community members. According to Ostrom & Ahn "trustworthiness is defined in terms of preferences that are

consistent with conditional cooperation even in the absence of material incentives" (2003: xvi). Trustworthiness is thus an independent and non-reducible reason for some communities achieving collective action and others not. Putnam describes trust largely in terms of 'thick' and 'thin' trust, the former relating to personal bonds and the latter relating to a generalised trust in other community members. This is pertinent to the bonding and bridging types of social capital that will be discussed later. Fukuyama (1995) also takes up the notion of 'a radius of trust', in which a circle of people acts in a co-operative nature under norms of reciprocity. This creates a two-tier system in which there are different standards of behaviour within the circle (private sphere) and outside of the circle. Fukuyama attributes this to Latin American societies where there are strong family bonds but outside of the family there is an arrogant, abrasive and even gangster-like behaviour towards outsiders.

Coleman (1988) also describes the concept of trust and reciprocity among individuals and within structures. Thus he speaks of obligations and expectations of people and institutions in a community governed by norms and sanctions which creates either a high or low trustworthiness in a society. Without this trustworthiness networks and institutions would not exist.

Trust is extremely important in fishing communities as it can play a major role in reducing the costs of fisheries management (Grafton, 2005). Grafton goes on to say that if fishers trust each other to comply with local regulatory rules to protect the fishery, and this trust is justified, the costs of monitoring the actions of individual fishers are reduced. It is further noted that altruistic behaviour that encourages fishers to comply with rules can also reduce compliance costs (2005: 755). Thus, social capital investments can enable compliance and a sustainability ideology. Furthermore if the trust among fishers can be extended to trust in the management authority, this can increase trust among fishers and regulators leading to good working relationships as well as promoting the sharing of knowledge and resources (Pomeroy & Berkes, 1997). In this regards, an effective trustworthy relationship and effective communication channels can increase awareness of fishers towards the sustainability of resources as well as the consequences of their collective actions while managers benefit from timely feedback about local changes in the stock and environmental conditions (Grafton, 2005: 755).

4.3.2. Networks and institutions

It has been noted earlier in the chapter that social networks and institutional arrangements are critical to the co-management philosophy as well as to the conceptualisation of social capital theory. In the context of fisheries, social capital is suggested as being an important factor affecting regulation and governance (Grafton, 2005: Sekhar, 2007). There tends to be a divide of viewpoint regarding whether it is the social networks or the institutional arrangements that make up the heart of social capital: the former relying on traditional kinship bonds or *bonding social capital* and the latter consisting of internal and external institutionalisation in the form of *bridging social capital.*

Woolcock and Narayan (2000) call for a synergy view of social capital which attempts to integrate the institution and networks camps. The networks view stresses the importance of vertical and horizontal associations between people and of relations within and among organisational entities such as community groups and firms (Woolcock and Narayan, 2000: 230). Putnam also points out that dense networks of social exchange are a crucial condition for the rise of the norms of generalised reciprocity (1993: 229). Thus Putnam makes reference to two types of networks; namely horizontal ones and vertical ones. Horizontal networks "bring together agents of equivalent status and power" (Putnam, 1993: 173) and vertical networks link "unequal agents in asymmetrical relations of hierarchy and dependence" (Putnam 1993: 173). These networks are informed by what Coleman (1988) refers to as *information channels* that provide a basis for action. Information is acquired and passed on through social relations networks all of which facilitates action. Trustworthiness, as described above, is central to network theory as it dictates the efficiency of how information is transmitted. Contrarily the denser the network and the strength of ties, the greater the access to information creates incentives to behave in a trustworthy manner (Ostrom & Ahn, 2003). Networks are thus created out of a group of trustworthy individuals who are willing to cooperate towards collective goals and thus establish networks among them (a central cornerstone of fisheries co-management). These networks of course spread to other social structures and organisation thus informing the hierarchal structure of

networks. The manner in which relations are conducted in horizontal and vertical ways is described by bonding, bridging, and linking social capital below.

It is also important however, to note that institutions have an effect on the structure of social networks and thus Putnam agrees with Granovetter (1973) that overlapping weak ties is more important than intense personal ties in sustaining social stability and collective action (Ostrom and Ahn, 2003: xxii). One can thus conclude that both strong intra-community ties and weak extra-community networks are needed to maintain the stability of social capital, especially through bridging and linking ties with other stakeholders. The stability of social capital will lead to the stability of the co-management arrangement.

The institutional view argues that "the vitality of community networks and civil society is largely the product of the political, legal and institutional environment" (Woolcock and Narayan, 2000: 234) and thus social capital is largely dependent on such institutions rather than independent. Institutions are thus described as informing the capacity of social groups to act in their collective interests, again another central tenet of the co-management arrangement discussed above. Thus norms, rules and sanctions are created and maintained by institutions which inform the manner in which social interactions and relationships in a social network are governed. Grootaert (1997) considers the view of social capital that includes "formalised institutional structures, such as governments, the political regime, the rule of law, the court system, and civil and political liberties" as the most encompassing (cited in Ostrom and Ahn, 2003: xxii). Formal and informal rules are created from day to day operational activities all the way to constitutional activities which inform the nature of social networks.

It is thus important to establish whether social capital is bottom-up or top-down. Maloney et al., 2000) asserts that the current conceptualisation of social capital is primarily bottom-up especially with regards to aspects like political participation. Therefore it provides a communitarian and networks view in which individuals and communities impact on the development of their own social capital for collective benefits and material gains. In the fisheries context, this is precisely what the community development aspect of bottom-up fisheries governance is all about.

This is why Woolcock and Narayan call for a synergy view of the networks and institutional camps because norms, trustworthiness and rules depend upon the kinds of norms and patterns of reciprocity that already exist in a network as well as the patterns of trust and reciprocity that depend to a large extent upon the types of rules that are crafted in polity. It is thus absolutely essential, and a main objective of this research, to research the existing norms and rules (social capital) within a fishing community as well as the effects that external institutions and governing legislation have on the community.

4.3.3. Bridging, bonding and linking social capital

These three concepts have become synonymous with social capital research and they are the most encompassing terms when discussing social capital. The bonding, bridging, and linking social capital describes most of what has been discussed above. These terms describe the links between individuals, groups, networks, and institutions on horizontal and vertical scales as well as determine the norms and sanctions, trust and trustworthiness, and the obligations and expectations of communities in a collective action situation.

Bonding social capital is the most exclusive of the three terms and it refers to relations amongst relatively homogeneous groups such as family members and close friends. In fact the term is an extension of what Granovetter (1973) termed “strong ties”. This form of social capital thus reveals the relationships and ties among close-knit groups like families and friends. Within bonding social capital there are high levels of trust and a strong norm of reciprocity that maintains healthy relationships. Putnam (2000) lists examples of bonding social capital as being ethnic fraternal organisations and church-based women’s reading groups. A stronger bonding social capital however may effectively exclude individuals because they do not share the same values or norms, and thus this form of social capital is the most perverse and may have negative consequences. However, this form of social capital is also least affected by institutions and provides a strong social asset for communities.

Within fishing communities there are usually high social bonds as a number of traditional fishing communities rely on trust and kinship rules as a critical factor to their success, and even in modern times this collective cooperation exists (Pomeroy, 1995). Social bonding may be especially important in many communities where state services are less frequent and fishers have to regulate themselves (Sekhar, 2007). As discussed later this is particularly evident along the Wild Coast in South Africa.

Bridging social capital is often attributed to being the same as Granovetter's concept of "weak ties" in which it is expressed that it is the most important resource in cultivating mobility opportunities. This form of social capital is expressed through looser ties between individuals and thus refers to relations with distant friends, associates and colleagues. Therefore it refers to disparate groups and individuals who have similar goals or interests such as people coming together in a civil rights movement in a community. While the bonds are not as strong, the bridges built can be more important towards enhancing the overall well-being of an area. This form of social capital has a much wider range and is more important in a collective action situation. Bridging ties have a positive effect in natural resource governance that extends beyond the exchange of information and knowledge. They can foster trust among previously unconnected groups which in turn facilitates collective action among different types of actors and stakeholders (Bodin & Crona, 2009: 369). In a fisheries context for example it could mean that a group of fishers approach other fishers from other communities to form cooperatives and mobilise, or perhaps some fishers approach the sub-headman or in turn lead them to the headman to help them with certain livelihood challenges.

Linking social capital describes the relations between individuals and groups in different social strata in a hierarchy where power, social status and wealth are accessed by different groups (Cote and Healy, 2001: 42). Linking social capital thus describes the connections and relationships between heterogeneous groups such as between people and government. This form of capital can broaden the number of people who access various, generally limited, resources and it can work to reduce hierarchical inequalities and bureaucratic limitations (McOrmond and Babb, 2005: 13). The distinction between bridging and linking social capital can overlap so it is important to note that linking social capital deals exclusively with vertical and hierarchal relations. There are many cases where there is very little linking social capital

evident in fishing communities, especially regarding any linkages with the government, thus leading to a lack of trust and hesitance in accepting a co-management strategy (Sekhar, 2007). In Samoa, the government and local village councils worked closely to develop national legislation that supports local fisheries management, thus benefiting many villages in their capacity to solve social dilemmas (Zann, 1999; King & Fa'asili, 1999).

4.4. Social networks

Essentially one needs to analyse the social networks and social fabric of a community to attempt to measure the strength of a community's social capital and thus its capacity to participate in co-management of natural resources. Grafton (2005) does so by analysing the bonding, bridging and linking social capital in a community, as described above. However, there are also more complex methods of analysing social networks, especially those in natural resource management cases and more specifically in fisheries management cases (Ramirez-Sanchez & Pinkerton, 2009; Bodin & Crona, 2009; Sandstrom & Rova, 2010). This thesis has increasingly identified the existence of social networks as a common and important denominator in cases where different stakeholders have come together to effectively deal with natural resource management problems, and that social networks are sometimes more important than the existence of formal institutions for effective enforcement and compliance with environmental regulations (Bodin, & Crona, 2009).

In order to measure the social capital and thus social and ecological outcomes of a management programme, it is important to note how social capital is produced and distributed throughout a community, hence identifying existing social networks and creating ones that will have a beneficial outcome. In essence the more connected and collaborative multiple actors are in common pool resources, the better the outcome for sustainable livelihoods. This is because actors within a network would work together and agree on common rules, norms, usages, practices, conflict resolution, sharing information and building common knowledge i.e. creating social capital. (Bodin & Crona, 2009). Ultimately doing the exact opposite of what Hardin predicted as the "tragedy of the commons".

This is why there is a focus in fisheries management, namely through co-management and community-based resource management, to create governing systems where multiple actors are involved in the governing processes to a varying degree. Social networks have been recently acknowledged as an important and common denominator in this process (Gunderson, 1999; Hahn et al., 2006; Folke et al., 2005; Pretty & Ward, 2001; Grafton, 2005). Social networks can improve collaborative governance processes by facilitating (i) the generation, acquisition and diffusion of different types of knowledge and information about the systems under management (Crona & Bodin, 2006), (ii) mobilization and allocation of key resources for effective governance (Carlsson & Sandstrom, 2008), (iii) commitment to common rules among actors fostering willingness to engage in monitoring and sanctioning programmes (Dietz, Ostrom, & Stern, 2003), and (iv) resolution of conflicts (Hahn et al., 2006). The analysis of these networks is usually undertaken in empirical studies analysing the structural characteristics of networks and patterns among relations, usually referred to as social networks analysis (SNA). This analysis applies quantitative techniques to map network characteristics to find out which patterns hinder or enhance governance initiatives and which relational lines need to be improved or added to, essentially creating a co-management arrangement involving multiple tiers of actors (horizontal and vertical), like the ideal type co-management arrangements discussed in the beginning of this chapter.

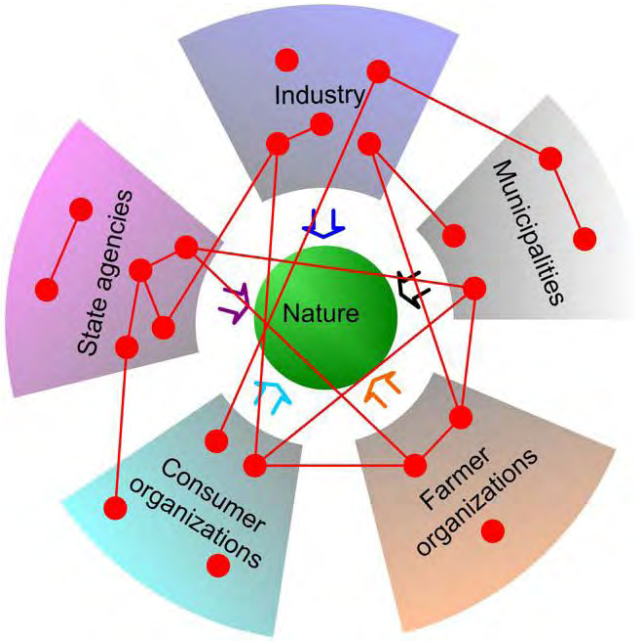


Figure 4.1. An example of a natural resource management network (Bodin & Crona, 2009)

Social Networks

In essence these networks reveal individual organisations, relational patterns and processes, levels of cohesion and connectivity, as well as the overall position and influence of such networks. Interactional patterns and their relation to the natural resource are revealed. In Figure 4.1, one can see the horizontal and vertical relations among the different stakeholders in a natural resource management situation, revealing who has the most agency and where there are still areas that require a connection.

Figure 4.1 shows how different sectors of society are involved in the use and management of the natural environment as they are schematically represented to reveal each relationship between institutions and individual fishers, or groups.

It is important to trace these networks and relations, especially in fishing communities that rely on a vast array of networks and connections. Bodin & Corna (2007) show how the networks in a Kenyan fishing community are spanned out. They looked at the social support network, knowledge network, gear dependency network and trade network. All these networks and relations between fishers, fishing agencies, and commercial buyers reveal the networks that lead to the fishers' profession as well as pre- and post-harvest relations. In this way key individuals and organisations are identified in order to focus on influential areas of the co-management arrangement. One finds that even within fishing communities there are a number of people involved in the process, from the chief to the headmen, to different types of fishermen, some of whom have more agency than others. These types of relations are important to map if an effective co-management policy is to be introduced.

If one looks at the density of networks, thereby viewing the number of relations and connections among actors, as well as the centrality of networks, thereby revealing the most influential actors, one can start getting an idea of how existing co-management arrangements are working or where there are areas that need improving. For instance one might conclude that some fishers need to be more connected in order to collaborate through civic and collective action, or one might see that there is a need to connect fishers with government officials (linking ties) in order to progress the fishery. Sandstrom (2008) showed the impact of density on collective action among different fishers in Sweden which was important in revealing the strong bonds between fishers in collective action situations. In rural Kenya, King (2000) showed how a group of fishers, by interacting with government officials and influential individuals, were encouraged to also interact among themselves and thus managed to deal with certain unfavourable developments in the fishery (cited in Bodin & Crona, 2009).

An increase in social relations does not only lead to increased possibilities for joint action, it also enhances the development of knowledge and understanding through exposure to new ideas and information (Bodin & Crona, 2009). In essence it is the objective of this research

to trace the social capital of a fishing community in the former Transkei by looking at the various social relations and networks within the community and outside of the community. It must be noted that it is necessary to embark on a qualitative analysis of the basic social fabric as well and not to solely rely on quantified network maps or SNA. For example it may be found that some fishers need to be more connected to the traditional authority, in order to establish stronger governance structures in order to progress their participatory efforts. This may however be more difficult to establish as one would have to ascertain whether traditional authority is reliant and why people were not connected in the first place. Essentially this research attempts to understand the social fabric of a small fishing community and current co-management arrangements, while also supplying a systematic analysis of current social and institutional networks.

4.5. Social capital and fisheries governance

Grafton (2005) describes the influence social capital has on fisheries governance and the role it plays in promoting trust, co-operation among fishers, compliance to rules and regulations and ultimately reducing the "race to fish". In essence social capital perspectives can show policy-makers how to improve management outcomes and reduce regulatory costs. The success of sustainable harvesting and securing livelihoods does not only depend on the availability of fish but also on the fishers' social capital or social relations that support fishers' adaptive responses to resource fluctuations, external shocks, and other uncertainties (Allison & Ellis, 2001). Thus the adaptive co-management paradigm described earlier in the chapter will rely heavily on the bonding, bridging and linking social capital for its effectiveness and success.

Social capital within a bottom-up approach to fisheries management draws upon social norms that encourage co-operatives rather than competitive behaviour and by linking regulators with fishers, fishing communities play a greater role in the decision-making process (Grafton, 2005). It is thus important to see social capital as a primary unit of analysis in order to improve confidence-building, capacity–building, and establish norms and rules,

whilst also maintaining and improving the social capital throughout the co-management process.

Figure 4.2 illustrates the potential role of social capital within fisheries co-management. The thin arrows in the figure represent a flow of information and services between the two main stakeholders i.e. the fishers and fishery regulators. There is a clear exchange of information between scientific and traditional knowledge and as Grafton puts it "social capital can lubricate this exchange by increasing the number and quality of communication links between fishers and fishery managers" (2005: 762). It is thus evident that enhanced social capital can improve environmental outcomes through decreased costs of collective action, increase in knowledge and information flows, increased cooperation, less resource degradation and depletion, more investment in common lands and water systems, improved monitoring and enforcement (Anderson et al., 2002; Daniere et al., 2002a; Daniere et al., 2002b; Koka and Prescott 2002).

Social capital is thus increasingly seen as an important factor in natural resource

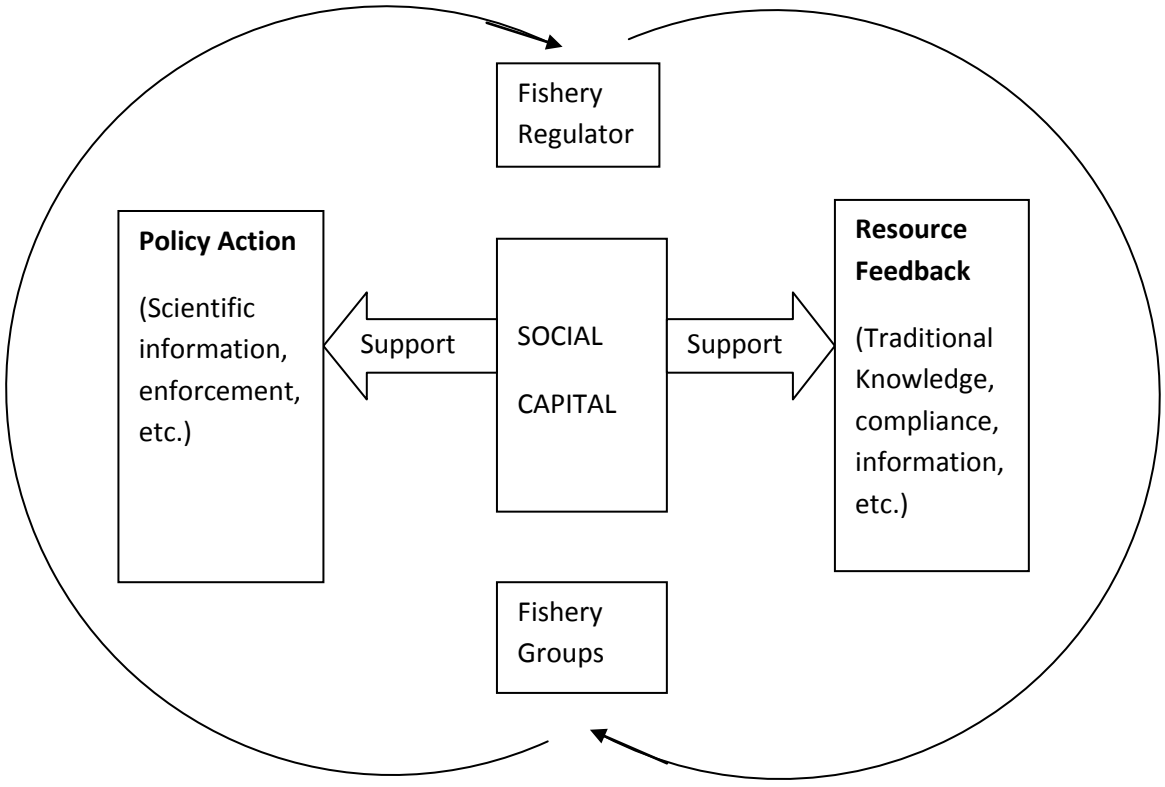


Figure 4.2. How social capital supports fisheries management (adapted from Grafton, 2005: 762)

management. Pretty and Ward (2001) identified that social capital which is well-developed and where local groups have developed their own collective rules and sanctions, are able to make more use of and sustain natural resources than individuals working alone or in competition. It is largely accepted that bottom-up approaches to fisheries governance may deliver better results at lower public cost (Grafton, 2005). For instance seine fishers and cooperatives in Alaska's Chignik salmon fishery concluded that 67% of fishers were better off financially and 100% of fishers stated that the quality of fishing had improved (Knapp et al., 2002). This is why Grafton (2005: 764) states that "better fisheries outcomes, at lower overall management cost, require explicit consideration of social capital and social networks within and across fishery stakeholder".

Healthy communities and vibrant civil institutions are essential to ensure the norms, values and knowledge that promote the ethical and moral consciousness required by sustainable fishing practices (Jentoft, 1999). Without social networks, civil society and institutional design, we may expect community failure (McCay & Jentoft, 1998) and resource exploitation. Formal institutional arrangements and informal social arrangements are crucial to a well-oiled governance strategy over social-ecological systems: Durkheim (1964) argued that contractual relations rely on non-contractual relations. Honesty, trust and civic participation are crucial for collective action and as such social capital and social networks must be at the heart of co-management control. The manner in which the social networks are created and the way in which they facilitate the harvesting and managing of resources is of vital importance to the integrity of the community and the successful governance thereof.

It is not enough however to say that people's goodwill and trustworthiness is enough to grant them some sort of symbolic resource that they can use as leverage. Furthermore one cannot romanticize a community into an integrated whole with an effervescent abundance of social capital at their exposal. It is thus essential to incorporate certain indicators and factors that can be used as a guide to govern the commons. Dietz, Ostrom & Ahn (2003) list five factors that determine the success of fisheries governance and a co-management arrangement:

1) Ability to monitor fish behaviour

2) Rates of change in resource use
3) The level of interaction between fishers and their families
4) Ability to exclude outsiders, and
5) Collective support for monitoring and enforcement.

As mentioned above these factors are only achieved in a healthy amount of social capital in the form of bonds, bridges and links among individuals, networks and institutions. The networks that provide a platform for these inter- and intra-linkages are an essential component of fisheries co-management.

When defining a fishing community in terms of its functional characteristics, it is important to look at the relationships among people and fishers, as well as their relationship to particular resources. For example it could be a good idea to look at pre- and post-harvest relationships like gear-based groups or selling-based groups. Community members typically have bonds of kinship and friendship even if it directly doesn't involve harvesting activities. The homogeneity, equality and stability characteristic of local communities are conducive to cooperation (Ostrom, 1990.

The management of fisheries is influenced by a vast array of uncertainties, not only within the complex social-ecological systems but within the management systems as well (Ludwig, Hilborn & Walters, 1993). The different layers of vertical management (individual, community, regional and national) can be supported by social capital investments thus contributing to more management options (Grafton, 2005). There are different norms and rules that exist at the different levels of management, and they will likely vary in their effectiveness over time and space (Grafton & Knowles, 2004). Therefore it would be increasingly effective to prioritise the rules and norms into different levels such that the right issues are answered by the right stakeholders. For instance, community rules and traditional knowledge can ensure the sustainability of stock levels, while the national control of total harvesters would ensure the integrity of entire eco-systems. Another example would be conflicts among fishers and buyers which could be regulated by national agencies while conflicts among fishers can be regulated by the community co-operatives. Fishers can rely on their social capital to cope with resource fluctuations by sharing

information, co-operating through collective action and civic participation, and collaboratively governing their own resources (Ramirez-Sanchez & Pinkerton, 2009).

One can see that a definition of social capital is hard to agree on. A definition has to cover the fact that the awkwardness of subjective relations and intangible networks constitutes a type of capital. Furthermore this type of capital is difficult to measure or analyse. Social capital needs to be aware of the self-interested individual; communal benefits for groups and the community as a whole; and the institutional conditions that govern such transactions. There are important structural and cognitive manifestations of social capital that affect the manner in which it is perceived, accumulated and used. The manner in which social capital is operationalised is really the manner in which a definition is reached. Since there are so many stakeholders and actors involved in the creation and utilisation of social capital and indeed in a fisheries co-management situation, a researcher needs to define his/her desired outcomes to establish what aspect of social capital is being measured. It is safe to say that social capital is a social asset of a community that incorporates the trustworthiness, relationships, norms and the exchange of information used in a collective action situation and which takes into account hierarchies, structures, power relations and perverse limitations.

It is also safe to say, as this chapter has shown, that social capital is an irrefutable part of a community and its inclusion in a co-management process is a necessity towards reaching desired outcomes. Thus, as indicated previously, this research will study the under-researched sociological components of a fishing community along the Wild Coast of South Africa by tracing the social networks that are abundant in these coastal communities. This chapter has shown that by tracing the social and institutional networks in a community one can estimate the amount of social capital a community has at its disposal, and therefore it will greatly determine the community's ability to respond to the responsibilities of co-management in collective action. In order to create successful co-management projects and build on the promising foundations that the MLRA has set out, the government and the MCM will have to conduct sociological studies in many fishing communities in order to examine and place social capital into the diverse exchange of capital transaction within the co-management experience.

Chapter5

Methodology

This research is informed by a qualitative interpretive paradigm based on people's subjective experiences in and amongst the community as well as with other regulatory and leadership institutions in the community. It thereby relies on social constructions of attitudes and perceptions towards the external reality of certain laws and regulations that exist outside of the community and which have an effect on the social networks, rules and regulations that govern social interactions. This allows the researcher to study the phenomenon of social capital in the area in a more in-depth, open and detailed way to identify and understand data that emerges out of the situation in Tshani Mankozi (Terre Blanche, Durrheim and Painter, 1999).

The research is also triangulated with a quantitative network analysis expressing the relational variables among agents (Scott, 1991: 3). This form of qualitative modelling of social relations is known as Social Networks Analysis (SNA). The SNA is a simple mapping technique of the interpretations of qualitative interviews regarding social capital in the community. A mixed methods approach to social research refers to the class of inquiry where quantitative and qualitative research techniques, methods, approaches, concepts or language are combined into a single study (Johnson and Onwuegbuzie 2004). This approach provides "a more complete picture by noting trends and generalizations as well as in-depth knowledge of participants' perspectives" (Creswell and Plano, 2007: 33).

5.1. Study area and sampling

The aim of the study was to find a fishery that represented the challenges of the South African fisheries management paradox described in Chapter 2. This paradox is the manner in which the authorities conserve and sustain natural resources, whilst providing a socio-economic livelihoods strategy for fisher development under a neo-liberal economic

framework. The East Coast Rock Lobster fishery provided the ideal case study as the resource boundaries are located in some of the poorest areas in South Africa in the former borders of the Bantustan homelands. The coastal communities largely depend on these resources for survival yet there is a strategy to move the subsistence fishers that harvest lobster into a small-scale fishery which has access to international markets. The Tshani Mankozi community was chosen because of previous research that had been done in the area (Raemakkers, 2009). My supervisor for this MA report, Prof. Monty Roodt, had also established a thorough rapport with the community and traditional authority through previous research and thus access and community entry was made easier. Prof. Monty Roodt's research looks specifically at the effects of the MLRA on the coastal governance of the Wild Coast. This research is thus an extension of his research by providing a case study of a specific resource (i.e. lobster) and the exploration of alternative governance arrangements (co-management) under a social capital focus.

The establishment of an official government sponsored lobster aquaculture project which provides the community with a tangible economic outlet allowed us to study the influence of market forces in the community and the commercialisation of the lobster commodity, as well as to observe government development strategies in fisheries development. We thus observed the introduction of cash economies whilst formal fisheries structures were also researched to reveal its impact on the community.

Since the Bantustan homelands have a history of little enforcement and low government intervention, the case study also provided the opportunity to view a community's social interactions and traditional methods in regulating the fishery. Compared to the rest of the coastline however Tshani Mankozi provides the ideal case study as there is a lot of commercial activity around the Aquaculture project and thus some interaction between the community and MCM which can be observed and analysed. As noted in previous chapters the co-management rhetoric of the MLRA and the MCM are largely absent in practice. This research therefore maintains that in order to implement an effective co-management programme the social capital, social relations, interactions, networks, powers and other aspects discussed in the previous chapter must be researched. The social and behavioural characteristics of the fishery are a crucial aspect in viewing fisheries as a complex social-

ecological system, thus maintaining that the human element of fisheries in South Africa is largely under-researched, effectively leading to failed co-management strategies.

5.2. Data collection

In order to effectively study the intricate webs of social relations and interactions in the community, as well as to establish the strength and nature of the social capital within a community without formal quantified measures, a lengthy time in the field is required. The participant observation method under an ethnographic methodology calls for the researcher to be a part of the fishery and community as the best way to find the right answers. The researcher thus participates in and observes activities appropriate to the topic and the situation as well as observing activities, people and physical aspects of the situation (Spradley, 1980: 54). In this method the researcher becomes a part of the study and influences the very things he/she is studying. It is thus important to state that as a researcher in a participant observation, methodology is more than just being an external researcher but also being a participant in the social capital analysis of the community. For this reason a lengthy time in the field is required and in total about 52 days were spent in the community between 2010 and 2011.

The first of the field trips took place in March of 2010, and the last was in September 2011. The research trips were often conducted during the week, for five or more days. Whilst most of the research trips were formally organised and I was accompanied by my supervisor and other interested parties, there were also three trips to the area which fell outside of the formal research methodology but still played a part in the analysis. These trips were self-funded and mainly conducted to establish rapport. There were therefore very few formal interviews with participants during these informal trips as the goal was mainly to establish rapport and trust, and become more intimate with the community. These informal research trips in fact proved to be beneficial as the daily behavioural characteristic of the fishers and community life could be observed. Most interestingly once the trust was established (keeping in mind that trust is a central concept in social capital) my own social capital with

community members was established. This research and our relationship with the community therefore created a new bridging social capital with the community as we provided academic support and analysis of the community.

Many statements that were made in the first few interviews and focus groups actually proved to be inaccurate and were largely contradicted later on as the rapport with fishers and community members was intimately formed. Of course the reason for this is that the community was hesitant and slightly reserved with the presence of new researchers as a lot of harvesters break the law in order to harvest their resources. By the end of the research however we were holding community forums where the needs and perceptions of fishers could be heard. We had also established important relations with the local NGO, again revealing that we as researchers formed an intricate and important bridging social capital component in the community.

Purposive sampling was used for theoretical and contextual reasons to identify the marine harvesters and fishers in the area. After this a"snowballing interview technique" (Miles & Huberman, 1994) was used to identify the rest of the sample of the research. We thus started with interviewing and holding focus groups with marine harvesters and divers letting the respondents inform us and nominate additional respondents. From the initial interviews we learned about other important stakeholders in the fishery, namely; the commercial buyers, MCM officials, NGO leaders, community leaders etc. In terms of the formal aspect of qualitative research and social inquiry, semi-structured and structured interviews were undertaken with community leaders, institutional leaders and buyers and divers as well as structured focus groups with ECRL divers and other marine harvesters. Along with semi-structured interviews and participant observation these empirical findings were used to define the social capital in the community as well as reveal the general management and governance of the fishery and community.

The total amount of people interviewed formally were 27 divers; the headmen and several of his council including sub-headmen of the villages; two commercial buyers; the chair of the trust; two MCM representatives; two NGO leaders; and several people at the local aquaculture project. Unofficially there were many informal discussions that took place with many community members, cottage owners, tourists, families, members from other

communities etc. These informal interviews were also important to gauge the general condition of the social capital in the area as well as outsider perceptions of the fishing community and the management of marine resources along the coastline.

Social capital is context-dependent and therefore interviews and focus groups capture in detail the situation through different stakeholders (Krishna & Shrader, 1999: 8). Focus groups provide important methods for social capital inquiry as one can view the social capital unfolding in the focus groups. In other words a researcher can attain amounts of trust, conflicts, collective interests, self interests, relationships, and interactions during the focus group. By its very nature social capital is a qualitative concept as it relies on these components and thus a largely qualitative methodology is necessary in studying the social capital of a single community.

While many questions were focused around fisheries management and administrative issues there was also a primary focus on researching the social capital within and between actors and applying it later to the fisheries management issues discussed earlier. The questions that focused on social capital are largely based on six dimensions of social capital presented by Dudwick et al. (2006) but largely discussed by most social capital theorists. Thus interview and focus group questions focused around (i) groups and networks, (ii) trust and solidarity, (iii) collective action and cooperation, (iv) information and communication, (v) social cohesion and inclusion, and (vi) empowerment. Note that many of these social capital dimensions are also critical features of co-management.

Many of the root questions were as follows where secondary questions were asked as a result of the answers:

- What type of formal and informal groups, associations and networks exist in the community?
- How familiar are members of the group or network? How and where do they interact (within a building, on the beach, in the bar?
- How is conflict resolved in the community, what institutions do people turn to, and who do they rely on for assistance? Do you rely on the MCM, your family, local councils, the buyers?

- How does the community help each other? Do people help you in diving, perhaps older divers? When there is a problem do people come to you and other divers? Do people only contact other people they know well in a crisis or can they rely on anyone in the community?
- What do the divers and the general population consider the most pressing problems in the community? How do people collaborate with one another to solve these problems? What institutions are involved and are they effective?
- What are the preferred local sources and channels of information? What information is available at these sources, do they help, do you find out what you need to know? Is their clarity over the laws and what you are doing? What about the information and resources involved in the transactions with commercial buyers?
- What groups, organisations or institutions bring people together? The church, local councils, municipality?
- How do the laws constrict your activities or the development of diving?

Out of the 27 divers that were interviewed only 20 were surveyed for the SNA of the social capital in the fisheries governance of the ECRL. The network approach to social capital allows for a quantified representation of the social capital in the form of bonding, bridging and linking bonds (Bodin & Crona, 2009) discussed in the previous chapter. The SNA in this research is based on recent work from Carlsson & Sandstrom (2008), and Bodin & Crona (2007). The analysis of social networks relies on relational data rather than on conventional methodological variables (Scott 2000). "Relational data (…) are the contacts, ties and connections, the group attachments and meetings, which relate one agent to another and so cannot be reduced to the properties on the individual agents themselves" (Scott 2000, 3). The data is thus collected by use of a survey which simply lists all the actors and stakeholders and participants will state which actor they have a relationship with and which actors they do not have a relationship with. The survey was issued to 20 lobster divers in the Tshani Mankozi area. The data was based on binary numerals that revealed the relationships between different actors and stakeholders in the fishery. Thus a simple score of '1' was given if there was a relationship whilst a '0' was given for no relationship. In order to convey the type of relationship the question was "do the following

organisations/institutions constrain or enable your profession?" In situations where there were some organisations that enabled the profession through for example mandatory permit deliveries but constrained it on other aspects for example in failing to consult with fishers, a score of '1' was given. If an institution was well connected and enabled the profession, a score of '2' was added. The network data was further used in UCINET and Netdraw (Borgatti, 2002: Borgatti et al., 2002) to draw the network graphs. The networks therefore reveal the connections and relations between different actors effectively modelling the qualitative discussion of social capital researched under a participant observation methodology.

5.3. Research schedule

Most of the interviews and observations were collected in the research trips in 2010 whilst the surveys were largely collected in 2011. The reason for this was to first gain an understanding of the relations and fishing behaviour in the community. Most importantly however it was also to gain the trust and respect from divers and community members. The participant observation methodology thus calls for a minimum disruption in community matters whilst also participating in various activities. When we arrived in Tshani Mankozi for each trip therefore, we would speak informally to our local translator and various community members to find out about recent developments in the community, like for instance MCM/fisher relations, developments at the aquaculture project, and new projects planned by the NGO. We used this information as a basis and circled many of our questions around the information we had just received. At the same time there were formal questions relating to core themes of social capital. However in order to link social capital with fisheries management the questions were sometimes changed to suit the current situation. For example whilst trying to research the bonding social capital amongst divers, the question of how divers help each other would be adapted to a new development - for instance, how do divers respond collectively to the current MCM meetings happening in the village?

The level of my participation in the community was extensive. I went on dives with divers with my recreational permit. I went fishing with some divers when the weather did not permit diving and because I had access to a vehicle I often helped divers with some errands like taking family members to the health clinic, buying building materials in nearby towns, and fetching children from school. On one occasion I was even asked to help bury the sister of one of the fisherman I knew in the village as I had met her on previous occasions. I was also invited to mourn with the family as she was a close relation to our translator. Although it is an unfortunate story, it reveals my intimate relationship with some of the community members, and the high levels of trust between us.

5.4. Data analysis

The recorded data from the interviews were transcribed and further submitted to an interpretive social capital and social networks analysis represented in graph theory. The analysis is grounded in a qualitative interpretation of the social capital in the community as well as a quantitative social network theory. Integrating these two results can yield better results by minimising single-method biases and triangulating findings (Dudwick et al., 2006: iv).

Social capital between individuals is preferably employed "using participatory methods to understand the causes and nuances of relationships and the contexts within which they exist" (Dudwick et al., 2006: iv). This research thus analysed the data based on social capital and social networks theory discussing the importance of social relations and connections in collective action situations. The analysis was further extended to use co-management theory of collective natural resource management thus effectively linking social capital and social networks theory with the co-management of resources. The data from interviews was thus used to verify the importance of social capital in co-management arrangements.

5.5. Ethical consideration and limitations

Under a participant observation methodology ethical considerations are very important as the values and interests of the researcher may not coincide with informants (Spradley, 1980: 20). It is thus important to communicate the research objectives, safeguard the rights, interests and sensitivities of the informants and make the information available for informants (Spradley, 1980: 20).

Informants in the interview were given the option to be anonymous. Most participants agreed to give their nicknames or first names only as they were at first wary of our intentions. Since most of the fishers harvest illegally in one way or another, it was further agreed to keep the nicknames and first names only unless otherwise stipulated. Most community members were more than happy to give their time for formal interviews or informal discussions. Some community members however asked for money or food in return for their time in which case we retracted the interview request.

The biggest limitation to the research was that informants (mostly male) often bided their time in local taverns. Sometimes when visiting fishers and divers at their homes they were also under the influence of a strong local traditional beer (*umqombothi*) and marijuana. In such cases it was difficult to interview inebriated community members and thus we had to decline many interviews. We quickly learned that on weekends it was almost impossible to conduct research as many of the divers, fishers and community members were under the influence of various substances or in no mood to be interviewed. For those that did not partake in such activities there were often football games or other community-run events and thus we did not want to distract people from their pastime.

Another major limitation is that many people in the community could not speak English and thus we relied on a local translator to help us. While his English was good he was not a professional translator and in the beginning we felt that he was answering questions for people. We had to often remind him that we would like a word-for-word translation of the opinions of the participant and not his own opinions. While his translation skills definitely

increased over the two year period it will never be certain that the translations were the direct words of the informants.

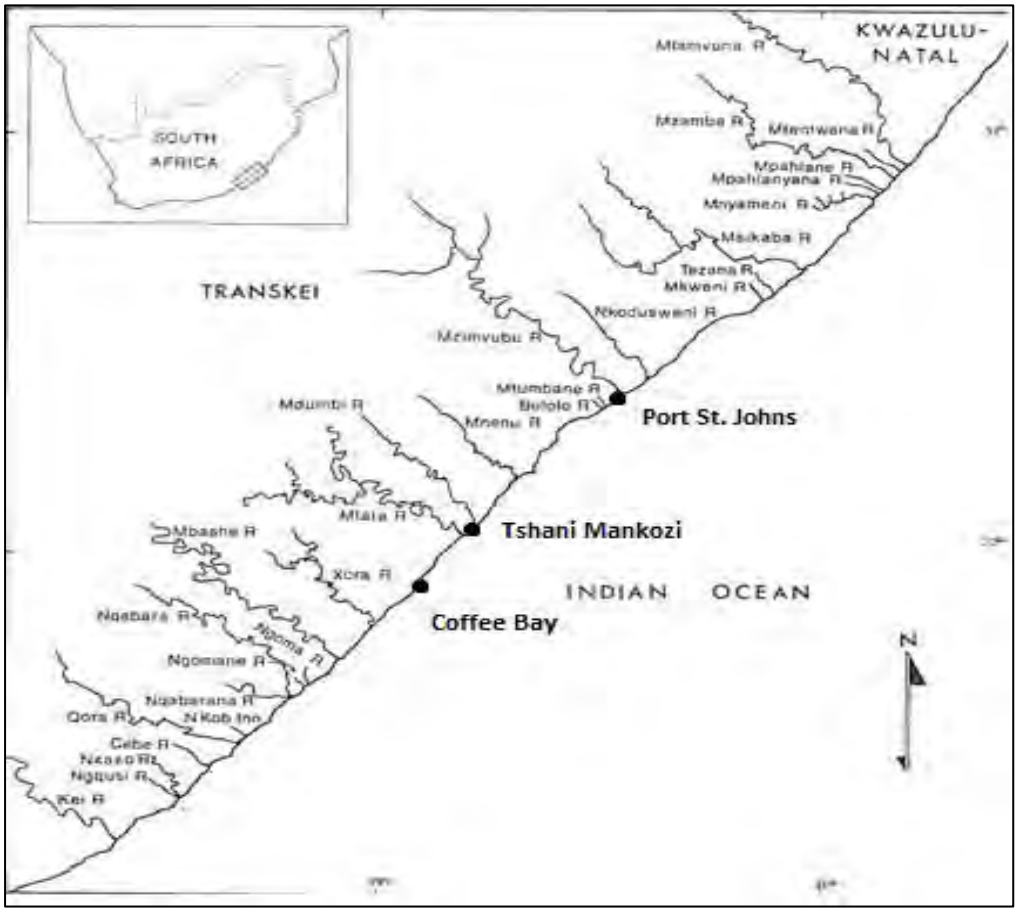
The weather also played a large role in determining the amount of interviews we could do in a day. On rainy days there would be no fishing and many people simply stayed inside. Whilst most people were more than happy to invite us in for interviews it was often on the recommendation of our translator and guide. On the other hand on days that were hot and still and provided perfect diving and fishing weather, many of the divers and fishers did not want to be interviewed as they wanted to use as much of the daytime to catch as many fish/lobster as they could.

Mostly however we developed good relations with the community, the headman and his council, the local NGO and various stakeholders. Most people were extremely grateful and by the end of the research period during the writing-up phase of this research, we held community forums with community members about how to improve their access to marine living resources and develop their fisheries. These forums were well attended and it was clear that many people in the community were interested in and wanted a greater role in the sustainable development of their natural resources.

Chapter 6

The Case study: A background to the area

The next four chapters will attempt to integrate the theoretical assumptions of social capital in common pool resources with the practicalities of co-management in fisheries development, as it is proposed by the MLRA and fisheries governance in South Africa, by using the East Coast Rock Lobster (ECRL) fishery situated along the Wild Coast, Eastern Cape, as a case study. The following chapter will attempt to unveil a much needed social aspect of the fishery situated in Tshani Manozi (a small coastal Transkei village) in terms of fisher behaviour, community development and natural resource management, all of which I argue, requires a social capital and social networks analysis. Currently, the governance structures, legislation and co-management arrangements have tremendous consequences on the



Map 6.1 The Wild Coast and major towns (adapted from Fielding et al., 1994)

sustainability of the lobster resource as well as the socio-economic aspects of harvester livelihoods.

Much of the quantitative and biological aspects of the research, as well as descriptive summaries of management and market structures, are based on Raemaeker's (2009) doctoral study of the ECRL in Coffee Bay and Tshani Mankozi. Typical fisheries data including biology, management, and livelihoods are also provided by Steyn et al., (2006) and Fielding et al., (1994, 2005a.) This study hopes to provide a much needed social dimension to the limited research done on the ECRL fishery, with the hopes of providing missing social puzzle pieces in the co-management implementation dilemma facing many small-scale fishers in South Africa.

The resource is an important, high-value subsistence and artisanal resource along the Wild Coast of the Eastern Cape, thus prompting Marine and Coastal Management (MCM) to formalise the lobster fishery into a rights-based, small-scale commercial fishery with access to international markets. Popular tourist areas such as Port St. John's and Coffee Bay typically produce most of the ECRL TAC. The biology and population dynamics of the ECRL are reasonably well understood with resource assessment studies being undertaken by Fielding et al., (1994) and later updated by Steyn et al., (2006). There have also been household, livelihood and market surveys (Fielding, 2005a) in an effort to determine the availability and importance of the resource for access rights and structuring permit conditions based on scientific data (of which there is little evidence that it has been used). Most research has been focused on the resource component of the fishery system. Raemaekers (2009) attempted to address the socio-economic, cultural, and market factors that drive the small-scale lobster fishery in which he gave a thorough descriptive account of the management and governance system, its concurrent problems, and the effect thereof on fisher behaviour.

Whilst Raemaekers doctoral study is the most detailed account of the ECRL fishery to date, there are still fundamental social aspects in need of clarification for there to be a successful co-management solution. As such, this study aims to fill those gaps through an in-depth qualitative analysis of one highly profitable ECRL fishery along the Transkei coastline. The case study was researched along concepts discussed in the literature (Chapters 3 & 4) under

the background facing South Africa's fisheries management problems discussed in Chapter 2.

The Tshani Mankozi community provides for an interesting case study on the lobster fishery for the Wild Coast. Whilst the area is not as big or commercial as Coffee Bay or Port St. John's, it still accounts for a large portion of the ECRL TAC (Raemaekers, 2009). This could be due to several factors but one of the most pressing is that there has been an aquaculture project (referred to by the locals and therefore this research as 'the project') in operation albeit erratically, for some years in the area. It provides a unique selling point for lobster harvesters and a direct interaction with commercial business. Most ECRL communities in the Transkei do not have such a facility. The local NGO, Transcape, which grew out of the popular Mdumbi Backpackers establishment, is also at the forefront of many community issues facing the Wild Coast, including health, education, and sustainability. Transcape's work with the community associations has done much to develop the area and spread a sustainability ideology, although a lot of work is still to be done. The NGO has shown during the process of this research that third sector organisations are crucial in linking communities with local governments and government bodies such as the MCM, as well as mobilising communities into collective action. This section will thus describe the social bonds between divers, their families, and the community. It will also describe the complex web of social relations and institutional arrangements in a community's struggle to take charge of their resources, adapt to growing environmental concerns, and compete in international markets.

6.1. The study area

6.1.1. A brief background

Tshani Mankozi is situated on the coast of the former Transkei Bantustan just north of Coffee Bay. The Transkei was one of ten reserves initiated under the Nationalist Party of the Apartheid regime to reinforce segregation. Ultimately, it was the harsh and thorough enforcement of the 1913 and 1936 Land Acts: a method of mass separation that created non-white reserves around the country based on colour and ethnicity. "Segregation meant

that the spheres of land and property ownership were racially separated; that the black spheres were insulated from the operation of the capitalist economy so far as possible; but yet that the black areas were insufficient to sustain a self-supporting peasantry and therefore extruded a migrant workforce" (Legassick, 1974: 7). The Transkei was the first black homeland to achieve self-government (1963) and the first to claim independence (1976). The Transkei possessed about the same land area (4-4 million hectares) and the same population as Latvia and Estonia combined (Peires, 1992: 367).

The purposive and deliberate underdevelopment of the Bantustan homelands was a nationalist white strategy to keep the black majority divided while providing generation after generation of unskilled labour. The Bantustans were thus established on the peripheries of South Africa, where the "surplus population" could be controlled and dispersed far from towns, economic centres and white people, yet they could also be utilised through the contract labour system as migrant workers (Legassick and Wolpe, 1976: 95). The migrant labour system created unprecedented social problems in the homelands as traditionally men left to find seasonal or permanent jobs in faraway cities and women and children were left to tend to the land and households. The further "imposition of taxes, migrant labour, the land acts, influx control, the lack of support for black agriculture and the imposition of bogus independence and despotic regimes, all played their part in the development of underdevelopment of the Bantustans" (Roodt, 2011: 4).

Today the Transkei region remains one of the poorest areas in South Africa. "The imposition of the Bantustans had been a cornerstone of the apartheid regime's policy and the issue of inequality of land ownership a central tenet of liberation rhetoric. But 16 years on little progress has been made in addressing the issue of the underdevelopment of the former Bantustans" (Roodt, 2011: 5). In fact the number of people living in poverty has remained virtually the same from 1996 up to 2010, with a total of 1 236 182 people in the O.T. Municipality, the highest out of seven municipalities (Eastern Cape Socio-Economic Consultative Council, 2011).

There is thus a historical legacy of separate development in the Transkei, where homeland administrations had a history of manipulating rural opinion and support through top-down interventions and schemes, mostly employing strategies such as hand-outs and "command

and control" interventions (De Wet, 1995). What this did was to create a "dependence syndrome" (Fabricius & de Wet, 2002) whereby people still hoped to secure development projects in a top-down manner from government. The stagnant fatalism in the Transkei is thus overwhelming as people have in many ways had their own sense of self-belief and confidence in their own capabilities eroded by a racial despotic past. According to Fabricius & Collins (2007: 92) "local people are therefore not yet confident about their ability to take their future in their own hands", or they simply do not have the capability to do so.

The Spatial Development Initiative (SDI) was positioned as the central strategy of rural development policy along the Wild Coast, with focuses on agriculture, forestry and tourism (Palmer, 2002). There were hopes that this initiative would address the land tenure issue as well as secure alternative livelihoods and strengthen ecosystem services. While fisheries were not strongly supported in the initial phase of the SDI, it has gained more attention in recent years, especially with high-value resources like lobster. This however proved problematic as the Ciskei (an adjacent homeland) and the Transkei were rationalised into one department, resulting in both a lack of capacity in many areas and increased fragmentation of Eastern Cape legislation (Glazewski & Sowman, 1998). In terms of natural resource management the local municipalities were unable to streamline and consolidate the legislation (such as the MLRA) which created confusion and inadequate management (Glazewski & Sowman, 1998). The policy of the post-apartheid government and the legacy of apartheid have left a socio-economic landscape in almost the exact same way it had existed during apartheid days of underdevelopment and exploitation.

While the state has introduced as the cornerstone of its governmental policy, a policy of co-operative governance, this has not been very successful. As Roodt (2011: 5) states:

> "Combined with the neo-liberal inspired anti-statism and the resultant privatisation and outsourcing of service and developmental functions, significant developmental benefits have been non-existent or of little real benefit to the rural poor. The little state development that has accrued to the rural areas of former Bantustans such as the Ciskei and Transkei has been as a result of a mishmash of uncoordinated central government, provincial, district government, and non-governmental organisations

implementing programs and services, with little real local participatory decision-making integral to the process" (Roodt, 2011: 5).

The area is thus still in dire need of strong cooperative governance structures that build local people's capacity, gradually strengthening their confidence through cooperation and mutual learning i.e. social capital investments like education, training and capacity building which can strengthen networks and civic engagement. It has been noted from previous community-based natural resource management (CBNRM) studies in the Transkei that "social capital is well developed in rural communities, but it centres around social networks, rituals and reciprocity, rather than on formal governance (Palmer et al., 2004, Fabricus & Collins, 2007: 91). It is thus central to this thesis to identify and measure the social capital within the case study village to be able to formalise the social capital under efficient co-management arrangements and networks that include all spheres of governance and one

Map 6.2 Tshani Mankozi and various stakeholders (adapted from Wynberg et al., 2011)

that will have a sustainable livelihood outcome.

6.1.2. Tshani Mankozi

Tshani Mankozi is more affectionately known by outsiders as Mdumbi or Umtata Mouth as it lies between the Mthatha and Mdumbi Rivers. Map 6.2 is adapted from a household survey from Wynberg et al., (2011). It thus shows where most of the households are located as well as where most divers are live in the area. It is important to note the close proximity the divers have with various holiday establishments and cottages as well as to various stakeholders like the buying project and the NGO Transcape. Interestingly it also shows the distance from the headman.

The Mdumbi side of the village is a renowned surfing destination in South Africa and the local backpackers (Mdumbi Backpackers) is a popular tourist accommodation along the coastline. The area is made up of two small villages (Tshani and Mankozi) and makes up ward 26 of Nyandeni Municipality (O.R. Tambo Municipal District, Amakhonjwayo Tribal Area). The area is based on typical Transkei isiXhosa tribal tenure and authority, comprised of 11 sub-villages, each with a sub-headman, and one overseeing headman, who further answers to Chief Sabatsa Dalindyabo. The overall population is about 7000 with 1100 households (Transcape, 2010). The average household income is less than 400 ZAR a month and more than 61% of the population has had no formal schooling (Transcape, 2010).

On travelling through the area one is instantly struck by the beauty of the grassy hillsides that are scattered with traditional thatch-roof homesteads. Cattle, goats, horses, pigs and

A typical Transkei scene. Dirt roads and scattered mud huts. (Photo by M. Roodt)

chickens roam freely between homesteads and a maze of agricultural plots. Women and children are almost always toiling in the fields, or carrying wood and buckets of water for their homes. Children often play on the dirt roads and cattle can be found enjoying the warm sand on the beach. Closer to the coastline the boisterous and compact urban areas become widespread traditional rural villages dispersed among woodlands and mangroves. The estuaries provide scenic hiking trails and the beaches are some of the quietest and least developed areas along the entire South African coastline. Although the beauty is paramount, one can quickly forget that this "is a story of a daily struggle for survival in the midst of poverty that has its history in the colonial and apartheid Bantustan past and its present reality in the continued underdevelopment of the rural areas by the South African state in conjunction with large commercial interests" (Roodt, 2011: 3). Like it has with many other basic needs and services, the post-apartheid government has failed to secure the natural capital for people relying on marine resources for a livelihood. The area therefore is grossly impoverished and underdeveloped and although this traditional way of living can provide tourists with a unique African flavour, it tastes of bitter poverty and struggle.

Raemaekers (2009) and Calvo-Uharteburu's (2002) socio-economic study of Coffee Bay provides the basis for the following socio-economic statistics, although Raemaekers suggests that similar characteristics can be found in Tshani Mankozi (2009: 147), only a few kilometres north of Coffee Bay.

The village is a typical representation of a coastal Transkei village where most male household heads are not formally employed or are involved in some form of seasonal migrant labour in the closest cities (some 500kms away) and where females and children are involved in subsistence living compromised of agriculture and marine harvesting. It has been recently reported however that due to the increase and speed of urbanisation, fewer men from the Transkei are able to find migrant work since independence in 1994 (oral history in Calvo-Uharteburu, 2002). There is over 60% unemployment in the Transkei (Mbizule, 2003) with numbers getting higher the closer a village is to the sea as it is further from the main highway linking the Transkei to commercial cities in South Africa.

In Coffee Bay only 16.5% of households have formal employment and 10% of children go to school (Mbizule, 2003). Most households depend on state social grants, in the form of

pensions, child or disability grants. The main source of income for 68% of households is state income (Calvo-Ugarteburu & Raemaekers, 2008). There is a general lack of infrastructure including schools and clinics, and very poor roads or telecommunication services. Most households in Tshani Mankozi have no access to electricity. After securing what they can from the state, people use the natural resources, or are involved in arable subsistence and animal husbandry for basic income and food (Shackelton, et al., 2001).

The harvesting of natural resources and more specifically marine resources is an entire household's responsibility. Children and women generally harvest rocky-shore invertebrates like mussels (*Perna perna*), limpets (*Patella so*), oysters (*striostrea margaritacea*), red bait (*Pyura stolonifera*), estuarine crab (*Scylla serrata*), octopus (*Octopus vulgaris*) and sand prawn (*Callianassa kraussi*). The fishing for line-fish and lobster is the prerogative of men and young boys, although in Tshani Mankozi there was evidence of at least one female diver (and female pole fishing harvesters). In Coffee Bay approximately 27% of households rely solely on what they get from the ocean to supplement their food and income (Calvo-Ugartenburu & Raemaekers, 2008) since they do not possess livestock and/or fields. Again, these comparisons can be made with Tshani Mankozi only a few kilometres north.

Other forms of income for the Tshani Mankozi community include a few tourism opportunities at the local backpackers situated by the Mdumbi river mouth. The 'Mdumbi backpackers' also doubles up as an NGO called Transcape which has made impressive strides in community development from health, education, food and sustainable harvesting. During the period of this research and through the help of Transcape and Mdumbi backpackers the community has also seen the development of a locally owned backpackers

Men, women and children harvesting a variety of marine resources during a spring tide. (Photo by M. Roodt)

called Spargs. As a result the community have started lobbying for a community owned holiday destination located in one of the nearby forests. Through the help of the NGO and the local backpackers the community is slowly mobilising into collective action. The tourism potential on the Mdumbi side of Tshani Mankozi is immense.

Other institutional presences in the area includes the local subsistence committee (LSC), set up by MCM as well as the fishing cooperative (known as the co-op) set up by the community themselves. There is also the Mankozi Trust Association that was created after the demise of the community trust in 2009, which has subsequent ties and the support of the local NGO Transcape. The institutional networks and governance structures will be discussed later in more detail in Chapter 7 as they make up a crucial part of the social networks analysis and social capital structures of co-management arrangements.

When people are not spending time tending to their land or cattle, or harvesting from the ocean, they bide their time in each other's homes or on the grassy hilltops spreading village rumours[6] and talking about their day-to-day lives. The general consensus in our focus group with divers and fishers was that "Whatever is happening in the community, everyone must know"[7]. The stories ranged from current issues to tales from the past that were often repeated, sometimes with an air of traditional superstition. The main topic of debate during the phase of this research however, was the implementation of the Tshani Mankozi Aquaculture project as people cautiously waited to see if the community would reap any real benefits from the project.

There is virtually no crime in the community, apart from the odd tavern brawl, but generally people are extremely accommodating and peaceful. Most people were more than happy to give their time for the research and despite the fatalism and undeniable acceptance of their circumstances, there was certainly the view that many people wanted to create a more

[6] When conducting interviews in almost all corners of the village, I quickly learned that the daily news is spread through word-of-mouth and hearsay. On one occasion I learned that a woman and her husband were being accused of stealing funds from the community trust since they had just bought a new car and she sat on the board of the Mankozi Community Association. By the end of the day we learned that her husband was in the army and thus had enough money to buy a car for his family [unstructured interview with Sibongile, Manager of Mdumbi backpackers and Chairman of Mankozi Association, 17 September 2010]. I heard these types of stories on a daily basis which revealed how close the community was in discussing community matters but it also showed the perverse side of social capital as people could easily be targeted revealing certain trust issues surrounding topics like community funds and governance.

[7] Focus group with 13 divers, 1 June 2011, Tshani Mankozi.

sustainable village[8]. It is clear that there are close social bonds in the community that maintain order and provide for collective action. The next chapter will deal specifically with a normative description of the ECRL fishery which will lead to the following chapter ultimately revealing that with the right investments and focus the kinds of social bonds described above can be capitalised to create successful co-management solutions to natural resource governance.

[8] Community debriefing at Mdumbi Backpackers with many marine harvesters and community members, 1 September 2011. Many other marine harvesters like oyster collectors who are mostly women also expressed their desire for more structure in their harvesting practice in order to secure the resource for future generations.

Chapter 7

The East Coast Rock Lobster Fishery

7.1. East Coast Rock Lobster

The East Coast Rock Lobster, *Panulrus homarus rubellus*, has been fished and consumed as a source protein for thousands of years by rural coastal communities along the Wild Coast of South Africa. The resource forms an important component for subsistence livelihood strategies as a source of food for household consumption (Bigalke, 1973; Feely, 1987; Hockey et al., 198; Lasiak, 1992). The ECRL is the most dominant inshore spiny lobster species along the east coast of South Africa (Berry, 1974; Holthuis, 1991). While this resource can stretch as far as Port Elizabeth and into areas north of the Mbashe River in Kwazulu-Natal, its densities are most highly concentrated in the former Transkei. The ECRL is more predominately known as *ikolofish* or *inka*la in the isiXhosa speaking area but today the term 'crayfish' is used by most people when discussing the resource. The resource is most commonly caught from the shore with poles and baited lures (mainly at night when the resource comes in with the tide), but more recently it is caught by free diving (possibly an adaptive strategy to reach deeper waters as fewer lobster reside in the tidal zone).

The relatively cheap lobster and other seafood like oysters, mussels, line and game fish

Two legally sized rock lobsters. Lobster divers often tell tourists who are unsure of the legal size limits that the limit is the same as the length of a matchbox. This picture proves that this is not so (Photo by M. Roodt).

provide more than just income and food for local livelihoods. It also creates a unique tourist attraction for many South African and international guests who come to experience isiXhosa culture and the pristine coastline by camping, hiking, canoeing, horse-riding and fishing in the surrounding area.

As described in Chapter 2, the post-Apartheid fisheries reform process recognised subsistence and more particularly lobster fishers for the first time under the MLRA, thereby categorising the latter as a "small-scale commercial" fishery because of its economic potential. The ECRL artisanal fishery had previously operated illegally along the Transkei coastline, although it had been tolerated by authorities given that there was little enforcement in such areas during apartheid days. Today the resource and the resource harvesters are recognised under legislation along with recreational and commercial fishers. Following the recommendations of the Subsistence Fisheries Task Group (SFTG) the Subsistence Fisheries Management Unit (SFMU), a new directorate within the MCM, was designated to implement the conditions set out under the MLRA. Namely the SFMU was designated to identify fishing communities and issue permits as well as set up the necessary Monitoring, Control and Surveillance (MCS) systems to monitor the resource. This was to be a difficult task as law enforcement capacity in the Transkei was historically low and lobster fishers developed their own open access system based on selling their catch to the growing local tourist market (Fielding et al., 1994).

7.2. Managing and regulating the ECRL fishery

During the data collection phase of this research the department of fisheries had moved from the Department of Environmental Affairs and Tourism (DEAT) to the Department of Agriculture, Forestry and Fishing (DAFF). While the move may have some hard-line conservationists sitting on the edge of their seats, it is generally recognised that the move will be a positive step forward for small-scale and subsistence fisheries, although it is too early to tell what the outcome will be.

The recognition of subsistence and small-scale fishing in the Transkei under the MLRA formalised the ECRL fishery by means of individual rights. As described in Chapter 2, this post-apartheid fisheries reformation process was complicated and it presented a major challenge for the fisheries authority: "How would they achieve the MLRA's goals of recognising and formalising the lobster fishery in the Transkei in order to promote equity and access to marine resources for the benefit of local communities, while simultaneously providing social upliftment" (Raemaakers, 2009: 101)? The rights allocation process; assessment of individual stocks; and defining and enforcing catch restrictions formed part of the South African resource orientated, top-down approach of fisheries management with little participation from coastal communities. Furthermore, the SFTG recommended that high-value resources such as lobster were to be defined as 'small-scale fisheries' rather than 'subsistence' as defined under the MLRA and thus turned the fishery from an illegal market into a competitive commercial market overnight. Many South African and international commercial fishing companies showed an interest in the Transkei lobster resource (Raemeakers, 2009).

In accordance with growing political pressures and commercial lobbying for access to the lobster fishery in post-apartheid South Africa, the MCM licensed 'external' companies who would purchase the lobster from permitted fishers for export. This meant that lobster could only be sold to government approved buyers. It also meant that lobster was delineated for export, and local restaurants or holiday establishments could no longer buy the resource legally. The government thus adopted a contradictory policy approach to the lobster fishery by adopting a neo-liberal free market development approach in order to gain access to international markets, while simultaneously promoting an equity sustainable livelihoods approach[9] that required increased government intervention and regulation.

Despite sustainability and co-management rhetoric in the MLRA, this approach was very much in line with the modernisation approach of fisheries development as described in Chapter 1, in which MCM argued that fishers would organise themselves, eventually leading to a co-management development of micro-enterprises (M. Silevu addressing the MCM Subsistence Fisheries Workshop, East London, 11-12 October, 2004). In accordance with

[9] This contradiction between GEAR economic policies as well as social and conservation policies is described in Chapter 2.

modernisation theory the 'trickle-down effect' was to alleviate poverty whereby fishers would own their own processing facilities under community trusts and manage their own public-private partnerships. Much of this research was focused around the complicated public-private commercial partnerships in Tshani Mankozi showing that without empowerment and capacity-building, these types of strategies are problematic. Furthermore empowerment and capacity-building require investments in social capital to be successful.

The formalisation and commercialisation of the ECRL fishery created an interim sector that operated under exemption clauses of the MLRA whereby small-scale lobster fishers sold their catch to government approved buyers at a constant price. While the prospect of commercial selling can be a massive boost for coastal communities, without proper co-management institutions to govern and regulate the process (as described in Chapter 3), only few fisher elites may benefit from the commercial exchange with foreign companies whilst the community watches its resources being exported to faraway countries. This new market channel closed the traditional lobster market of selling to tourists, holiday-makers, hotels and holiday establishments. This traditional market was poorly monitored and regulated with little law enforcement but today it has become an illegal market that operates alongside the newly legal marketing channel (Raemaekers, 2009).

7.3. Access rights

MCM allocated the first permits for ECRL in the northern regions of the Transkei in 2001. In between 2001 and 2003, a maximum of 496 permits were issued per year to 10 communities where fishers had been identified (MCM, 2005, unpublished data). According to Raemaekers the SFMU had limited manpower in the Eastern Cape and thus prioritised the allocation of permits in larger coastal towns such as Port St. John's where there was mounting conflict between fishers and law enforcement officials (Bacela, 2004). Between 2002 and 2007 a further 31 communities in the Transkei were delineated for access rights. In 2004 there were no permits issued as the MCM had hoped to release a Subsistence and

Small-scale Commercial Fisheries policy that would grant medium-term fishing rights for up to five years. This policy process was however stalled and since then the MCM has released yearly exemption permits. Small-scale limited commercial rights are still to be defined by the law and thus a small-scale commercial fisheries policy still needs to be developed. For now the small-scale exemption permits have almost the same regulations as recreational permits except they include the possibility of selling lobster to government approved buyers. By 2008, 39 communities received lobster permits with a total of 2423 permits. *Table 7.1* shows the numbers of permits allocated in Coffee Bay and Tshani Mankozi.

Table 7.1. Number of lobster permits issued to lobster fishers in the Transkei with focus on Coffee Bay and Tshani Mankozi*

Year/ period	Transkei	Coffee Bay	Tshani Mankozi
2001-2003	496	114	-
2005	1848	102	157
2006	1858	81	65
2007	2325	81	52
2008	2423	81	66

*Data originate from MCM, and does not necessarily reflect the number of permits physically delivered to the fishers (taken from Raemaekers, 2009: 125)

By 2011 Tshani Mankozi and Coffee Bay received 179 and 174 lobster permits respectively for the 2011 lobster season[10]. This shows a significant increase from the time that Raemaekers conducted his study which could be attributed to the development of the lobster holding facility in Tshani Mankozi which serves as a selling station for four communities, including Tshani Mankozi, Coffee Bay, Lwandile and Hole-In-The-Wall (see Map).

Lobster harvesters have to apply for exemption permits every year and thus they are only valid for a single season (DEAT, 2007b). Permit registration is done at the beginning of each season (February/March), although Raemaekers concluded that less than 24% of lobster

[10] Statistics provided by Abongile Ngqongwa, a Principle Environmental Officer at the Department of Agriculture, Forestry and Fishing (DAFF), (telephonic interview, 5 August 2011).

harvesters that presented their catch at the Mdumbi buying station in Tshani Mankozi were in the possession of a lobster permit. This number however, may be substantially higher during the time period of this current research as most divers and harvesters that were interviewed were in possession of permits. Furthermore the development of the Tshani Mankozi Aquaculture Project required all lobster harvesters to present their permits when selling their catch to the holding facility. During Raemaekers' study, this facility was not in full operation, and it was only in mid-2010 that the project slowly started coming to life. It is however evident in Raemaekers' study as well as in this research, that many people still harvest without permits. This may be the result of several factors. The first being the inefficiency and incompetence of MCM to deliver permits on time; the failure to identify *bona fide* fishers; and a lack of monitoring and control have resulted in a non-compliant coastline.

Raemaekers also comments on the erratic allocation of permits, as some permits were delivered months after lobster season was opened. In Coffee Bay for instance, lobster permits were delivered in June 2007, April 2007 and July 2008, despite the commencement of the legal fishing season on the 1st March every year (2009: 126). This research also revealed many grievances and frustrations not only from lobster harvesters but all marine harvesters in the delivery of permits from MCM. Many line-fishers who apply for permits also never receive them[11].

In the MCM's defence however, it must be stated that many lobster fishers do not collect their permits (see *Table 7.2*). Some fishers are simply absent from meetings where MCM distribute permits, and/or some lobster harvesters are unaware that they even have a permit. This certainly highlights the confusion surrounding the permit application procedure and it reflects poorly on MCM's ability to coordinate the small-scale lobster fishery along the coastline. Interviews within the Raemaekers study and within this research reveal that many fishers were unaware of the meetings given at short notice, and for those that missed the opportunity to receive their permits, the only option was to travel to regional MCM offices in Port St. John's, a journey few fishers can afford to make[12]. The annual renewal of lobster permits presents a difficult administrative task for the MCM and both fishers and MCM

[11] Interviews and life histories at Tshani Mankozi (2010-2011).
[12] Interview with Jackson, prawn fisher, 21 October 2010.

hope that a medium- to long-term access rights policy can be formulated. This however would also require effective organisational management and administration. Much of the administrative and authoritative efficiency of MCM is discussed earlier in detail in Chapter 2.

Table 7.2. MCM figures for permit delivery for the 2011 ECRL season*.

Community	Permits Allocated	Permits Collected
Lwandile	21	21
Mngcibe	196	177
Tshani Mankozi	179	166
Coffee Bay (Mathokazini)	45	26
Coffee Bay (Jonga)	65	52
Coffee Bay (Rhini)	64	43
Hole-in-the-Wall	191	182

*These are only the lobster communities in and around Tshani Mankozi, and mainly those that serve the Tshani Mankozi Aquaculture Project[13].

7.4. Co-management capacity building

Co-management is frequently referred to as a strategy to govern subsistence and small-scale fisheries in South Africa as enacted in the small-scale fishing policy and the MLRA. While these provisions were made in various policy and legislative developments it was clear that co-management remained largely in rhetoric with major problems being experienced with its practical implementation. (Hauck & Sowman, 2004: 47). Co-management as a strategy is often referred to by specialists as a key determinant in the successful and sustainable governance of South African fisheries (Branch et al., 2002a, Clark et al., 2002, Cockroft et al., 2002, Harris, et al., 2002a, Hauck et al., 2002) in which there is equity, participation and joint decision-making by all interested parties. While many provisions have been made to promote local governance of natural resources, the implementation of the legislation has been problematic and complex (Britz et al., 2001).

[13] Data was provided by by Abongile Ngqongwa, a Principle Environmental Officer at the Department of Agriculture, Forestry and Fishing (DAFF), (telephonic interview, 5 August 2011).

Following the SFTG co-management recommendations, the effective governance of the Eastern Cape, and more specifically the Wild Coast, to facilitate participation of fishers in the management process was to create local subsistence committees (LSCs). The LSCs provide a crucial institutional element in the theory behind co-management as described in Chapter 3 as they provide communities with the infrastructure to participate and decide on co-management arrangements in a collective manner. These structures are set up with the help of MCM in coastal communities along the East Coast to represent local needs in the co-management arrangement. This was a big step forward in formalising the subsistence and small-scale sector, as traditionally fishers have never organised themselves into organisational structures. The LSCs would represent a cluster of villages or a TURF as they were supposed to combine traditional authority and local knowledge in governing common-pool resources. As such the LSC were tasked to identify and verify lists of fishers and assist MCM extension officers in the allocation process. While the LSCs received basic training through developing constitutions and being educated on certain regulations and implications for subsistence fishers, there was a general failure in empowering and formalising these structures (Raemaekers, 2009: 172).

The LSCs were supposed to work in partnership with MCM to serve as a platform between MCM and fishers by identifying and allocating permits, reporting infringements of regulations, and providing a voice for fisher grievances. MCM was sufficiently understaffed and underprepared for such a venture that needed to attend to 51 communities along the East Coast. As a result, in many cases, LSCs have not been formally established (Kariem & Lunake, 2004). According to Raemaekers there was simply limited training in running a democratic institution; education in harvesting regulations; and little capacity building or empowerment from MCM due to the limited lack of contact after an LSC was created (2009: 172). As such “the outcome of this piecemeal approach was a lack of community buy-in, and a loss of credibility by MCM in terms of its stated commitment to establishing co-management” (Raemaekers, 2009: 172).

Of course any implementation programme also requires some sort of evaluation and feedback. This is a crucial element in fisheries management and it forms a part of the Monitoring, Control and Surveillance of a fishery. Indeed it is also important to notice South Africa’s weakness in MCS operations in subsistence fisheries given the previous historical

imbalances and a lack of coordination and funds in the MCM. In order to provide MCS operations for the subsistence sector, the SFTG and MCM sought to create an extensive community catch-monitoring programme, the goal of which was to obtain "(i) local resource-use data and indicators of resources status, and (ii) to verify the extent of permit possession and compliance amongst observed fishers" (Raemaekers, 2009: 172). This according to Raemaekers represented a substantial and logistical commitment by MCM as many so-called fisheries had been identified and required monitoring. This provided an opportunity for training and paid employment and was thus well received among communities. It also emphasised greater participation from communities in monitoring and managing their own resources.

The monitors were to be supervised by the local committee thus ensuring a trust relationship between fishers and monitors as the LSC represented the interests of both. On average two to three monitors per TURF would monitor the beaches recording data that would be used to create a more substantive co-management policy as well as provide scientific data for the status of the fishery. The information collected therefore would provide information such as the demographics of fishers, fishing effort and fishing behaviour, the Catch-per-Unit-Effort (CPUE), and illegal activity. Monitors with experience could thus also become medians of sustainable education along the coastline. It must be noted that monitors have no enforcement capabilities, only a responsibility to report infringements.

The monitoring programme is one of the few arrangements that provided some sort of co-management of the Tshani Mankozi fishery, not only for lobster but for marine resources as a whole. Although this may not be enough it provides crucial elements like ownership and sustainable education and thus an integral investment in human and social capital in co-management capacity building and empowerment. It must be noted however that there were many social issues surrounding the programme as well, ironically also stemming from perverse forms of social capital. Many divers and marine harvesters would hide their catch in the dunes or bury them in the sand when they saw monitors patrolling the beaches. Also, since monitors were from the communities they were also known by the marine harvesters and thus the social relations that exist outside of marine harvesting created awkward encounters in a sanction situation. Of course in many instances some monitors could also

turn a blind eye or be easily bribed[14]. Raemaekers also notes that some monitors were intimidated at approaching recreational fishers and thus these catches were not recorded (2009: 173).

According to Raemaekers (2009: 173) many monitors were also not adequately trained and therefore did not understand the units of measure. Also, any information that was sent to MCM offices was subsequently worthless, unreadable or backlogged thereby providing very little information in the end. During the phase of this research the monitoring programme was stopped as government fisheries had moved from DEAT to DAFF. Towards the end of the research around the end of the 2011 lobster season in October there were signs that the monitoring programme was being re-implemented. This time the training of monitoring was outsourced to JayMat Enviro Solutions CC (the same consultancy running the Tshani Mankozi Aquaculture Project). There are hopes that the revival of the programme and the move to outsource some tasks in order to help MCM with their administrative responsibilities will be a step forward in the right direction.

It can be concluded that there has been very little co-management along the East Coast of South Africa. While there have been steps in the right direction, the overall inefficiency and understaffed MCM has insufficient manpower to service the communities. The ingredients to a successful co-management solution as described in Chapter 3, including aspects like participation, conflict resolution, and empowerment, were all implemented in a rudimentary manner through the LSCs and catch monitoring programmes. There was no multi-tiered institutional structure which would put fishing authorities, government and fishing communities in a reciprocal arrangement. Local municipalities are mostly absent, a fact confirmed by Raemaekers (2009: 175). The MCM simply lacked the institutional culture of cooperative governance and lacked the expertise to initiate a co-management process (Raemaekers, 2009: 176).

[14] While there is no evidence of such behaviour it has been referred to by Raemaekers (2009) as well as Dave Krebser, the on-site manager of the Tshani Mankozi Aquaculture Project, (Interview, 21 October 2010. Tshani Mankozi).

7.5. Compliance and enforcement

Regulating the influx of newly acknowledged subsistence fishers and the granting of access rights was and still is a difficult task for the understaffed MCM, especially along the Wild Coast where the main MCM office lies some 1000 kilometre south in Cape Town. The culture of harvesting ECRL prior to the MLRA circled around open access and poaching. The very name, Wild Coast, does not only encapsulate the pristine beauty of the coastline, but it can also allude to a 'Wild West cowboy' type of regulation and enforcement. As noted above and in the first two chapters of this thesis, the attempt to regulate and enforce compliance to fisheries governance in the area requires more than just the implementation of access rights, but it too calls for a reformation of the ideology surrounding the natural resources (sustainable education) along the Wild Coast coastline.

According to interviews from marine harvesters in Tshani Mankozi, a sustainability ideology and ecology awareness is almost entirely absent with the belief held by many that the ocean holds an infinite amount of resources. Social and human capital investments like educational programmes, capacity building and enforcement are largely absent from the coastline and there seems to be an antagonistic relationship with marine harvesters and fisheries authority; referred to precariously as 'nature conservation' by many people in the area.

Lobster fishers operate under terms of section 81(1) of the MRA which allowed for an exemption clause allowing for the Minister to exempt person(s) from any provision(s) of the Act on the basis of "sound reason". Lobster fishers are to adhere to the regulations of the permit which are mostly based on recreational permits for lobster. This presented a major topic of debate among participants in focus groups conducted in Tshani Mankozi[15] as they could not understand why people from outside the community who harvested the resource as a means of sport and recreation were subject to the same conditions as people who harvested the resource as a means to secure a livelihood. One of the biggest demands from lobster divers that were interviewed was thus to increase the daily amount of lobster as listed on their permits.

[15] Focus Group conducted with 13 divers, 1 June 2010. Tshani Mankozi.

The MLRA and the SFTG set necessary control measures that followed standard command and control type input measures to regulate the resource. These measures include:

- A minimum legal size (MLS) of 65mm carapace length (CL)
- A closed season (1 November to the end of February)
- A bag limit of eight crayfish a day
- Gear restrictions (no boat or SCUBA equipment)
- Prohibition of ovigerous or soft-shell lobster

Raemaekers' study suggests that 91% of divers monitored between 2005 and 2008 in Coffee Bay caught fewer than eight lobsters when recorded by community-catch-monitors, although as noted above there are many qualitative explanations as to why such a figure is given. In the Tshani Mankozi Mdumbi buying station, 70% of all lobster that were offered for sale were undersized, a fact that can be verified by the researchers of this study as many divers would attempt to sell their catch to us on a daily basis, most of which were almost always undersize. Undersize lobster that are not bought are either consumed by the fishers and their families or used as bait for line-fishing, many of whom double-up as lobster divers as well. In fact the permit offers people the opportunity to apply for a range of marine resources to harvest and thus one will find many divers also collecting other resources like oysters as well as fishing with line and rod when conditions do not permit diving.

Another means to regulate and control lobster fishers along the coastline is to delineate the coastline into TURFs, a common strategy used in fisheries management to create a sense of ownership and collective rights to a natural resource for a community. It has been recorded however by Steyn et al. (2008) and Raemaekers (2009) that many fishers still attempt to fish in different TURFs. At times the delineation of the coastline can create conflict among fishers from different TURFs[16]. The geographical constraints in some areas as well as the amount of divers in other areas create unequal catch per unit effort (CPUE) in the TURFs, forcing fishers to harvest in other areas. Some TURFs, like Tshani Mankozi, which have more

[16] While this was evident in many interviews, on one particular occasion whilst collecting surveys from divers I was approached by divers from another TURF who wanted to find out why they also were not included in the survey. After explaining that I had limited my research to the Tshani Mankozi TURF they started complaining that many of the Tshani divers illegally harvested in their TURF and that on one occasion a community member even chased them away with a firearm. Unfortunately I could not investigate the incident more as the divers I was surveying chased the divers from the neighbouring TURF away stating that they were "making trouble". The incident occurred at the Tshani Store on 18 February 2011.

divers per capita than other areas, as well as a buying station, are viewed unfavourably by some fishers along the coastline who also demand buying stations in their communities. The conflicts surrounding TURFs are described in more detail in the next chapter as it strongly affects the bonding and bridging social capital of lobster harvesters and coastal communities.

The overall enforcement of these controls however is noted to be very poor by Fielding (2004), Steyn et al. (2008), Raemaekers (2009) as well as this current research. The MCM simply seem out of their league in enforcing regulations and without proper empowerment and capacity building the resource remains at the whim of individual fishers rather than entire communities. Although there were certain cases where backpackers in Tshani Mankozi were raided by MCM officials looking for illegal and undersize lobster, these encounters are often noted to be 'harsh and authorative'[17]:

> "They just shout and slap you with a fine, but no one is told anything or learns anything. This is the case with all people when being reprimanded by MCM, they don't know what they are doing wrong and so they will obviously do it again"[18]

As noted above the community monitoring programme is perhaps the most promising method for a community to govern and control its own resources, but various social relations and inconsistent backing by MCM give the monitors very little power in enforcing or monitoring marine coastal law. One of the prawn harvesters in the area that is very much respected by many people in the community for his business-like approach to harvesting told me that: "nature conservation make sure for our grandchildren [regarding sustaining resources for future generations] and so that we can take from the sea but they are too confusing [meant in as a verb in which MCM are 'confusing' people]".

As such the best way to describe the enforcement of restrictions and the antagonistic relationship between MCM and fishing communities is to describe a common trend that seemed to occur during the research trips. We had used a white Rhodes University *bakkie*[19] to conduct interviews and focus groups through the village. Whilst driving through the

[17] Interview with Johan Steydler, owner of Mdumbi Backpackers and CEO of Transcape NGO, 1 April 2010, Tshani Mankozi.
[18] Ibid
[19] A South African word for a 4x4 pickup truck. Derived from the Afrikaans term *bak* - literally a bowl.

village many people would hide behind huts or throw their fish and buckets of oysters into the long grass. While this at first seemed to me a trust issue related to our research, when I asked our translator the reason for their behaviour he replied "you drive the same car as Nature Conservation, people are scared"[20]. It had thus become evident that people had at first mistaken our vehicle for an MCM vehicle and that people tended to hide themselves or their catch to avoid conflict, even if they knew that they had done nothing wrong.

This observation reveals the way in which the community views the MCM or any nature conservation agency. One can imagine how difficult it can be to create an ideology of sustainability when these stakeholders are at odds with each other, to the point that most people are afraid to be approached by MCM for fear of getting a fine or a sentence. Far from being seen as a partner in a co-management arrangement, the MCM does not help its case by inconsistently applying regulations with no explanations, failing to comply with community deliverables on time, and not consulting or responding to grievances accordingly. The latter point is discussed in more detail in the next chapter.

The intervention of the MCM in the ECRL fishery and the post-apartheid fisheries reform process has had profound effects on fishing communities and the lobster resource. Raemaekers' study of the socio-economic, cultural and market factors driving the small-scale lobster fishery concluded that the human aspect of the fishery system was not sufficiently researched or analysed by fishing authorities. The national regulatory framework as set out in Chapter 2 under the MLRA has been problematic in formalising management decision-making processes in the contest of coastal community livelihoods. Raemaekers highlights the controversial process of access rights, the difficulties for small-scale fishers to engage with private buyers, MCMs administrative and enforcement inefficiencies, the problem with local subsistence fishing committees, and overall dissatisfaction with rules and regulations surrounding the lobster fishery, thus resulting in non-compliance and inevitable issues with resource sustainability. This study aims to highlight the importance of the human element in a fishery system by diving deeper within community structures, social networks and overall social capital of communities in order to trace the root of the above-mentioned problems whilst highlighting the importance of researching social capital as an invaluable aspect of natural resource management and fisheries governance (read co-management).

[20] Informal conversation with Lindile Jambo (Translator), 17 September 2010, Tshani Mankozi.

Chapter 8

Bonding Social Capital and Fisher Behaviour

This chapter aims to describe the social networks and social capital within the Tshani Mankozi community and place them within the currently awkward 'co-management' institutions governing the resources and fishers. The social relations among actors greatly determine the flow of information and knowledge thus determining the successful implementation of community-based management (Crona & Bodin, 2006). It has already been established earlier in this thesis that the community and fisher behaviour are integral aspects to secure sustainable livelihoods in fisheries management (Jentoft, 2004). As noted earlier in the literature review, the social capital and social networks within a community will greatly determine the adaptive responses of fishers and their communities to external shocks and resource fluctuations (Ramirez-Sanchez & Pinkerton, 2009), and thus these aspects are crucial in building resilient social ecological systems (Bodin et al., 2006; Jansen et al., 2006).

This chapter thus sets out to determine lobster fisher behaviour, the trust and networks among them, and their perceptions of the current institutional arrangements in Tshani Mankozi. Further, this chapter will explore each stakeholder involved in the governance of the resource and their effects on the lobster divers as well as the management of the community and resource as a whole, thus revealing the different types of social capital and ties among actors and the general social and institutional networks. The kinship bonding social capital among the divers; between divers and their families; and within the community will give a holistic view of the social strengths and weaknesses within the community. Most importantly however the bridging social capital within external institutions like NGOs and commercial enterprises will be discussed as these relations and networks can greatly determine the progress and efficiency of the fishery. Finally linking social capital in the form of governance relations with government bodies will be discussed as these networks and relations set the regulatory framework for the everyday functioning of the fishery.

8.1. Lobster diving – ECRL artisanal fishery

There are many methods for harvesting ECRL along the Wild Coast, some of which have been passed down from previous generations, and others of which have been adapted with new technologies and pressures. As mentioned above many lobster harvesters, including women and children, are able to find lobsters in shallow gullies and rock pools during low tide, or they are caught with a baited lure and pole in the evenings. Diving for crayfish however remains the only legal method to catch lobster, whether it is done in the shallow gullies or in deeper waters. In an interview with an MCM official however he stated that: "I don't like to use this term diving, it doesn't encapsulate everyone, it is a word that is misused"[21].

Whilst this may be true for classification purposes and identification of lobster harvesters along the Wild Coast, most of the harvesters researched in Tshani Mankozi were in fact divers and they regarded themselves as specialist lobster harvesters since they could dive in deeper waters, and fight strong currents and other dangers.

Most divers that were interviewed revealed that they learned how to dive from the white cottage owners and holiday-makers that came to dive with their recreational permits, and/or sometimes illegally, as was the trend in unmonitored Apartheid days. On top of this, most of the gear that divers have managed to accrue was sponsored by or swopped for lobster with holiday-makers and cottage owners. One diver stated that "we learned to dive by watching the whites...we also teach other now"[22]. In fact most of the interviews and life stories revealed that diving, as it is defined with a mask and snorkel up to depths of 6m, only became a proper sought-after harvesting strategy in the 1990's. This is further confirmed by a diver who has been harvesting lobster since 1976 confirming that he only really started diving in the 1990's because before that there was no need to dive deep or swim past breakers as lobster were more abundant[23]. It is thus important to note the division in

[21] Zanethemba Swelindawo - DAFF Environmental Advisor in Port. St John's, telephonic interview, 5 August 2011, Grahamstown.
[22] Interview with Vuyisele (39), lobster diver and fisherman, 20 October 2010, Tshani Mankozi.
[23] Interview with Zweli (59), lobster diver and fisherman,22 October 2010, Tshani Mankozi.

lobster harvesting and therefore pole-harvesters and divers are separated for the purpose of this research.

Interviews with older divers confirm three important issues of the ECRL fishery. (i) While the harvesting of lobster is certainly a traditional and cultural aspect of the coastal communities, harvesting methods have changed (due to resource scarcity and commercial influences), forcing harvesters to create riskier harvesting techniques like free-diving in deeper waters, (ii) most of these techniques were not passed down in any form of traditional knowledge but in fact were learned (either from observation or education) from white cottage owners and holiday-makers, thus revealing an interesting and overlooked relation in the ECRL fishery network which could have important implications for bridging social capital. These buyer/seller relationships provided some divers with a loyal clientele of sorts as well as sponsorship of gear and passing of certain skills and knowledge about lobster diving, thus revealing important bridges between lobster divers and tourists. (iii) Despite many contradictory positions regarding the availability and status of the resource from biologists' stock assessments, interviews with older harvesters and their traditional knowledge reveal that there are not as many lobster along the Tshani Mankozi coastline as there once was (this may or may not be true in other areas of the coastline, but the increased presence of commercial buying stations has definitely put the resource under greater pressure). Interviews at the Tshani Mankozi Aquaculture project confirm that all lobster that are held in the tanks are bought from diving harvesters[24] although some divers admit to having two

Lobster diver known as 'Teo' gears up for a dive near the Hole-in-the-Wall, Wild Coast. (Photo by M. Roodt)

[24] Interview with Mbhulelo, chairman of the fishing cooperative and manger of the Tshani Mankozi Aquaculture Project, 20 October 2010, Tshani Mankozi.

or three permits that they have bought from other harvesters[25]. It is however important to note the specialised skill and labour of lobster divers as opposed to the MCM's definition of an ECRL harvester.

8.2. Traditional markets

The traditional market for divers has always been holiday-makers and cottage owners until the MCM reserved the right to buy lobster resources to government approved buyers. Some of the older divers expressed their dissatisfaction with the new market channels as they felt they had a good relationship with tourists and cottage owners. Some divers had even created an informal erratic client-base as they knew some frequent holiday-makers and cottage-owners by name. Most of the younger divers however, expressed their satisfaction with fixed market prices and a central buying hub where they could sell lobster at a fixed price per kilogram. Despite the project, the traditional market still exists and some divers explain how they can still make more money from this market on weekends and the summer season, which corresponds with the closed season for lobster diving. Indeed, one of the biggest issues with the new project that serves as a buying station is that it is not open during the weekends, thus forcing divers to sell illegally to tourists.

Informal conversations with other community members also revealed that the general community looked forward to the potential benefits that the project could bring, although there was an air of suspicion and caution in many remarks. This reserved scepticism from some community members stems from a general mistrust in government development projects over years of underdevelopment and failed projects. The cynicism towards government projects, and especially those involving the MCM, is a trust issue that is crucial in the makeup of linking social capital[26].

[25] Interview with Vuyisele (39), lobster diver and fisherman, 20 October 2010, Tshani Mankozi.
[26] During our research visits in October and December of 2010 while the aquaculture project was being rejuvenated there was a lot of talk about the matter in the community. It is therefore difficult to locate a single statement but the community members in general were both excited and cautious about the development of the project.

Holiday families that own cottages in the area have been going to the Transkei for generations and have thus formed good relations with community members and specifically with divers by donating diving equipment and even lending money[27] to divers and cottage care-takers. Many divers are also cottage care-takers or at least their families look after some of these cottages. In return, divers sometimes treat these families with lobster and other seafood as well as exchange traditional knowledge around marine harvesting, especially surrounding line-fishing, a much sought after pastime for holidaymakers in the Transkei. While it is certain that this romantic picture of mutual bargaining is not the case along the entire coastline and many tourists exploit the cheap seafood, many divers and their families rely on the cottages for a livelihood.

In an interview one diver told me how his mothers and sisters have worked at the cottage of a white family from East London. His brothers and him grew up with the white children and thus learned to speak English. The holiday family helped to pay some school fees and in some cases even helped pay *lobola*[28] for the diver and his brothers[29]. One of the oldest divers told me that: "they [MCM] break that friendship"[30], obviously referring to the bonds that some people in the community have with cottage owners and holiday-makers.

There is an often overlooked bridging form of social capital between divers and cottage-owners along the coastline. Many divers rely on these relations for knowledge, gear and money. In fact most divers in Tshani Mankozi live in sub-villages located close to cottages and hotels (see map 6.2) while only a few live between 500 metres and a kilometre inland. Line-fishers can live some kilometres inland, especially on the banks of estuaries and rivers. Most divers however only live a few hundred yards from the ocean and from their traditional markets, cottages and tourists. While there are certainly some marine harvesters that have permits for lobster in and around the whole village, experienced and skilled divers grew up observing the recreational divers and holiday-makers. Without this traditional relation with holiday-makers and cottage owners many divers would never have learned to dive as they simply would not have the gear or knowledge to do so. Some of these divers

[27] Interview with Olwethu Jambo, ex-diver, fisherman and cottage care-taker, 2 June 2010, Tshani Mankozi.
[28] *Lobola* is an isiXhosa custom whereby the man pays the family of his fiancée for her hand in marriage. While traditionally the transaction was usually in the form of livestock and land, today it is becoming more common to pay with money.
[29] Interview with Olwethu Jambo, ex-diver, fisherman and cottage care-taker, 2 June 2010, Tshani Mankozi.
[30] Zweli, diver and fisher, 22 October 2010, Tshani Mankozi.

are also *gillies*[31] on boats and therefore they often strongly rely on tourists and visitors for an income.

8.3. Bonding social capital among divers

As noted in Chapter 4, the bonding social capital (kinship ties, friendships etc) is an integral component of fisheries governance as this form of social capital mobilises fishers into organisation and collective action (Putnam, 1995, Ostrom & Ahn, 2003). While the bonding social capital among lobster divers in Tshani Mankozi is generally found to be strong, it is not sufficiently harnessed to improve the conditions of fishers and the community as a whole.

Once a diver realises that he can make a substantial amount of money compared to the rest of the unemployed community, diving becomes a way of life. "No Dive, No Money!"[32] is the general principle to which divers adhere. Most divers seem to dive in groups of between two to four persons, although it is not uncommon for divers to dive by themselves as well. Divers thus seem to have smaller cliques and groups in which they dive in but there is no exclusivity among divers. Often divers sit together and discuss diving strategies or exchange knowledge. Discussions about the fishing regulations are also common. After diving and selling their catch many divers go to the taverns together. On days when the weather doesn't permit diving, divers will sit together and discuss the weather[33]. One diver who also catches small ornamental fish in rock pools and sells them to tourists told me that:

> "We share stories about the sea, all that happens is from the sea. You can't talk too much about things that happen on land. The guys from inland want to live here when they see us because they see we make money from sea and they have nothing.

[31] A *gillie* is a local person, often a man that is paid by boat owners to join recreational fishers on deep sea fishing expeditions to perform basic boating and fishing duties like baiting, cleaning, gutting etc.
[32] Interview with William, diver and ornamental fish seller, 16 September 2010, Tshani Mankozi.
[33] Interview with William, diver and ornamental fish seller, 16 September 2010, Tshani Mankozi.

> Divers like to talk; maybe sometimes a guy loses a flipper or an eel bites his finger and we laugh, sometimes it was two years ago but we still remember and laugh"[34].

This quote reveals the interdependent relationship that divers have with their natural environment. Divers have their own code of conduct, rules and sanctions surrounding their fishing practices, all important aspects of bonding social capital. In the colder seasons a diver will sometimes make a fire on the beach while another dives for the both of them so that when he returns with the catch there is a warm fire waiting; a useful strategy when diving with a torn wetsuit or nothing at all. When divers return from the sea after selling their catch, they often "put something on the table (food, money, alcohol, cigarettes) and they make their way home"[35]. In other words what this quote reveals is that divers will often pool their money together and buy certain luxury items together. In situations where some divers do not catch, or some divers catch more than others they often lend each other money. Some divers however prefer to give their partners tangible objects like cigarettes, food and alcohol so that they are in more control of the money, and in this way can receive the same when they are in need[36]. This common pool sharing of the benefits of diving creates important dependency relations among divers. This largely goes against Hardin's image of self-interested fishers as many divers will rely on the strength of their bonds to further themselves by sharing resources. It also reveals clear reciprocal relations and high

A group of divers try to find an entry point for a diving session while a woman in the background collects oysters and mussels (Photo by M. Roodt).

[34] Interview with 'Teo', Diver and fisherman, 18 September 2010, Tshani Mankozi.
[35] Ibid
[36] Ibid

levels of trust among divers which are important bonding social capital components. A culture of trust and reciprocity is a good indicator of common resource governance and these types of relations would be important to harness into a co-management strategy that would allow divers to control their resources in a collective manner.

The dangerous and risky nature of diving for lobster requires some form of collective fishing (see *Appendix 1* for a diary excerpt on diving techniques). Many divers detail the dangers of diving from rip-currents, waves, sharp rocks, eels and sharks etc. Divers therefore look after each other when they are in the water and they will not let anyone dive with them if they feel that person is not a good enough swimmer. Some divers that are also lifeguards along the Eastern Cape coastline during the holiday season also try and teach some of the weaker divers to swim. One of the divers told me a harrowing story where a diver was caught in a rip-current and drowned. Many divers had previously tried to warn him not to dive because he was ill. The divers took two hours to locate his body after which they all contributed money to his funeral. Today they remind divers who are weak swimmers or try and dive when they are ill about the lost diver[37]. These narratives and stories create a diving culture that builds strong cultural and social bonds between lobster divers. Again, this togetherness is a further indicator of a collective form of fishing and one which is largely ignored or misunderstood by the MCM. The high bonding social capital could be encouraged in designing collective property rights and governance of common pool resources.

There is certainly a high level of trust and reciprocity among divers with established norms and sanctions; a central feature in cooperative relations. While divers may harvest individual catches they often pool together the money they get for lobster. Evidence of this kind of 'radius of trust' (Fukuyuma, 1995) creates reciprocal norms that can be harnessed in organising common-pool resource governance. These facets of social capital create cooperative trustworthy communication channels and collective action (Coleman, 1998; Woolcock & Narayan, 2000), indicating the opposite of a tragedy in natural resource management. Currently however, the fishery is run under individual quotas and top-down regulations is counterproductive to governing common pool resources. In order to secure this 'radius of trust' the MCM would need to create a strong regulatory framework and small-scale fishing policy which would encourage such co-operation and provide incentives

[37] Interview with Olwethu Jambo, ex-diver, fisherman and cottage care-taker, 2 June 2010, Tshani Mankozi.

for people to take charge of their resources collectively. A detailed co-management framework that includes such cultural aspects and measures of social capital would create formal rules, sanctions and methods of fishing and exchange through community participation.

Furthermore the trustworthiness and cooperative atmosphere between divers can certainly reduce fisheries management costs if fishers and fisheries authority can agree on common rules that are abided by both parties (Grafton, 2005). Community and fisher participation is however the fundamental aspect missing in this exchange between fishers and fisher authorities and one of the main reasons for the high amount of non-compliance and rule-breaking. The divers generally do not follow fishing regulations because they played no part in its development. This is evident in the formation of the Local Subsistence Committees (LSC), in defining fishers, granting access rights, zoning the coast into TURFs, setting legal limits and output controls and deciding on potential markets and small-scale development. There is certainly a collective bond among divers that suggests that if they participated in their own rule-making and decision-making they would comply with fishing rules and regulations. This point thus stresses the critical importance of participation in fisheries co-management and the governance of resources. By using the traditional knowledge of fishers and divers as well as incorporating the cooperative social capital amongst divers into a co-management strategy the government can, in partnership with divers, create a tailor-made co-management programme that would allow divers to formalise the rules and regulations of the fishery under the guidance and expertise of biologists, researchers and government agencies like the MCM.

8.4. Divers and sustainability

While there is sometimes a general belief from many marine harvesters that the ocean is plentiful and hosts infinite resources, many harvesters and community members have also noticed the decrease in fish stocks along the coastline. One older fisherman told me that

"the ocean is not the same anymore, it does not give as much, these babies[38] need to be careful[39]". Many lobster harvesters still take out undersize crayfish; take more than the allocated daily catch limit; pull the eggs off berried females; and harvest in different TURFs, thereby breaking almost every output control that regulates the fishery[40]. While there generally seems to be a lack of a sustainability ideology and sustainable education there are also some divers that try and adhere to sustainability principles. One diver told me that:

> "All the money I get is from the sea... 100 years ago our *grannies*[41] just walked on the rocks and found crayfish... today we need to watch out for our children so they can dive... sometimes when I dive and catch a small one, I put him back and remember to come back there in a few weeks when he is bigger. I watch my money grow under the sea, that's our money down there so we don't fuck it up, our children will need that"[42].

While these cases are a select few there are larger reasons for the absence of a sustainability ideology in the village. The first of course is the absence of marine conservation awareness or ecological education. Without an understanding of the natural processes of the ocean and life systems it is difficult to convey the notions of ecological sustainability to people that rely on those resources for a livelihood. Secondly, the command and control type of management conducted by the MCM and government in delineating the coastline and setting resource-orientated regulations without proper consultation and understanding from the community immediately makes the harvesting of natural resources a risk in the form of a sentence or a fine, thus further detaching people from appreciating and effectively managing ecosystem services. The harvesting of such resources creates hostility towards nature conservancy and governing bodies (an aspect confirmed in the previous chapter where people hid themselves or their catch when they saw what looked like an MCM vehicle approaching).

[38] The term 'babies' is used in a friendly way to describe the young divers. In Xhosa culture it is a custom to refer to groups of people in terms of their age.
[39] Interview with Jackson, prawn fisher, 21 October 2010, Tshani Mankozi.
[40] This was evident from observations as divers tried to sell lobster to us.
[41] A colloquial term for the older generation, again an English translation for what would be a respectful term referring to the older generation.
[42] Interview with Olwethu Jambo, ex-diver, fisherman and cottage care-taker, 2 June, 2010, Tshani Mankozi.

It is no surprise therefore that many divers claimed to pull out an average of about 20 lobsters a day. One diver stated that his record for lobster was 80 in one day (ten times the legal limit). He simply stitched together two sacks that were donated to the divers by the buyers. Some of the older divers state that they could catch up to 40 or 50 lobsters in a day a few years ago, but "that these days the ocean is not giving the same[43]".

One community member and marine harvester, who in fact attempts to spread a sustainability ideology in the community, expressed that "a free permit is also a permit for jail[44]". He stated that when people receive a permit they immediately agree to the conditions of the permit of which they do not fully understand. People thus use the permit to legally harvest marine resources but at the same time they are mostly breaking the law each time they harvest, and in so doing opening themselves up to being caught. Although these types of controls are necessary in preventing a 'tragedy of the commons' type scenario, the scenario may still ensue if people do not fully understand the procedures that govern them, never mind not even playing a part in creating them.

Furthermore many divers do not understand why they are no longer allowed to sell lobster to tourists; why the closed season is at a time when most tourists visit the Wild Coast and thus is the biggest opportunity to sell lobster; and why they have to compete with recreational fishers and dive with the same regulations. In a place like the Transkei where there is a history of non-compliance, lawlessness, fatalism, and where people have become accustomed to survival without government regulation, it is difficult to imagine that people will follow strict top-down regulation with no explanation. As noted in Chapter 3, the participation of a community, together with formal agreed upon institutional arrangements, as well as thorough empowerment and capacity building programmes, are the only way to create a stewardship type of ideology where people become custodians of their own resources.

[43] Interview with Zweli, diver and fisherman, 22 October 2010, Tshani Mankozi.
[44] Interview with Jackson, prawn harvester, 21 October, 2010, Tshani Mankozi.

8.5. Divers, their families and the community

While the bonding social capital among divers is relatively high with established rules, norms and sanctions, it is also important to understand the relationship the divers have with the community and their immediate families. This is important because a co-management solution requires the governance of collective resources and sound community-based management. In this regard divers and harvesters are not the only beneficiaries from a co-management solution but the community needs to benefit as a whole. The bonding social capital within a community can thus greatly determine the cooperative and administrative regulation of the natural resources.

In general, the bonds between community members seem to be stable and abundant. The village is a typical Transkei isiXhosa village, community-based on some traditional beliefs, tribal tenure and governance. If people have a problem they approach the headman or sub-headman from their village and people try to collectively solve the issue. Two experiences particularly stand out as an indicator of the high social bonds within the Tshani Mankozi community. The first was a situation in which a girl from another village had accidently drowned after being swept away into the rip currents. The entire community came to a standstill and it was not possible to interview anyone as many people had spread themselves along the beach looking for the girl's body. While of course it is a harrowing story it shows that such an incident can bring the community to a halt as they all came together to try and collectively address an urgent crisis within the community[45]. The second incident involves the vandalism of the local health clinic by vandals from outside the community. Instead of conducting interviews I made trips to the headman and other community members to investigate the matter. By the end of the day the community had networked and communicated and through the use of the sub-headman and headman found out who the suspects were and reported the crime to the police[46]. These stories reveal a tight-knit community that can communicate and cooperate in collective action in order to collectively satisfy certain needs and deal with issues, even if they affect a few individuals in the community. It is thus a classic example of how the social capital among

[45] Observation from research trip. September 2011. Tshani Mankozi
[46] Observation from research trip, June 2010. Tshani Mankozi

actors can benefit all the actors or sometimes an individual can make use of such social capital and trust relations to progress his/her situation.

In faraway rural areas where there is a weak government presence and where people, despite welfare grants, pensions and some migrant labour income, rely on their natural environment for survival, people generally tend to regulate themselves and thus create communities with high levels of social capital, trustworthiness and cooperation. This kind of social capital is a community's asset in managing their natural resources (Petty & Ward, 2002). The Tshani Mankozi community is full of examples where people collectively manage their natural resources. There are common grazing areas for livestock; forests provide wood, mushrooms and traditional plants. The marine resources however, a large part of the protein and monetary intake for families, is managed by individual quotas. In order to create a sense of ownership over a community's natural resources, this type of social capital must be invested into (Berkes, 2007). These kinds of social capital investments would mean educating people about marine resources, creating management committees and capacity building and training, strengthening relations between the community and the local municipality, environmental NGOs and government bodies like the MCM.

While social capital can be a useful asset for a community and for a co-management programme, it must also be highlighted that social capital can have perverse limitations. In Tshani Mankozi the high-value classification of lobster has meant that divers (mostly young men) make a lot more money harvesting lobster than the previous generations. It is not unusual to see divers with new trendy fashions, accessories and other gadgets that most people in the community could only dream of owning. On entering some diver homes one can see luxury items like DVD players, televisions sets, radios, spearguns, a range of fishing rods and tackle. Many people in the community have very few items such as these. As such many people and young children try to aspire to become divers, although it can prove a more difficult task as the availability of gear and the ability to swim is more difficult to achieve in such a remote area. In this regard it is relevant to highlight again how crucial the relation is with tourists and cottage owners as it mostly determines aspiring divers' access to marine resources.

Divers are therefore, mostly financially independent, although it is not to say that they are affluent. Although most divers indicated that they almost always gave some money to their families[47], some divers have cut themselves off from their families too[48]. The latter group of divers neglect their family duties like herding cattle and many even drop out of school to become divers. In these cases many families do not receive any money that can be invested back into their homesteads, and since the mostly young divers have no families of their own, a lot of the money goes to the local taverns[49].

With little investment opportunities in the village, the divers are well known for biding their time in the taverns. It is no surprise therefore that we often looked for divers in the taverns when we wanted to interview them. This is also why it was stated in the methodology in Chapter 5 that one of the limitations of this project was conducting research over weekends. Many divers in the community do not deny biding a lot of their time in the taverns drinking alcohol and smoking marijuana. Some divers are even known to dive under the influence of alcohol when they run out of money in the tavern[50].

When asked about why they do not save their money, one diver replied that "its nice to go for a drink[51]" or "we have fuck all, I also want cigarettes and alcohol[52]". This has led some people like one of the prospective commercial buyers to state that "in Tshani Mankozi there is a drinking problem[53]", not only referring to the divers but the community as a whole. One of the older fishers said that "maybe only two divers have brains on them, they are all babies[54]", indicating that they are too young to know what to do with their money.

While there is certainly some resentment to the behaviour of some divers in the village, the divers themselves seem to be proud of the fact that they are independent and have a large degree of autonomy in their monetary transactions and decision-making. This is an exciting prospect for young men in a village where they hold a certain degree of power and leverage

[47] Interview with 'Teo', diver and fisherman, 18 September 2010, Tshani Mankzoi.
[48] Interview with William, diver and ornamental fisher, 16 September 2010, Tshani Mankozi.
[49] Interview with Jackson, prawn fisher, 21 October 2010, and Johan Steydler, Transcape CEO and owner of Mdumbi Backpackers, 01 April 2010, Tshani Mankozi.
[50] Interview with 'Teo', diver and fisherman, 18 September 2010.
[51] Interview with Boginkosi, diver, lifeguard and fisherman, 17 September 2010, Tshani Mankozi.
[52] Interview with Kwahele, diver, lifeguard and fisherman, 17 September 2010, Tshani Mankozi.
[53] Interview with Shaun Raleigh from Pumlali Seafood, commercial buyer, 23 October 2010, Matakatye, near Presley Bay, Transkei.
[54] Interview with Jackson, prawn harvester, 21 October 2010, Tshani Mankozi.

in decisions that affect the community, namely to do with the lobster commodity. After all these are not the only young people in the world that spend their money on alcohol and cigarettes. While there certainly seems to be a drinking problem with some divers and fishers that we encountered, there is little opportunity for divers and people in general to invest in anything else in the community.

What is interesting however is how these sorts of comments and resentments affect the social capital of the community. Are divers becoming an exclusive group? Some families are neglected and some community members do not approve of some divers' drinking habits. The introduction of larger amounts of cash means that there is a danger that the community can be more stratified along a wealth status. Some of the older divers have already expressed that they "do not know what is going on, we just follow the younger divers. We don't even have the number for the buyer, they [younger divers] tell us what to do"[55].

My experience with the divers from the community indicated that although there may be high levels of bonding social capital between divers, especially with regards to fishing behaviour and practice, diving for lobster as opposed to just collecting resources from the tidal zone has created a new young mostly male group of fishers that have money and a certain degree of power. These young men have more money than most people in the community and since most of the value from lobster is exported, they are the sole beneficiaries of the fishery.

Strong bonding social capital is often cited as being the most perverse form of social capital as people who do not share the same values or norms of reciprocity as the group are effectively excluded (Putnam, 1995). This may have serious effects on the bonding social capital as a whole as divers become increasingly detached from the community. This especially has implications for capacity-building and empowering communities like Tshani Mankozi in order to create collective common property resources. Without the absence of proper guidance from fisheries authority and largely unmonitored commercial transactions with buyers, there certainly is a danger that divers can become an exclusive group divided according to age and the ability to dive. This is especially more noticeable with less people being able to harvest legally sized lobster in the shallows and night pole-fishing.

[55] Interview with 'Veg' (55), diver and fisherman, 10 January 2011, Tshani Mankozi.

My experience with the divers and community members revealed that in general many community members feel that the resource belongs to the community[56]. While the introduction of the aquaculture project is supposed to reinforce this ideology, it remains to be seen who the real beneficiaries are going to be in the ECRL fishery in Tshani Mankozi. Some divers have already started raiding adjacent fishing TURFs for lobster as there tend to be more divers per capita in Tshani Mankozi. Some of these divers have been known to be chased away from the communities by other divers and community members. As mentioned earlier these conflicts are becoming more violent as on one occasion there were rumours that a firearm was involved in chasing away the divers[57]. Some community members in adjacent communities have already complained to the headman in Tshani Mankozi for the illegal raids conducted by divers. It also seems that other divers in adjacent communities are resentful that Tshani Mankozi has a buying station and they do not.

The problem with TURFs is that the identification of each area was not based on any set of rigid criteria or scientific advice. Most communities were divided up using geographical boundaries such as rivers and estuaries, or a village under the same chieftaincy despite there being the probability of more divers in some areas, or perhaps less fish in other areas. According to many interviews therefore there is a general feeling that the TURFs were allocated unfairly[58].

The divers in Tshani Mankozi have on multiple occasions explained that they are the "best divers along the coastline, because other divers haven't learned to swim well, or do not have gear[59]". Even one of the commercial buyers expressed his admiration for the Tshani Mankozi divers stating that they are some of the best along the coastline and that the area has a high profit return[60]. The competition among groups of divers and between communities is certainly on the increase and in some cases is becoming more violent.

[56] This was a sentiment shared by many informal conversations with people who were not directly involved with the lobster resource.
[57] This happened during one of our research visits although it is sometimes difficult to decipher hearsay and separate fact from fiction.
[58] Focus group with five divers, 17 September 2010, Tshani Mankozi.
[59] Interview with William, diver and ornamental fisher. 16 September 2010, Tshani Mankozi.
[60] Interview with Shaun Raleigh from Pumlali Seafood, commercial buyer, 23 October 2010, Matakatye, near Presley Bay, Transkei

The bonding and bridging social capital among divers and within the community has interesting implications for the investment of social capital and setting up efficient co-management arrangements. The bonding social capital among divers is certainly strong as together they can make decisions and mitigate the effects of external entities and retain a certain amount of power. The changing harvesting methods that require more skill and the introduction of higher commodity prices on lobster has also set them apart from other harvesters and community members, to the point of even breaking some bonds and bridges with families for instance. The introduction of the TURFs along the coastline have also divided the voice of lobster divers as they are in competition for resources and in direct conflict in times of resource scarcity. Furthermore this division can also extend to fishing communities as a whole as 'TURF wars' become more violent. The fishing villages and Tshani Mankozi of course still remain relatively peaceful traditional rural villages with a high abundance of bonding social capital, but the effects of commercial business, the MLRA, fisheries management; and the small-scale fishing policy are slowly being felt in the social fabric of Tshani Mankozi and other fishing communities along the coastline.

Chapter 9

Social Networks: Bridging and Linking Social Capital

Having described the fishing behaviour and social characteristics of the lobster fishery in Tshani Mankozi as well as the bonding social capital between divers and community members it is also important to describe the interests and presence of other institutional stakeholders in the ECRL fishery. Successful co-management arrangement, as mentioned in Chapter 3, revolves around clear communication and cooperation between different stakeholders in the fishery (Berkes et al., 2001). It is thus necessary to discuss the different institutions surrounding the resource, including beneficiaries of the resource, managers, policy makers, market players, third sector actors etc.

Figure 9.1 reveals a stakeholders map of the different institutions and stakeholders involved in the ECRL fishery. It is useful to describe each stakeholder and the relationship they have with the harvesters and with each other. In this regard we can establish the potential linking and bridging social capital that the divers have at their disposal. It is thus necessary to reveal the interaction between government actors, third sector actors like NGOs, and market actors like the buyers to establish who is driving the progression of the fishery; whether the needs of the fishery are being met; whether the government is performing to expectations; and whether the community is a part of the process.

This type of analysis will also reveal where there are areas that require attention, additional connections and relations or even potentially disbanding an organisation if it doesn't fulfil a certain role. As mentioned in Chapter 4, the bridging and linking social capital are the most essential types of relationships required for collective progress of a community (Coleman, 1988; Putnam, 2003; Granovetter, 1973). These ties provide for stability and can allow for successful empowerment, capacity building, and a successful collective action situation and governance (Ostrom & Ahn, 2003).

Almost all stakeholders except the international markets were interviewed in one way or form to discuss the management arrangements and viewpoints of the Tshani Mankozi fishery. In general however the description of each stakeholder is generally from the

viewpoint of the divers as it is them that the surrounding policy has the most impact on. In this regard this research also allows the divers some form of participation in deciding on their own governance by providing their views on the management of the ECRL fishery. Discussing each constituent separately also provides an important link to the next section that reveals the social and institutional networks in Tshani Mankozi, and the successful governance of the fishery.

9.1. Marine Coastal Management and Local Subsistence Committees

A successful co-management arrangement firstly requires enabling legislation and an effective fisheries authority to implement the policy (Berkes et al., 2001). Essentially, the fisheries authority creates the median by which a community can communicate their needs to government. The ability of the fisheries authority will largely determine the co-management arrangement and agenda. In other words, the effectiveness of the fisheries authority will determine to what extent the community is formally involved in the management of their resources. A lack of the former's ability can lead to a collapse in regulation and ultimately a 'tragedy' situation, unless of course the community is capable of governing their resources on their own, which in most cases is unlikely without an effective governance paradigm which is fuelled by information, communication channels and accessibility to resources.

As mentioned in Chapters 3 & 6 of this research, the MCM is responsible for implementing the problematic regulations of the MLRA. In the Eastern Cape this has turned out to be close on a disaster with erratic access allocation, a lack of consultation, weak capacity building and general administrative inefficiency. This simply has to do with a lack of funds, expertise and a seriously understaffed department.

Raemaekers lists five major issues in MCMs implementation of the subsistence fisheries programme in the Eastern Cape: (i) the associated geographical and logistical constraints in reaching the large number of traditional coastal communities in the province; (ii) the limited working capital in the Eastern Cape; (iii) the fisheries authority was historically geared

towards managing commercial fisheries under command and control approaches and therefore co-management presented a major challenge; (iv) MCM was under political pressure to issue subsistence permits and thus the entire process was not thought through adequately; (v) the MCM had never engaged with local government agencies mandated to promote development, and this could possible also create further problems with fisheries falling under DAFF (2009: 154).

Every single diver interviewed in this research claimed that the MCM were their most constraining institution in their profession. While such an answer may be expected when an institution places regulations, controls and limits on peoples harvesting techniques, without any empowerment, participation, consultation, education or capacity building such a negative attitude is most likely to stay the course. Most divers claim that they rarely see or talk to anyone from MCM and that they only interact with MCM officials when the divers decide on a buyer in the beginning of every season and when permits are issues. One diver referred to MCM's presence as "on and off like the electricity"[61], meaning that they were rarely present and consulted very little with the community, the LSC or the co-op.

Erratic implementation of exemption permits leads to distrust and sours the linking social capital that is required in establishing effective community-government partnerships. According to one of the MCM Environmental Officials, they realise the problem and are not happy with the allocation of individual rights. They are hoping that the new small-scale fishing policy currently being drafted will grant collective rights and allow for more participation from communities. "We want to strengthen the local subsistence committees but we don't have the capacity or money to do so now"[62].

[61] Interview with Kwahele, diver and fisherman, 17 October, 2010, Tshani Mankozi.
[62] Abongile Xhongo Environmental Officer, MCM, telephonic interview, 6 August 2011, Grahamstown.

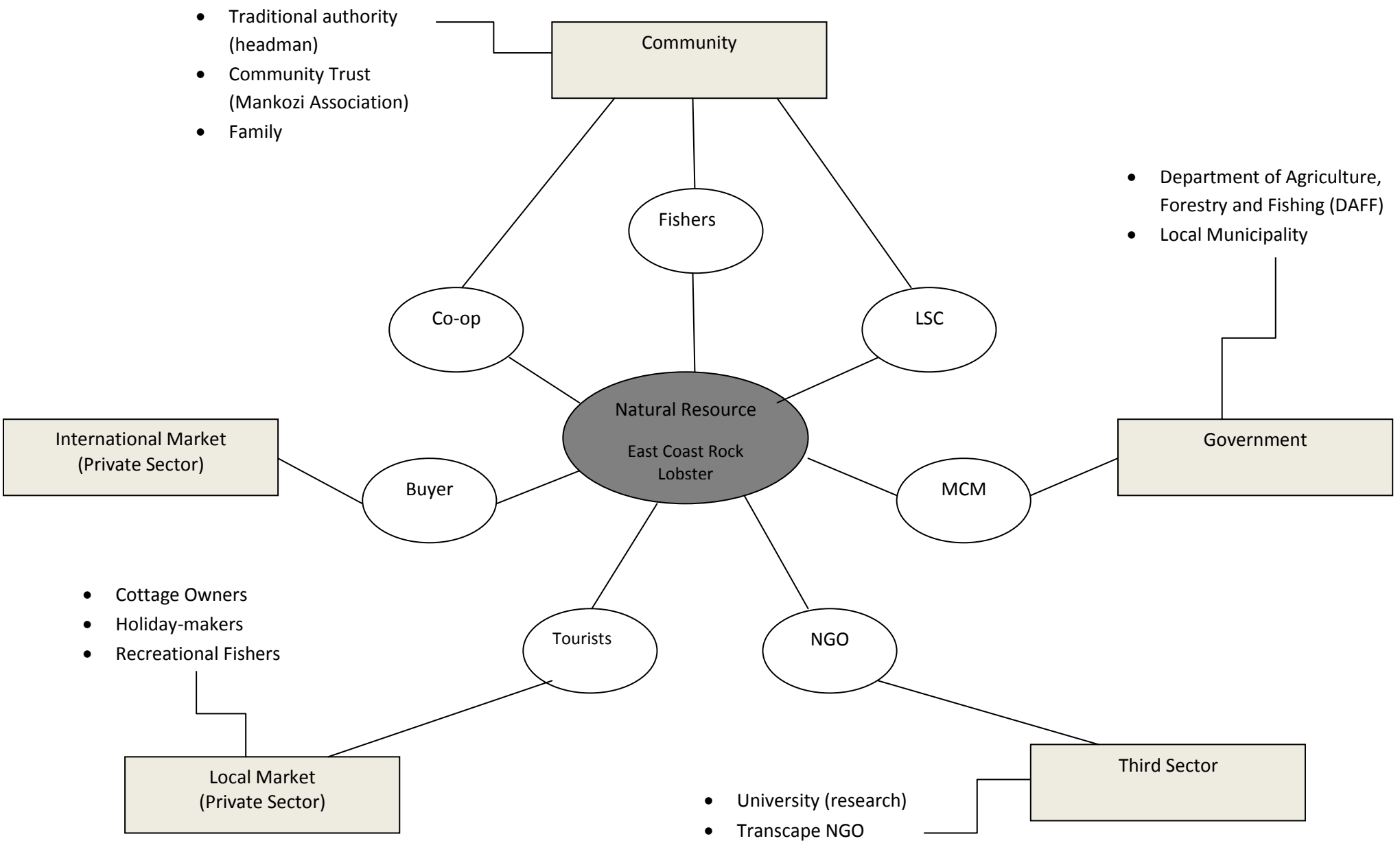


Fig 9.1. Stakeholders in ECRL fishery

The exemptions are supposed to be an interim arrangement, yet they have lasted for almost a decade. This has created an interim sector with confusing regulations, little enforcement and a culture of illegal fishing. A new small-scale fishing policy is very much needed to clarify the rights and responsibilities of both the MCM and fishing communities. At the moment the MCM in the Eastern Cape is hugely understaffed. There is only one proper extension officer for the Transkei, where the only other three officers are responsible for the remainder of the Eastern Cape Province (Raemaekers, 2009: 163).

The LSCs therefore do not receive the capacity-building, empowerment, and maintenance that they require and as a result they are mostly ignored or are completely non-functional. It is therefore no surprise that in Tshani Mankozi the LSC is virtually non-existent. While the LSCs are supposed to serve all marine harvesters there is not a single diver on the committee; therefore the most economic resource in the community is not represented by a single fisher who actually harvests that resource. Most of the committee is made up of older male fishers and almost all the divers confirmed that the divers have never gone through the LSC for anything. The only time the MCM seem to be present is when prospective buyers for ECRL bid for the separate TURFs in the beginning of each season and in the delivery of permits, but even then they have very little influence. A member on the LSC committee, who is also an entrepreneur starting a backpackers in the community, was caught with a number of illegally sized lobster in his freezer leading to a 5000 ZAR fine[63]. While this story reveals the apathy in the LSC, it is also one of the few stories during the research period in which MCM were efficient in enforcing the law in the community.

LSCs rarely provide input or allow for fishers to make suggestions and changes through the management model that was imposed on them. Many focus groups and interviews simply reveal that they do not trust the members of the LSC, with some harvesters going as far as to accuse the LSC of corruption. One diver explained that when he went to the LSC to lodge a complaint to the MCM, the older fishers told him he had to pay 5 ZAR per complaint to the MCM. This diver is also renowned among other divers as a leader in the diving fraternity. He explains that none of the divers have since approached the LSC or the MCM[64]. There is

[63] Interview with Spargs, fisherman and owner of Spargs Backpackers, a community owned backpackers created with the help of Mdumbi Backpackers and Transcape, 18 January, 2011.
[64] Interview with Vuyisele, diver and fisherman, 21 October 2010, Tshani Mankozi.

clearly a trust issue debilitating the strength of the bridging social capital between community organisations. Furthermore this issue affects the very much needed linking social capital with vertical associations like the MCM or government.

There is thus very little linking and bridging social capital between the MCM and token co-management institutions like the LSCs. The relationship and distrust between divers and the MCM affects the social capital and tends to impact on the fisher behaviour, where divers simply state that they will "wait and see"[65], allowing for very little civic participation or collective action. It is these crucial relations in the co-management structure that needs the most attention if there are to be successful co-management arrangements and processes that ensure the sustainable natural resource management of lobster resources along the Wild Coast.

9.2. Traditional authority and local municipality

The 'wait and see' attitude described above stems from the historical effects of Bantustan governance and dependence. This therefore creates what Brazilian philosopher and educationist Paulo Freire (1996) termed a "culture of silence" (Roodt, 2011: 8). In places like the Transkei where formalised traditional authorities were subject to the elitism and corruption of Bantustan governance as well as a lack of local municipal interaction, people tend to become fatalistic. The Indian anthropologist Arjun Appaduria (2004) characterises the powerlessness experienced by the poor as that of living with "negative terms of recognition". He developed this term during his work with informal settlements in India, where he found that marginalised groups are largely ignored or treated with contempt by government officials, employers and their fellow citizens, placing great difficulties in their way as they attempt to improve their living conditions (Roodt, 2011: 9). The traditional rural communities in the former Transkei have been subjected to traditional hierarchical and authoritarian systems, as well as the top-down management systems stemming from colonial to present day in aspects like fisheries management.

[65] Focus group with 13 divers, 1 June 2010, Tshani Mankozi.

The co-management governance arrangement prescribes the presence of local governance and traditional authority as a must in natural resource management. Co-management is the sharing of power and responsibility between the state and resource-user groups in the management of natural resources (Pinkerton 1989a). It is therefore a necessity to create an arrangement in which all governmental, non-governmental, market and community actors can negotiate a co-management solution to natural resource governance. The government and traditional authority in the Transkei should have an interest in the high-value lobster commodity as it can provide economic returns and alleviate poverty in some coastal areas. When the fisheries department was still under DEAT, the department called for a co-management approach to fisheries management in the Transkei, by creating the LSCs and providing institutional support:

> "These committees will comprise of all relevant stakeholders in an area. (e.g. Department officials, fishers, conservation agencies, local authorities, etc). The established LCCs will undergo training in order to ensure effective and efficient functioning of the committees" (Government Gazette No 29391, November 2006:12)"

As noted above the concept of LSCs has largely been abandoned or ignored in communities such as Tshani Mankozi. In these kinds of areas the presence of the local municipality is historically low. "A group of fishers who have never had relations with government agencies, except as suspects of rule-breaking, will require some years of capacity building before they can settle into the new role as co-managers of a resource whose opinions are heard and respected" (Berkes et al., 2001: 35).

This problem is in fact recognized in a position paper on marine resources commissioned by the O. R. Tambo District Council (Undated: 6)

> "Another weakness in the current policy and legislative framework is the complete exclusion of the role of the Provincial and Local Government in the management of the process designed to manage and allocate fishing rights even within their areas of their jurisdiction (sic)".

The O. R. Tambo District Council is included in this definition of local government. However, in spite of commissioning consultants to draw up this position paper, no one interviewed in Tshani-Mankozi has ever heard of it or knows of any involvement by the district council in the setting up of the LSC. In fact when discussing the concept with the headman, elder fishers, and LSC members, they were not even aware that the local municipality was a possible contact in the case of fisheries management[66]. Furthermore there has never seemed to be any contact from local government with regards to fisheries management in the area.

While the tribal authorities were used initially to call meetings in coastal villages in the setting up for the LSCs, they have since played a very little part in the management and governance of fisheries in these villages. In Tshani Mankozi, interviews and focus groups with divers revealed that the headman has nothing to do with lobster and any fish resources in the area. One diver sharply stated that "those guys (headman) don't know anything about us[67]"! One of the older fishers explained that traditionally the headman has never been involved in the harvesting of resources as it had always been done in a free and open-access system. There is a general feeling that the headman only deals with matters in land and that the tidal zone is the prerogative of nature conservation and the MCM[68].

When we interviewed the headman and his officials they confirmed that traditionally the tribal authority has little to do with marine harvesting. They also however expressed that when there are regulations and formal fisheries management procedures they would like to be part of the process. The headman explained how "the Trust, the MCM Committee (LSC), the Fisherman's Co-operative, don't come here. When the Headman writes a letter to them, they do not come[69]". The headman and his council went further to state that the MCM, DEAT and commercial buyers bypass his authority in any meeting, project or plan that they have in the community. A member of the Headman's Council said that "the municipality is full of empty promises, we are a forgotten nation here"[70]. The headman thus feels that his

[66] Interview with Gideon Sigcau, Headman, and Moyasile Simayile, Headman's Administrator, Khonjwayo Tribal Authority, 3 June 2010, Tshani-Mankozi.
[67] Interview with Bonginkosi, diver, fisherman, and lifeguard, 17 September 2010, Tshani Mankozi.
[68] Interview with Jackson, prawn fisher, 21 October, Tshani Mankozi.
[69] Interview with Gideon Sigcau, Headman, and Moyasile Simayile, Headman's Administrator, Khonjwayo Tribal Authority, 3 June 2010, Tshani Mankozi.
[70] Ibid.

authority has been challenged or simply ignored. The lack of consulting with the headman further fuels the general perception that the headman does not need to be included in the fisheries management process.

Not only does this phenomenon of bypassing the traditional authority have obvious implications for co-management of fisheries resources but it deeply affects the social capital and social fabric of the community. The traditional bridging social capital with the tribal authority and the fishing populace of the community is barely in existence. Furthermore the linking social capital with government bodies like ward councilors and the local municipality is also weak. This failure to include local municipalities and the tribal authority creates among younger divers a stronger exclusionary bonding social capital. While the tribal authority may feel like they have not been consulted, their failure to consult with fishers also creates this notion of being left-out, thus forcing divers to take matters into their own hands. In this regard and as mentioned above, the current co-management arrangements is slowly creating a perverse bonding social capital among divers that allow them to practice fishing in an open, unregulated and often an illegal way.

The absence of linking social capital and the sour bridging social capital between the tribal authority and the fishing community makes any type of empowerment or capacity building strategies impossible until this connection is strengthened as the tribal authority will always be at odds with community projects if they are not included in the process. What is important is to establish these bridging and linking social capital links so that proper governance arrangements and co-management structures can be put in place. It is thus essential to view the social capital in these communities as they reveal the group dynamics and perceptions of fisher groups, as well as the relationship these groups have with government, tribal, and fisheries authorities. By focusing and investing time and money into social capital, one can create a social and institutional network, as well as the general governance environment that is favorable for social capital.

9.3. Non-government organisation and tourists

The NGO Transcape, located on the Mdumbi estuary in Tshani Mankozi grew out of the popular Mdumbi Backpackers establishment, as earlier mentioned. The NGO has in recent years been a major driving force of socio-economic and sustainable development in the community. The NGO has successfully implemented a number of projects ranging from education and schools; healthcare services and medical emergency transports; environmental education and sustainable living; healthy drinking water and many more. The NGO, which has come out of the community, has provided important empowerment and capacity building opportunities for community members. The NGO has further provided basic skills and business training; provided micro-loans for community-owned tourism projects; established media links and some telecommunications; raising awareness for HIV/Aids and many more projects. It also serves as an important link to government agencies by providing support in drafting applications and letters to government for basic needs and services as well as to establish links with public officials in different departments. The community thus have drafted letters to DAFF and municipal councillors in order to establish a linking social capital with vertical associations.

The NGO has thus become an important entry point into the community for many development agencies and research institutions. The Mdumbi Backpackers served as an important research base for the Raemaekers (2009) study as well as for other research projects. With the help of the backpackers and the NGO important statistical data was gathered at the Mdumbi buying station. Before the re-establishment of the Tshani Mankozi Aquaculture Project the Mdumbi backpackers was a central hub for tourist and community interactions. The backpackers is still a central area where divers and other marine harvesters sell their marine commodities to tourists. With the help of the NGO, the tourist establishment helps to spread an awareness of marine sustainability by discouraging and even reporting the purchase of undersize lobster. On the weekends when the aquaculture project is closed, the backpackers provide one of the few selling destinations for lobster divers. Even though this is illegal, the MCM have failed to provide any alternatives for divers

who harvest on weekends. The presence of the backpackers and the concurrent NGO firmly provides the needs and capacity building that government agencies fail to initiate.

The backpackers and the Transcape NGO have an extremely good rapport with the community and the headman. The NGO therefore provides the community with a crucial bridging social capital in the community. This bridging social capital is extremely vibrant as it is based on a reciprocal relationship and high levels of trust. The tourists at the backpackers experience almost no crime and the community benefit hugely from tourism income like the selling of fish and other local goods. The NGO is a vital institution located in the heart of the community and it creates the institutional and formal presence needed in a collective action situation (Ostrom, 1990). The NGO has also tried to establish an institutional network between the municipality, headman and the local community Trust.

During the first phase of our research we witnessed the collapse of the local community Trust, as the chairman, who had ignored the constitution of the trust seemed to leave the community taking with him a fair amount of community money. We heard many stories from the headman and his council as well as from community members about his lavish lifestyle [71]. The failure and corruption in community Trusts again only reinforces the fatalism and distrust in communities, thereby increasing the bonding social capital amongst community members as they feel that they are looking after themselves whilst jeopardising any future development and the establishment of new Trusts and committees. In other words people become so accustomed to the failure of governance that they are used to relying on each other and therefore are reluctant in extending partnerships and/or creating governance structures.

With the capacity building and institutional support of the NGO the village created a new trust called the Mankozi Community Association. Although the new chairman, who also works at the backpackers, explained that it is difficult to gain the trust of the community after years of failed governance: “The community just talk and talk, don’t always trust the association”[72]. The association has received support from the NGO in constitution building,

[71] Interview with Gideon Sigcau, Headman, and Moyasile Simayile, Headman’s Administrator, Khonjwayo Tribal Authority, 3 June 2010, Tshani Mankozi.
[72] Interview with Sibongile Maziso, chairman of the Mankozi Community Association and manager of Mdumbi Backpackers, 17 September 2010, Tshani Mankozi.

arranging governance structures, applying for bank accounts so that money isn't embezzled. While the association is still new it has made fantastic headway together with the NGO in establishing relationships with the headman, local municipalities and government departments such as DAFF. The NGO thus provides a pivotal role in social capital investment by building a new "radius of trust" (Fukyama, 1995) which has both social and institutional networks that are starting to reciprocate more.

While it is still too early to firmly assess whether the new arrangements are working, the presence of the NGO has created the beginnings of what could possibly be a lucrative institutional network. The bridging social capital that the NGO has established with the community through its many projects has created new mechanisms of collective action whereby the community is mobilising to build a productive amount of linking social capital with vertical associations.

In terms of fisheries Berkes et al. (2001) notes that NGOs play a vital role play in fisheries management. It is important for fishery administrators to develop "partnerships with a range of organizations to improve management. These include a host of non-governmental organizations with an interest in fisheries or those groups whose activities impinge on fisheries" (Berkes et al., 2001: 37). In terms of social capital, NGOs also play a vital role as the institutional mechanism required for collective action. NGOs can facilitate the acquisition and safeguarding of community social capital stocks whilst also providing the channels necessary for the spending of the social capital with various institutions involved with the resources and fishers; namely buyers and nature departments.

In Tshani Mankozi, Transcape has been successful in many regards by slowly providing the organisational platforms and the administrative skills to implement a shared responsibility of the marine resources. While all the connections have not been established and there are certainly many areas that require attention, the institutional network and linking social capital is certainly growing. While there are some partnerships and relations being created with institutions and community organisations, perhaps one of the most important aspects is also the maintaining of the links the community has with tourists, i.e. the traditional market described earlier. This link is also facilitated through the local backpackers as it

finances a number of community-owned tourism ventures like hiking, horse riding and canoeing, thus ultimately driving the tourism sector in the area.

Transcape is a main proponent of keeping the value of the lobster in the community as much as possible, and not only directly exporting the commodity overseas. This is a point supported by Raemaekers (2009) and Roodt (2011) in their studies of Tshani Mankozi and the lobster fishery. While it does not totally disregard the benefit of commercial selling for export, the goal of the NGO is to create processing factories on site at the Mdumbi River whereby lobster can be sold to local tourists through a process of local beneficiation. The argument is that if facilitated with awareness campaigns and education, people will purchase lobster from locally owned restaurants and buying stations, thereby keeping the value of the lobster in the community. The NGO is already in the process of applying for permission from DAFF as it would require lifting the ban of selling to tourists.

This research has discussed the often overlooked social relations and interactions that the community have with tourists and local cottage owners. In order to establish this link in a sustainable way there would have to be more effort, enforcement, and capacity building on the part of government to regulate this relationship. This strategy would incorporate an increase of community participation, and a negotiation process with various stakeholders to formalise the tourist market along clear lines.

9.4. Commercial buyer and fishing co-operative

The fishing cooperative and commercial buyers are of course different stakeholders with different agendas and interests. In Tshani community however it is pertinent to point out the role of the co-op and the buyer as well as the relationship between them as both these stakeholders are involved in the commercial transaction of lobster as opposed to the regulation of the resource like the MCM. As noted previously only government approved buyers can legally buy lobster, and there has thus been a huge commercial interest in the lobster market along the coastline (Raemaekers, 2009). Different buyers will bid for the TURFs in the beginning of every season by presenting their offers and prices to the

community and fishers. Usually at these meetings the MCM, co-op and even representatives of the headman's council are present. It is probably the only time that almost all the stakeholders involved in the ECRL are together in one place. It is basically a "one permit, one vote"[73] system where the fishers decide on the buyer.

One of the buyers expressed the idea that there are certain social issues in many communities along the Wild Coast. Whilst the decision-making power should mostly lie with the young divers and fishers, there are many communities were the "power lies with the drunken old fishermen"[74]. Many divers are not even present at meetings. There are some allegations that older fishers (many of whom don't even harvest lobster) decide on lobster buyers, and according to one commercial buyer some fishers are easily bribed with alcohol by some buyers. While the same buyer states that this is not the case in Tshani Mankozi, his allegations have serious implications for the MCM. The same buyer stated that there are many corrupt structures along the Wild Coast and he simply cannot compete with larger international companies. He goes further to say that many divers are sick with HIV/Aids, many have alcohol problems, and almost all are tired of corruption[75]. For this reason divers do not want governance structures, they are simply content with working directly with the buyer and making their own decisions and regulations[76]. The findings from this research however reveal that divers and fishers do want more formal structures and to be more included in the process. The regulations and commercial exchanges were forced on fishers and harvesters in a top-down manner leaving them with little choice. While there certainly may be cases where some older fisherman are in charge of making harvesting decisions in the community or where divers are happy with the current system this is also because no proper co-management solutions have been explored.

The introduction of commercial commodities for export has dramatically changed the social and institutional networks in the community. The new market has also affected the social capital of the community by providing some very powerful linking social capital with external foreign markets. At the same time it has debilitated important governance and

[73] Interview with Shaun Raleigh from Pumlali Seafood, commercial buyer, 23 October 2010, Matakatye, near Presley Bay, Transkei
[74] Interview with Shaun Raleigh from Pumlali Seafood, commercial buyer, 23 October 2010, Matakatye, near Presley Bay, Transkei.
[75] Ibid
[76] Ibid

community social capital with the tribal authority and other community institutions. As noted above the cash economy has also had particular effects on the divers and community bonding social capital.

The fishing co-op was created from the community in a similar vein as the LSC, except that it was created by the community. During the beginning of this research in Tshani Mankozi, the fishing co-op was difficult to locate and it seemed that its existence was as questionable as the local LSC. The co-op was viewed in a rather negative light by some divers and many divers that were interviewed stated that the co-op "does nothing for us, we are alone"[77].

The aquaculture holding facility on the banks of the Mdumbi River was started some years ago as a holding facility for oyster. The project had largely been deemed as a failure from the start because of water filtration issues and the availability of electricity and tarred roads. The area requires a 4x4 vehicle and many commercial buyers were not interested. Before the revitalisation of the Tshani Mankozi Aquaculture project in late 2010 by DEAT, which later fell under DAFF, the divers would phone the appointed buyer for the TURF who would buy lobster on an ad-hoc basis. This of course was hugely erratic given the time, distances and geographical obstacles, and so lobster divers sold their catch mainly to the Mdumbi buying station, a major source of data for the Raemaekers (2009) study. Since the latter half of 2010, the project has been restored as a lobster holding facility where divers can drop off their lobster and keep the lobster alive, whilst also getting paid a set price per kilogram rather than having to barter with tourists.

At present, as part of a larger job creation program, the project is being revamped under the auspices of external consultants, the fishing co-operative and the commercial buyer, all of whom make up the Steering Committee. The project has largely been outsourced to JayMat, an environmental consultancy that aims at providing the Environmental Impact Assessments (EIA) and jobs for the community. This process of appointing a new buyer, which had taken more than six months after the previous buyer's contract expired at the end of the season, meant that the divers had been unable to sell the lobster they dive for legally, thus effectively forcing them to sell their catch illegally to cottage owners and tourists at the Mdumbi Backpackers in order to make money. At the time of writing, "Live

[77] Focus group with 13 divers, 1 June 2010, Tshani Mankozi.

Fish Tanks", a subsidiary of Lusitania a large commercial enterprise based in Cape Town, has been awarded the contract. The facility is to be managed under a joined partnership between the relevant stakeholders like MCM, environmental consultancy, DEAT and the commercial buyer whilst training members of the co-operative to take over the project as a community owned facility after two years.

Many divers and community members have shown an increased interest and optimism for the project as it promises to bring substantial benefits for the community. However, indications are that a few months after the appointment of Lusitania, some divers are already dissatisfied with the lack of delivery of promises made and with the manner in which their catch is handled by the onsite buyer[78].

The onsite buyer is not from the community and the divers often complain that he is not always present. Since the divers are not trained to operate the lobster facility their catch often sits in the sun and rots. Not only do they get less money for a dead lobster but a rotten one is useless to them. Many divers have demanded that they are included more in the running and maintaining of the project[79]. Furthermore other community institutions like the Mankozi Community Association and the tribal authority are not involved in the process[80]. Without the support and input of these two institutions it seems hard to imagine how the project will be handed over to the community in 2012. There is already some suspicion from community members about the role of the co-op in the process as there is a fear that the community project may fall into the hands of elites, namely the few people from the co-op that are being trained to manage the project in 2012[81].

The co-management arrangement requires the input and participation of all relevant stakeholders including government, communities and markets (Berkes et al., 2001). The situation at the Mdumbi project is that there is an attempt from government and market players like commercial buyers to provide the community with the necessary training and

[78] Interview with Tshani Mankozi divers, who claim that the company has not delivered wetsuits and diving equipment as they originally promised, and that their local representative has caused some of their lobster to rot while he is absent from his post, 17 October 2010, Tshani Mankozi.
[79] Focus group with 13 divers, 1 June, Tshani Mankozi.
[80] Interview with Gideon Sigcau, Headman, and Moyasile Simayile, Headman's Administrator, Khonjwayo Tribal Authority, 3 June 2010, Tshani Mankozi.
[81] Interview with Sibongile Maziso, chairman of the Mankozi Community Association and manager of Mdumbi Backpackers, 17 September 2010, Tshani Mankozi

skills to operate their own community owned aquaculture project. Without however analyzing the social relations and power structures in the community, there is a general feeling that many community members and institutions are excluded from the process. The Mankozi Community Association and the tribal authority are important civil society institutions in the community, and are therefore critical to the success of the project once it is handed to the community. The co-management potential is massive; it is unfortunately not being executed in a participatory manner as MCM have not identified the social networks in the community as well as measure the strength of social capital i.e. relationships between the different actors, institutions and stakeholders. Thus participation for some community members comes at an exclusionary cost to others.

The introduction of the market has seemed to disrupt the social fabric in the Tshani Mankozi community. Apart from a few jobs that were created in building and maintaining the project, the divers are the sole community beneficiaries of the project. The absence of participation from relevant community associations and structures has shifted the balance of economic power to the younger mostly male divers. Whilst it is still too early to tell whether this has had a serious affect in the community it is already noticeable that some family structures have had changes and that the divers are moving into the small-scale sector as labourers rather than entrepreneurs. In other words the divers are simply harvesting the lobster resource for immediate export as contract employees without being given the opportunity to develop the new small-scale industry on their own terms.

Mathews et al. observed that marine resource management "is being undermined by factors such as the emphasis on production, participation in the modern economy, and increased capacity for resource exploitation, a lack of information on which to base management and the destabilising effect of the cash economy" (1998: 221). The introduction of cash economies and its effects on social relations is not a new concept, as the sociologist Simmel argued (1978) "money tends to depersonalise relationships between social actors and make people start to regard each other as objects for rational calculation and utility" (Jentoft, 2004: 100).

This is not a new trend in fisheries management either as for instance Nietschmann (1973) documents the tragedy of the commons as soon as a new market for turtle fishing was

opened on the Miskito coast of Caribbean Nicaragua. If damaged, the social fabric of communities cannot be easily repaired; and “it is difficult to tighten the bonds that have been torn apart” (Bauman, 2001: 15). The community thus inevitably fails in conserving its resource base. This is usually the case where new markets are introduced to previously subsistence-based resource harvesting practices (Jentoft, 2004: 100).

The current implementation of the small-scale fishing policy for rock lobster reveals signs of both co-management attempts and top-down implementation. Whilst some community organisations and members like the co-op and lobster divers are a part of the process, albeit not always on their own terms, the rest of the community may feel left out, which has serious implications for social capital as a whole (binding, bridging and linking). It is thus imperative to document and research the current social fabric of a community by using a social capital and social networks methodology in order to understand the social structures, relations and interactions in a community. Without this sociological understanding a project or programme can create perverse social repercussions that can heighten conflicts, create a production-orientated harvesting system that threatens the capacity of the coastal ecosystem; as well as create a platform for commercial exploitation.

The Tshani Mankozi Aquaculture Project holding facility located on the banks of the Mdumbi River (Photo by M. Roodt).

9.5. Social networks analysis

After having described each stakeholder in the management of the ECRL in Tshani Mankozi and the social capital between stakeholders, it is necessary to map these relations into a social network map. After every constituent of the network has been described we can create a sociogram that will reveal where there are strong partnerships and connections compared to weaker ones. Social networks are related to the adaptive management and co-management concepts discussed throughout this research. “The idea is that, in order to cope with the complexity of natural resource systems, institutional arrangements and related management systems should incorporate different actors from different areas of society” (Carlsson & Sandström, 2008: 34). The co-management arrangement between different stakeholders is a social network incorporating institutions and social actors. Co-management therefore is a form of network governance as it relies on the relations, norms, rules and conditions that are exchanged between different actors under different institutional arrangements (Carlsson & Berkes, 2005). The social network is therefore a web of resource dependencies that span across actors, organisations and hierarchal levels calling for “cross-scale linkages” (Berkes, 2002).

The social network depicted in Figure 9.2 is the network structure of social capital in the community. This structure consists of the governmental and non-governmental institutions as well as the internal and external actors. These actors also mainly represent larger meso-structures like the markets, public administration and civil society as depicted in Figure 7.1. The social capital that is mapped in this network represents the perceptions of the harvesters and divers. It is important therefore to note that the sample used in this method is exclusively for divers and fishers and therefore this is the perception of the governance network that they have provided. Through participant observation and spending many months in the village this research confirms the network structure as depicted above.

It is important to note that there was no formal measure of centrality or density. The analysis is based on binary data that indicated with whom the divers were in contact and what kind of relationship they have with these actors, as well as how they perceive other actors to be connected. Interestingly there seem to be two network constellations within

the entire network. There is thus a clique between the buyer, MCM and divers on the right; and the Headman, Mankozi Association and municipality, on the left of the sociogram.

The network is therefore heterogeneous with two areas that are uncooperative, thus revealing structural holes that need to be connected. Whilst there may be strong forms of bonding social capital within for instance the group of divers, it is Granovetter's (1973) concept of the strength in weak ties, i.e. in the bridging and linking bonds outside of the community and kinship that are the most necessary in gaining strategic advantages. The two network constellations are thus in dire need of a connection. As Figure 9.2 indicates, there is a strong relationship around the tourists that are both well linked with divers and with the local NGO. The tourists and cottage owners have a good connection with the divers as well as with the local backpackers. Perhaps this could be the best place to start creating a policy as it would maintain traditional markets, as well as to complement the tourism development (SDI – spatial development initiative) focus along the Wild Coast. By bringing back tourists and cottage owners into the purchase of lobster albeit in a more regulated and enforced manner, the divers will not only be contract employees with the commercial buyer but they can also become entrepreneurs and create a local market.

Another important aspect in strengthening the network is getting government institutions like the municipality more involved in the process so that they can provide sufficient support in the hugely understaffed and incapable MCM office on the East Coast. The municipality could extend some of its duties with regards to fisheries and bear some of MCMs administrative costs whilst also providing institutional capacity support for the governance of the lobster fishery. These two constellations therefore require higher levels of density and centrality such that it enhances the resilience and adaptive capacity of the system into a more cooperative governance structure.

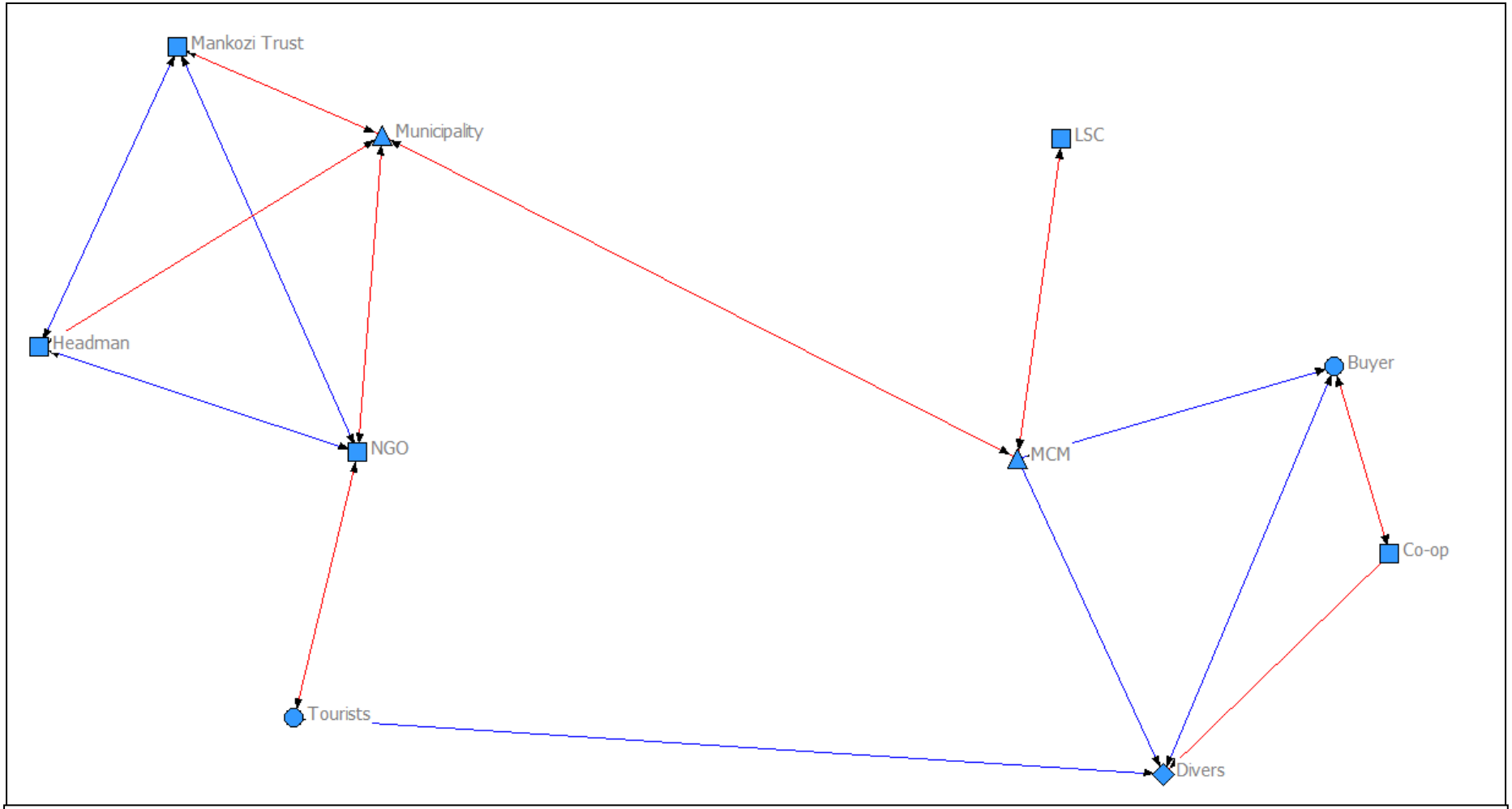


Figure 9.2. The social network map creates two distinct areas of centrality. The blue squares represent social actors and non-governmental structures. The blue triangles represent governmental institutions. The red lines represent weak ties whilst the blue ties represent stronger relations. These relationships are based on co-operation and/or based on a more tangible network like money and gear. The arrows on the ends of each line represent the nature of reciprocity between the two actors. For instance the MCM have a relationship with the divers based on legislation and administration but the divers rarely use the MCM in for instance conflict resolution or collective action.

Co-management is a network structure that requires different forms of social capital in order for it to maintain its goals of participation, regulation and sustainability. While there are many forms of capital that are used in creating a co-management policy, social capital is needed to integrate different actors from different sectors and different levels of society. The social capital between stakeholders creates cross-scale linkages that set the platform for cooperation. It is thus imperative that the social capital, relations, interactions, and exchanges between different stakeholders is accurately measured and researched in order to establish a co-management structure.

9.6. Co-management opportunity

There is huge potential for a co-management programme that could regulate the ECRL fishery along the Wild Coast. The communities and rock lobster fishers have high amounts of bonding social capital that reflect high levels of mutual dependency, reciprocity, trust, cooperation and kinship. These types of bonds are extremely important to identify in order to recognise the collective governance potential of a community. Through proper training, capacity building, and education, key members of the community and the general fishing populace can become part of a dynamic participatory process that allows these actors to influence the governance of their resources through negotiated processes with different governmental and non-governmental organisations. Another important issue would be to invest in the MCM which is understaffed, under-funded and currently under-capacitated and overburdened with regulating the entire Eastern Cape coastline.

It would also be important to strengthen the bridging and bonding social capital and social networks within the community and external organisations such that the community itself is not divided with different governance structures that are at ends with each other; and such that external entities can play a key support and governance role on the management of lobster and fisheries in the area. In the case of Tshani Mankozi this could be done by focusing on including tourism into the small-scale fishery, or otherwise regulating the diver-buyer relationship in such a way that the greater community is involved as well.

The LSCs should either be invested in to strengthen the skills, knowledge and administrative capacities of its members or they should be disbanded and replaced by organisations that are created by the community under the guidance of various institutions like the NGO, MCM and different research institutions.

In order to strengthen the social networks in Tshani Mankozi specifically and create a more homogeneous network the best solution would be to use the high levels of social capital created by the NGO and make further investments into their capacity building and empowerment projects. These projects not only create important linkages with government agencies but it also mobilises the community into collective action. The NGO could be a central node in the network map that would build the levels of bonding and bridging social capital within the community as well as linking social capital with external actors. This form of cooperation and collective action is very much needed along the Wild Coast where there is a culture of fatalism, a history of lawlessness, and little civic participation or government interaction. The social capital in the area is in dire need of investment if it is to sustain the marine ecology and natural resources; alleviate poverty and secure sustainable livelihoods; and progress in its socio-economic development.

Focus group with lobster divers wearing rash vests sponsored by the Rhodes University Underwater Club, 1 June 2010 (Photo by M. Roodt).

Chapter 10

Conclusion

It is clear from the case study that fisheries management of the subsistence and small-scale sector (of which there is little difference) in South Africa has followed the typical top-down management style of the modernisation paradigm (see Chapter 1). Whilst the MLRA has proved to be a positive step forward in acknowledging subsistence fishers along the coastline it does not provide the necessary legislative framework for implementation. With an ambiguous fishing legislation the institutional framework of South African fisheries has been something of a tangled fishing line with different departments, agendas and processes being mixed and tightened into a knot. The fisheries department has been moved out of Environmental Affairs into Agriculture, Forestry and Fishing. The fisheries department therefore is changing into a socio-economic paradigm whilst the enforcement agency, MCM, is stuck in a resource-orientated management strategy with an understaffed and inefficient administration to follow the move into a livelihoods approach.

It is important to follow the global trend of viewing fisheries as systems and entire ecosystems rather than as single stock assessments or modelling. The management of these systems is increasingly noted to be more successful under more adaptive management systems in a community-based approach to fisheries management, conservation and governance (McConney & Charles, 2008). The approach being advocated throughout this study has been that of co-management, a holistic governance partnership between communities, governments and markets at preserving resources and sustaining livelihoods. There cannot be a sole focus around resources, control and stability but in fact there is a need for a more dynamic view of human subsystems within fisheries that focuses on institutions, civic participation and policy. At the basic level and following the grassroots and bottom-up trends in development theory, the community needs to be reaffirmed in the picture as a unit of analysis and as an important variable in fisheries management.

The capacity of communities to self-regulate and to manage natural resources, including fisheries, was and still is demonstrated in a large number of cases (Agrawal, 2001; Lobe &

Berkes, 2004; Hara, 2003; McCay, 1995). There are certainly many issues like access to resources, information, and expertise etc, which may hinder a community's ability to manage their resources. There is a wide array of literature pointing to government and market partnerships that allow for the capacity building and empowerment needed for a community to become an effective stakeholder in natural resource management. This holds particularly true in poor areas that rely on marine resources for a livelihood and basic income. More participatory methods to fisheries management is therefore encouraged by many experts in South Africa and thus co-management is advocated as the main driver of managing fishers and their resources (Hauck & Sowman, 2003, Branch et al., 2002a, Clark et al., 2002, Cockroft et al., 2002, Harris, et al., 2002a, Hauck et al., 2002).

South Africa's geopolitical coastline has created many areas, particularly in the former homelands, that are rife with poverty and underdevelopment, many of which solely rely on state grants and marine harvesting. Whilst South Africa has made a landmark acknowledgement of subsistence, commercial and recreational fishers with the promulgation of the Marine Living Resources Act '98 (MLRA), the *de facto* situation is far from the reality postulated by government. Mostly there is little acknowledgement of small-scale fisheries. This research has revealed the large literature surrounding the MLRA and its effects on subsistence and small-scale industries and markets. The research has further shown by example of the East Coast Rock Lobster fishery along the Wild Coast, that the MCM, government departments, and the MLRA are largely ineffectual in alleviating poverty and securing sustainable marine resources. In fact the management of the area has had some profound socio-economic effects as discussed in the data analysis of the case study. Namely, the introduction of a high value commodity market and the abolishment of the traditional local market has created a group of mostly young male divers that have a lot of power in the community. In this regard only a few people benefit from the resource while many community members and structures are bypassed and ignored. The fishery and the concurrent legislation and regulation framework does not take into consideration the community as a whole thus failing to provide the stewardship component that is central to co-management theory.

This research has further argued that the co-management strategies of the fisheries authorities have been nothing more than token implementation with little tangible results.

The only small-scale and subsistence fisheries that have been relatively successful are those that have the backing of NGOs or efficient provincial bodies, of which there are few in South Africa. The problem of fisher identification and access rights has tested the MCM beyond their ability, leaving an interim sector coastline somewhere between commercial use and subsistence. Single species controls and other top-down strategies like ITQs have resulted in a largely non-compliant coastline, particularly in the former borders of the Transkei and Ciskei. On the other hand common property methods like TURFs have also created socio-economic problems due to the tardiness in TURF delineation.

The research has thus called for a reintroduction of co-management strategies into small-scale fishing policies which incorporates local participation, capacity building, and free-flowing networks of institutions, working together in the management of marine resources. The co-management agenda of the MCM and the current draft of the small-scale fishing policy is filled with participatory rhetoric, with few practical examples. Co-management cannot be implemented in a top-down fashion. Indeed as the name suggests, co-management is impossible to achieve without a bottom-up strategy.

The research angle therefore needs to be drawn from a community and social perspective. This research has thus called for the acknowledgement of the network structure of co-management and fisheries governance (Carlsson and Berkes 2005). The co-management partnership between government and non-government actors is based on intricate webs of social relations and institutional arrangements. The focus of this research has been to research these webs of social relations within communities and between different stakeholders in the ECRL fishery in Tshani Mankozi, Wild Coast.

The research has thus found that the social capital framework of social relations and power structures, based on aspects like reciprocity, trust, communication channels etc, is a key capital investment opportunity that is critical to fisheries management. By its very nature social capital is a qualitative concept as it relies on complex social relations, perceptions, networks, attitudes, hierarchies, power relations, cultures, histories etc. The social capital within Tshani Mankozi was thus researched under a qualitative methodology that required intense participant observation based on a lengthy time in the field. The social capital was

further studied through focus groups, informal interviews and daily conversation with fishers, buyers, and government officials.

The overall social capital within the community was found to be relatively strong with high levels of kinship rules and norms between fishers and other community members as well. The linking social capital and relational ties with external institutions was however found to be very weak, so much so that without studying the intricate and complex web of social networks within the community, a co-management solution would be impossible, and is currently proving to be ineffective in Tshani Mankozi.

The network structure of co-management calls for a social capital and network analysis of the community and between stakeholders before a co-management solution can be implemented. In order to strengthen a community's social capital there need to be financial capital investments in building the social structures, trust and empowerment for a community to take charge of its resources. At the heart of the problem therefore is capacity-building and awareness. The introduction of commercial markets and belated fisheries regulations has undermined the community's ability to govern its own resources. There is a basic sense of confusion and frustration with government administration, fisheries regulation and commercialisation of the lobster resource. This stems from a vague national legislative framework; an understaffed, inexperienced and under-budgeted fisheries authority; and a lack of sociological consideration in research an implementation strategy. One can only hope that the new small-scale fishing policy currently being drafted will answer some of these questions, as fishers hope that another decade and a half of interim measures and top-down regulations will not follow course.

A question of governance and social capital

By the late 1990s, principles of 'participatory democracy', and international trends following the bottom-up management of marine resources (e.g. Berkes et al., 2001; Jentoft, 1989) had begun to influence the South African fisheries management paradigm. In order to capture the image of a fishery as a system it is important to have a holistic view of the social and

ecological components that make up the system. This is important for both biological and social scientists. However, in order to implement effective controls that involve a participatory agenda, there needs to be an adequate legislative framework and an effective fisheries authority.

Fisheries governance of the thousands of small-scale and subsistence fishers along the coastline has been a failure for many reasons, most of which were discussed in Chapter 2. The Eastern Cape however proves to be a case in point where there is a general lack of presence from MCM except during permit allocation periods, which in any case prove problematic. The resource orientated implementation of allocation rights is driven mostly by single stock assessments and economic efficiency. Non-compliance is addressed by top-down law enforcement rather than community participation. Communities are not part of the governance arrangements in terms of setting policy, creating agendas, making decisions and enforcing regulations. The biological sustainable and socially equitable goals of the MLRA are not met. For the most part it is because there is a failure to include the social capital of communities and institutional networks in the analysis. The most important issues addressed in the research are as follows:

i) The MCM allocation of individual permits to harvest single species resources fails to consider the traditional and behavioural aspects of Wild Coast fisheries. Furthermore the high-value ban and the introduction of commercial markets for resources like lobster have challenged traditional livelihoods, and without proper community participation and effective monitoring and regulation, the strategy has had certain perverse social impacts in fishing communities. The traditional open-access system and free markets to tourists, as well as the basket of resources that are traditionally harvested in the former Transkei are characteristics that clash directly with the conventional controls that were introduced by MCM. There was and still is little consultation in the transition into small-scale fisheries, leading to exclusion, confusion and mostly non-compliance.

ii) The MCMs allocation of commercial buyers and medium term access rights were implemented with no education, skills, and capacity building to complement the

strategy and develop the small-scale sector. In this regard the small-scale sector competes with and often overlaps with recreational fishers, subsistence and poachers. Small-scale fishers were given little capacity to market their resources or indeed to become part of the decision-making process. Rather than becoming equal stakeholders, the lobster fishers deal with buyers on a one-on-one basis, exchanging lobster for cash money. Even with the millions spent on the Lobster Aquaculture project in Tshani Mankozi, there seems to be little consultation with all the effective governance structures and actors in the community leading to an air of discomfort and suspicion. The trickle-down effect is difficult to locate when there are a multitude of actors like the local authority and community Trust that have not been included in the process.

iii) There is a complete lack of co-management in the area as the Local Subsistence Committee is largely non-existent and the tribal authorities are mostly bypassed or simply not involved in any marine activity. While NGOs can prove to be a saving grace in communities by providing the capacity building, education, empowerment and most importantly social capital links with government authorities, there are few active NGOs along the coastline. While Transcape in Tshani Mankozi is an exception to the rule most of the community development projects along the coastline stem from local backpackers. They are therefore mostly self-funded and lack expertise and experience. The research has thus shown the importance of linking and bridging social capital within communities and with government actors such as MCM, local municipalities and tribal authorities.

iv) In order to fulfil a community's social needs it is important for the community to rely on their own social capital built by their relations and interaction with each other. Social capital is the driving force of collective action and indeed this bonding type of social capital is abundant in traditional areas that are impoverished and have little contact with government. Most importantly however is the need to establish bridging/linking social capital with institutions and government authorities in order to progress to socio-economic development. These links are also extremely important for a community to become an active stakeholder in the co-management process, in order to

manage and govern their resource in a partnership with government and market actors. Social capital encourages mutual exchange, reciprocity and trust, all of which are fundamental aspects of co-management governance. Again, NGOs can provide a crucial role of linking communities with government departments.

v) Social capital would not exist without the presence of networks and institutions. The networks between social actors in the community as well as the institutional networks between stakeholders in the fishery need to be researched to reveal the nature and currency of social capital within a community. Indeed it is within these networks that a co-management arrangement is created. Investment into bonding social capital as well as bridging social capital within a community will strengthen a community's adaptive responses and bargaining power. This can lower management costs of government authorities as communities are more empowered and capable of governing their own resources with government authorities merely playing an administrative and legislative role. In the case study however, the lack of capacity building and social capital investments has put too much pressure on MCM or local authorities to handle the administration, regulation and management of the fishery, whilst communities remain divided between each other, and between different social structures within communities, like families, tribal authorities, fisher groups, and community Trusts.

In conclusion the current legislative framework and government fisheries policy in South Africa is inefficient in dealing with the socio-economic development required to alleviate fishing communities out of poverty, and thus also alleviating pressure on marine resources. Berkes et al. (2001: 209) list the many cases around the world where a proper co-management framework has taken years to create as it involves intense capacity building, awareness, education and institutional building. In order for South Africa to implement the current small-scale fishing policy successfully there needs to be a return to a community perspective of fisheries and co-management. This means that more research is required to fill the sociological gaps in fisheries research in South Africa by viewing the social relations, behaviours, interactions and overall social capital in fishing communities. An increase in

social relations does not only lead to increased possibilities for joint action, but it also enhances the development of knowledge and understanding through exposure to new ideas and information (Bodin & Crona, 2009). Social capital that is well-developed can decrease transaction costs, increase collective action for sustainability and education, and thus have an overall positive impact on the socio-economic as well as the ecological considerations in a community. It is important to note that the "the vitality of community networks and civil society is largely the product of the political, legal and institutional environment" (Woolcock and Narayan, 2000: 234). It is further noted that inter-disciplinary research needs to be conducted by natural and social scientists in order to agree on co-management arrangements and fisheries management in South Africa. It also requires the introduction of other fields like tourism, economics, agriculture etc, as all these fields can complement fisheries development.

The South African government and fisheries authority have a long way to go to implement an efficient small-scale policy. The East Coast Rock Lobster fisheries in particular are going to reveal interesting studies along the Wild Coast in the near future as they provide a case study for a subsistence transition into small-scale fishing. The management and governance of these fisheries will largely rely on the capacity of the community, and indeed the sustainability of the resources will itself rely on the community becoming custodians of their coastline.

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Appendix 1

Excerpt from Research Diary - 01 June 2010

While I feel that my entry into the village has been relatively easy and trust levels have risen considerably, the dive on the 1st of June 2010 at Hole-in-the-Wall was a real step forward. We conducted a focus group in the morning and after handing out rash-vests that I had organized from the Rhodes University Underwater Club as part of their annual development project, I was invited by some divers to go diving with them. Part of my interest in the crayfish divers is that I am a diver myself and I felt that I could only gain their trust and respect in the water

One of the conditions of the divers that invited me was that we head out to Hole-in-the-Wall. At the time we as the researchers were unaware of exactly where the legal boundaries of their TURF existed and thus naively moved on to gear-up for the dive. After seeing the rough and porous state of their gear I was rather embarrassed to bring out my two-piece farmer-john wetsuit and expensive fins and snorkel.

I noticed that they were all putting their newly acquired rash-vests over their old and torn Lifeguard sponsored rash-vests and so I knew the temperature of the water was not be underestimated. Since it was the beginning of winter I knew that the water would be cold and so I geared up to be as warm as I could. I offered the divers some weights from my weight belt so that they could stay under water longer and counter the buoyancy of the wetsuit, but they looked at it as a burden and laughed the concept off. The three divers I would be diving with and who were participants in the focus group earlier could not speak English very well and I knew that once we were in the water, with the absence of our translator, any communication would be limited to gestures and hand signals. Once we walked down to the rocks I saw for the first time that we were diving at high tide which went against most of my diving training and instinct. They explained to me with hand signals that we would be jumping off the rocks and heading for an open breach of rocks about 150 meters out. We would be swimming parallel to the high surf to get there and thus had to keep our right eye on the crashing waves at all times. They had warned me about currents and told me not to stray too far from the breakers.

I followed the first diver in and was immediately amazed by his speed and his swimming ability. When we had reached the rocky breach in the middle of the small bay every second wave was crashing on top of us. I could not see below me as the white foam and washed up sand made any visibility impossible. Yet to my amazement I saw the first diver come up with what I am sure was the largest crayfish of the day. I realized that I would have to dive below the crash of the waves to see anything and increase my chances of impressing these experienced divers.

Below the turbulence of the waves was a city of rocks, weeds and coral with all kinds of fish and sea creatures. I quickly learned that once I got down I would have to grab onto a rock to fight the strong draw of the waves that crashed above. After watching the other divers I realized that it was within this small window period after a wave crashes and another is building that the water below is relatively inert, thus providing the best opportunity to strike out a crayfish. I was amazed at the strength they showed when holding onto rocks without any weights to keep them down. They could spend almost double the time I could under water. The most incredible aspect of their diving abilities however was their orientation to the environment around them. I noticed that they could feel through the gentlest of currents when a wave was crashing above them and which would soon forcefully pull them. If they spotted a crayfish but didn't have enough air to grab it they would go up and remarkably remember under which rock it was; in a terrain that looked all the same to me. Every time they came up for air they would look at landmarks along the shore line to make sure they were not being pulled by a current.

Perhaps the most incredible aspect of their diving skills was their gung-ho technique of pulling out crayfish. I quickly learnt that once you touched the feeler of a crayfish it retreated deeper into a hole or twisted and turned to try and cut your hand while you fought it. The process was three-fold: first you spot a rock or a hole and dive down to it; second you check in the hole to see if there is a crayfish in there or make sure there is no belligerent eel that could bite you; and thirdly you fearlessly shove your hand in the hole, even up to the shoulder, and fight the surprisingly strong struggling crayfish all the way to the surface.

While I am sure I provided a few laughs for the divers around me I felt that our relationship had changed in the water. On land we could only communicate through our translator but in the water I felt that we were connecting better than before. There was a sense that what we were doing had an element of danger in it and therefore we had to look after each other. I noticed that we all looked around to make sure we could see another diver in our sight, not only to make sure we were not alone and dragged off in a current somewhere, but also to make sure the diver next to you was safe. I could not help but feel that they would glance at me more than I would them. Perhaps they did not want to be responsible for the death or injury of a novice white-boy crayfish diver (never mind the irony that I was a novice crayfish diver after they had learned to dive from white people); or perhaps they genuinely felt that their experience in the water generated a responsibility for any new person that came diving with them. I was in their circle now, after all they had invited me to dive with them and so they were looking out for me. We stuck close together throughout the dive and we all returned together. Although they returned with full sacks and mine was empty, I still felt as if they had respected my attempt to do what they do every day. These young men brave unreasonable currents, belligerent eels, and sharp rocks to catch a creature that provides them with no more than R30. We will pay R200 to eat a crayfish like that in a restaurant.

While it certainly beats herding cattle and they all express their love for diving, one wonders for how long these young men can dive. It may be their own age that limits them or the dwindling numbers of crayfish due to commercial intervention that restricts their unique diving abilities. Perhaps there will be a conservation ban on crayfish, but till then these young men provide people with expensive gourmet meals while diving with torn wetsuits

and gardening gloves. There is potential in Tshani Mankozi for them to substantially benefit more from diving but of course institutional intervention, government backing and bureaucracy will have the final say. While there are plans for the development and processing of crayfish for export on site in Tshani Mankozi, one hopes that this will genuinely benefit the divers and the community. One also hopes that it does not fall prey to private commercial corporatism or environmental degradation, as is often the global commercial trend in many unique local traditions that provide resources for western, or in this case Eastern, consumption.

01 June 2010

Diving with three lobster divers at Hole-in-the-Wall.