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Gender, water and livelihoods in Mseleni: A case study

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Abstract

Water is essential to human survival, health, wellbeing and livelihoods. Access to sufficient water for consumption and domestic use is considered a basic need and a human right. Water use however, goes beyond basic needs; water is an asset important to livelihoods. There is a growing body of literature documenting water and livelihoods linkages, the gendered nature of water access, use and livelihoods however, is usually neglected. This case study investigates the gender, water and livelihoods interface in Mseleni, a rural community in KwaZulu Natal. 'Positive' (e.g. livelihoods enhancing) and 'negative' (e.g. livelihoods constraining) linkages are found. Access to a reliable, sufficient water supply increases the range of possible livelihood activities and has a 'multiplier' effect on livelihood outcomes. Poor water access results in health, opportunity and financial costs and furthermore, constrains livelihood activities; in particular agriculture. Where access is poor, there is a 'market' for selling water and water access, from which some people profit. Water access is influenced by inter and intra-household hierarchies: Gender, age, social status and class affect access to and control over resources and result in uneven accruement of the positive and negative water and livelihoods linkages. Technology, transport and money are potential levers which can alter the social relations of access.

Recommendations are made on several levels to enhance livelihoods and advance gender equity: Factoring livelihoods water uses into definitions of basic needs and humans rights, norms, standards, policies and programmes. Working towards a more nuanced understanding of power relations at household and community level which influence water access and livelihood outcomes, coupled with commitment to support and empower disadvantaged people in rural areas to define their basic needs and claim their human rights. And the equitable roll-out of simple technologies, infrastructure and transport to deep rural areas in order to make water for livelihoods more accessible.

Glossary and abbreviations

AIDS	Acquired immune deficiency syndrome
Amahewu	A popular Zulu drink made from maize
Amakosi	Zulu chiefs (plural).
ANC	African National Congress
CP	Civil and political (rights)
DWAF	Department of Water Affairs and Forestry
ESC	Economic, social and cultural (rights)
F	Female
FBW	Free basic water
FGD	Focus group discussion
GAD	Gender and development
GEAR	Growth, employment and redistribution
H	Household
HH	Household head
HIV	Human immunodeficiency virus
HR	Human rights
HRBA	Human rights based approach
IFP	Inkatha Freedom Party
IGA	Income generating activities
Induna	Zulu headman (singular)
Inkosi	Zulu chief (singular)
Isigodi	Traditional authority ward (singular) governed by an *induna*
Izigodi	Traditional authority wards (plural)
Izinduna	Zulu headmen (plural)
Jojo tank	Large water storage tank
km	Kilometre
kg	Kilogram
KZN	KwaZulu Natal
lpcd	Litres per capita per day
lphm	Litres per household per month
Lobola	Bridewealth
m	metre
M	Male
MJD	Mseleni Joint Disease
NGO	Non governmental organisation
PID	Partners in Development
PRA	Participatory rural appraisal
RDP	Reconstruction and Development Programme
RSA	Republic of South Africa
Spac spac	25 litre water container
TA	Traditional Authority
Tubewell	A small well made by driving a tube into the earth until water is reached
Umemolo	A coming of age celebration for a young woman
UN	United Nations
WHO	World Health Organisation
WID	Women in development
WSA	Water service authority
WSDP	Water services development plan

Chapter 1: Introduction

1.1 Background and problem statement

Access to water is a development concern on a number of levels. On the most fundamental, water is life and no living thing can survive without water. On another, there is broad consensus that access to enough water for personal consumption and domestic use is a basic need and a human right (UNDP, 2006), and provision thereof a development priority of the highest order[1]. On a broader level, access to water is a cross-cutting development issue, impacting on many other sectors[2]. The wider benefits of improved water access include: better health; greater human dignity; time saving leading to increased productivity and school enrolment; improved food security and enhanced livelihood outcomes.

The World Health Organisation (WHO) estimates that in 2004 1.1 billion people, the majority living in rural areas, did not have access to sufficient safe water[3]. In South Africa this constituted 1% of urban and 17% of rural dwellers (website, WHO, 2008). Thus access to water is a critical development issue, globally and in South Africa, particularly in rural areas.

Issues related to water are also gendered. Worldwide, women and children are largely responsible for water collection and women for managing household water. If water is not easily accessible, the burden falls largely on women. Thus poor water access can perpetuate gender and other (e.g. class, race) inequities. The relationship between gender and water is complex and dynamic (Wallace & Coles, 2005). Gender influences how people access and use water, and water influences social relations. Efforts to improve water access should be grounded in gender analysis, because social relations will influence the outcome of water policies and programmes. There is however, a lack of rigorous research investigating the relationship between water, social relations and change (Crow & Sultana, 2002).

Water for survival and to meet basic needs has received the greatest attention in water declarations, recommendations, standards, policies and programmes. These have been identified as the most pressing water concerns and international efforts have focused on the provision of water to meet them. By contrast water for agriculture, building, income generation and other 'productive' uses has received much less consideration, but may be of equal concern. There may be a mismatch between the priorities of water users and

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1 For example, halving the proportion of people without access to basic water and sanitation is one of the targets for the achievement of Millennium Development Goal 7 Ensure Environmental Sustainability.
2 For example see UNDP (2006:22-24) on the link between access to water and sanitation and the achievement of 8 Millennium Development Goals.
3 Which they define as at least 20 litres per capita daily (LPCD), from an 'improved' source (household connection; standpipe; borehole; protected well; spring and/or rainwater) within 1 kilometre (km) of home. WHO http://www.wssinfo.org/en/22_wat_global.html & http://www.wssinfo.org/en/122_definitions.html accessed 10/5/08.

policy makers. There is a small body of literature[4] documenting the wide range of productive activities people use water for, after survival and basic needs have been met and evidence that water is important to livelihoods in a number of ways. Improving access to water has the potential to reduce poverty and make livelihoods more secure, however there is a paucity of research focusing specifically on water and livelihoods linkages.

Access to potable water for survival and basic needs is a particularly a rural problem, as infrastructure coverage is much lower in rural than urban areas[5]. Arguably, water for livelihoods may also be most critical in rural areas where formal employment opportunities are limited, and people are forced to draw on available assets, which include the natural resource base, and engage in a wide range of activities to make ends meet. It is important to take livelihood uses into account when planning rural water service provision.

It is important also to explore the gendered nature of livelihoods. In the past a false dichotomy was made between 'domestic' and 'productive' activities; it was assumed women dominate in the 'domestic' and men in the 'productive' sphere. This carried over into the water sector where domestic and productive water use were often treated as different sub-sectors and considered the realm of women and men respectively (Cleaver & Elson, 1994). However, researchers investigating small-scale productive water use discovered many activities are mostly carried out by women (Moriarty *et al,* 2004). Furthermore, the income women earn through productive water using activities has been found to increase their bargaining power (Upadhyay, 2005). Not only is the dichotomy between 'domestic' female and 'productive' male water use false, relegating women to the 'domestic' sphere runs the risk of overlooking their real needs, priorities and uses and enhancing, rather than reducing gender inequities.

1.2 Scope and objectives of the study

Bearing the above in mind, this study was conceptualised to deepen understanding of the dynamic relationship between water, gender and livelihoods. An information rich case was selected – Mseleni, a rural community in Northern KwaZulu Natal (KZN), South Africa.

1.2.1 Research Questions

Overarching question
How does gender influence water use and how does water contribute to livelihoods in Mseleni?

Sub-research questions
What is the background to/context of the case study area?

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[4] See Hope *et al*, 2003; Moriarty *et al* 2004; Mulwafu 2003; Perez de Mendiguren, 2004; Upadhyay, 2005; WaterAid 2001.
[5] In South Africa 17% of rural and 1% of urban dwellers do not have access to basic water; globally 17% of rural and 5% of urban dwellers do not have access to basic water. WHO http://www.wssinfo.org/en/22_wat_global.html accessed 10/5/08.

How are households in the case study area differentiated in terms of household structure, access to water and livelihood strategies?
What are the gendered, productive, domestic, health-related and other uses of water in Mseleni?
How do people, differentiated by gender, access water for these activities?
How much water do people, differentiated by gender, use for these activities?
How is water allocated and by whom, for activities, within the household?
How do people, differentiated by gender, use water to enhance their livelihoods?

1.3 Structure of the study

The study unfolds in seven chapters with two appendices. Following the introduction, chapter 2 reviews and summarises pertinent literature and theoretical frameworks for understanding livelihoods and analysing gender. Chapter 3 situates the study in the South African context, tracing the evolution of the national water management framework from 1994-2007, covering institutional reform, service delivery and key debates in the water sector, and exploring livelihoods and gender in the South African context. Chapter 4 outlines the research methodology, including the approach, sampling strategy, research process, data collection and analysis methods and critical reflections on the methodology from the field. Thereafter attention turns to the findings. Chapter 5 introduces the case study site and its particular context. This chapter is based on an extensive document review and the researcher's experience living in the case study community. It provides an important contextualisation which the findings and analysis build on. Chapter 6 presents the findings and analysis under three key headings - household structure, access to water and water use – and within each, the relationship between gender, water and livelihoods is explored. Analysis directly follows the findings throughout. The chapter concludes by drawing together what has been learnt and returning to the key research question. Chapter 7 concludes the dissertation by evaluating the extent to which the study succeeded in answering the research questions and making recommendations which would enhance livelihoods and promote gender equity, for theory, policy and practice.

1.4 Definitions

A number of terms are used throughout the document which will be clarified upfront:

Assets is used in the livelihoods literature to refer to things people draw on for their livelihoods. Resources are a sub-set of assets (others include stores, claims and access). The terms **asset** and **resources** are used interchangeably throughout.

A **household** is defined as a group of people who share resources (water, food etc) and live under one roof, at least part of the time. Livelihoods are frequently analysed at **household** level. In this study they are analysed at both **household** and **individual** level, bearing in mind that individuals often

contribute to household strategies, but the strategies of individuals and households may diverge.

The terms **traditional authority** and **tribal authority** (TA) are used interchangeably. Tribal authority was used by the apartheid administration and traditional authority is the official name under the new government, but the use of the term tribal authority is still widespread.

Other terms, including Zulu words which have no equivalent English translation will be explained in footnotes where they appear in the text and also in the Glossary (ix).

Chapter 2: Conceptual frameworks, literature review

This chapter introduces conceptual frameworks the study draws on and reviews pertinent literature. The chapter begins by exploring **water use,** how water uses have been categorised, and discusses the concept of water for **basic needs.** This leads into discussion on the **basic needs approach** – an 'approach' to development influential during 1970's-80's, which continues to affect how water uses and needs are conceptualised and policy developed. Attention then turns to the **human rights based approach** (HRBA) to development which came to prominence in 1990's and led to a paradigm shift, from needs to rights. Implications for water policy are outlined and **the right to water** discussed**.** Next the focus is on **livelihoods**, which is core to the study. Key features of a livelihoods framework are explored, strengths and weaknesses in analysis and the interface between water and rural livelihoods. Finally **gender** is defined and discussed, frameworks are introduced which can be useful tools for gender analysis, the complexities of gender analysis considered and the relationship between gender and water explored. A caveat: The research topic is wide ranging, there is *much more* gender, water and livelihoods literature available than there is space for discussion. The intention is not to present a comprehensive review, but to critically examine tenets of the concepts and discuss literature most relevant to the study.

2.1 Water use

2.1.1 Consumption, hygiene, amenities: Water for health

White *et al*'s seminal study of *Domestic water use in East Africa* (1972) grouped uses into three categories - **consumption, hygiene** and **amenities -** on the basis of their relationship to health. **Consumption** is water necessary to meet physiological requirements. It includes the water content in beverages and food, and can be consumed pure or in other forms (e.g. tea, soft drinks etc). **Hygiene** includes the minimum water required to wash one's body, clothes, utensils, food, clean the home and for sanitation. **Amenities** are other uses, not necessary for survival or health, which a household values. These could include bathing, watering gardens and washing cars. Some amenities uses are necessary for hygiene, but the quantity some households use was considered a luxury. White *et al*'s study, and the work of organisations such as WHO influenced the way water issues were constructed, primarily in relation to health and hygiene during 1970's and 80's (Nichol, 2000; Thompson *et al*, 2001). The HIV/AIDS pandemic in Southern Africa brings the interface between water and health to the fore once again (see Hutchings & Buijs, 2005).

2.1.2 Water for the environment

During 1990's water came to be seen as integral to the environment. The Brundtland Commission[6] report and 1992 Rio de Janeiro Earth Summit highlighted the need to protect water for **the environment**: *"In developing and using water resources, priority has to be given to the satisfaction of basic needs and the safeguarding of ecosystems"* (cited in Gleick, 1996:83). This subsequently influenced policy, for example South Africa sets aside a reserve to protect the environment and meet basic needs before water is allocated to other uses (see 3.1.2).

2.1.3 Water as an economic good

The 1990's were also a turning point in terms of viewing water as an economic good (Nichol, 2000). Some argue this paved the way for commodification and cost-recovery and had a negative impact on the poor (Bond, 2003). Others posit, it created space for water to be seen as a productive asset, which increased awareness about the role of water in livelihood strategies (Nichol, 2000).

2.1.4 Water for basic needs

Water for basic needs is given highest priority in policies and programming: *"All peoples, whatever their stage of development and their social and economic conditions, have the right to access drinking water in quantities and of a quality equal to their basic needs"* (UN, 1977, cited in Gleick, 1996). The idea of water for basic needs is rooted in the **basic needs approach** to development**,** the theoretical underpinnings of which are explored in 2.2.

Water for basic needs is usually considered water for **personal consumption** and **domestic use,** domestic being defined as drinking, cooking, hygiene and sanitation (Gleick, 1996). But the interpretation could be otherwise. For example in Malawi, the government definition of domestic use includes watering and dipping stock (Mulwafu, 2003).

The amount of water required, depends on how basic needs are defined. Falkenmark considers 100 litres per capita per day (lpcd) necessary for basic needs, which include drinking, cooking, washing and sanitation. However, she notes a much greater amount is needed to meet human food needs. Water to grow food would add an additional 1600m3/capita/year, equal to 4380 lpcd[7] (Falkenmark & Rockstrom, 2004)!! The extra amount required to grow food is worth highlighting, as subsistence agriculture plays an important role in rural livelihoods. When people grow their own food, water for agriculture could be considered a basic need. Other authors, and South African policy documents, suggest different quantities are necessary to meet

[6] Also referred to as the World Commission on Environment and Development.

[7] Countries which are water stressed can circumvent this additional requirement by importing food (virtual water) (Falkenmark & Rockstrom, 2004).

basic needs (see Table 2.1 overleaf). Gleick (1996) suggests 50 lpcd for drinking (5), cooking (10), bathing (15) and sanitation (20). UNICEF/WHO (2000) and UNDP (2006) recommend at least 20 lpcd as a 'social minimum' for drinking and personal hygiene, from an improved[8] source within 1km of home. Less will have a detrimental effect on health and wellbeing. The UNDP says factoring in bathing and laundry would increase requirements to 50 lpcd (2006). Others posit that sustainable livelihoods require more water, the focus on domestic uses overlooks productive activities which are important for survival. Moriarty *et al* (2004) find people need at least 50-200 lpcd for their livelihood needs (see 2.1.5). Amounts recommended in South African policy documents range from 20-60 lpcd (see also 3.1.1).

Basic needs vary in different contexts and generalising about peoples' basic water needs can be problematic. For example people infected and affected by HIV/AIDS have additional water needs[9].

Table 2.1: Water requirements for basic needs

Author	Year	Litres/Capita/Day	Uses included in basic needs
Falkenmark	1974	100	Drinking, cooking, washing, sanitation
Gleick	1996	50	Drinking, cooking, bathing, sanitation
WHO/UNICEF/ UNDP	2000/ 2006	20*	Drinking, personal hygiene
Moriarty, Butterworth, van Koppen & Soussan	2004	50-200	Domestic + small scale productive
RSA, RDP	1996	20-30^ (5-7 yrs) 50-60 (med term)	
RSA, Free Basic Water	2001	25	

*From 'improved' water source within 1km of home
^ Within 200m of home

[8] See footnote 3.
[9] WHO suggest people living with HIV/AIDS should drink at least 2 litres of water a day, more if they suffer from diarrhoea/vomiting, eat a nutritious diet with special foods when sick; wash their body regularly, taking care to keep sores and infected areas clean, and laundry should be done frequently. *"Having to care for an AIDS patient means obtaining at least three 25-litre drums of water a day. The patient has to be bathed daily and sores dressed. If there is diarrhoea the patient's blanket and clothing also have to be washed every day"* (Caregiver, quoted in Hutchings & Bujis, 2005:185).

2.1.5 Domestic, productive and household water

A follow-up to White *et al*'s study, revisiting the same communities 30 years on, added a fourth category to their typology – **productive -** to include all productive activities households engage in, using domestic water supplies. Researchers found rural and urban households used significant quantities of water for productive activities, particularly those with piped water, and suggested access to piped water is beneficial from a productive, as well as health and well-being perspective (Thompson *et al*, 2001). They noted productive uses outside the home were common, but did not include these in their study of **domestic use**. In fact a growing body of research demonstrates that, given the opportunity, people use water for productive activities which comprise an important part of their livelihoods (Hope *et al* 2003; Moriarty *et al* 2004; Mulwafu 2003; Perez de Mendiguren, 2004; Upadhyay, 2005; WaterAid 2001). Recognising productive uses and making more water available for them could play a role in poverty reduction. Moriarty *et al* (2004) suggest the term **household water** to cover households' domestic and productive water uses.

2.1.6 Spiritual and cultural water use

Additional water uses include **spiritual** and **cultural** which are often linked to perceptions of health and wellbeing. Throughout history and across cultures many people have revered water goddesses, and spiritual practices often take place take place at wells and springs (Strang, 2005). In South Africa spiritual and cultural practices are strong. Zulu culture has a complex set of water rituals which include washing corpses and cleansing relatives of the deceased after a funeral (Raum, 1973). In the past, rituals were performed for rain and after a good harvest a cow would be slaughtered, to thank Nomkhubulwane (the fertility goddess) for the rain (Hutchings & Buijs, 2005).

2.2 The basic needs approach

Basic needs are the basics people need to survive. Definitions vary somewhat, but they commonly include: Nutrition, education, health, shelter, clothing, employment, water and sanitation. The basic needs approach sought to focus development efforts on meeting these needs.

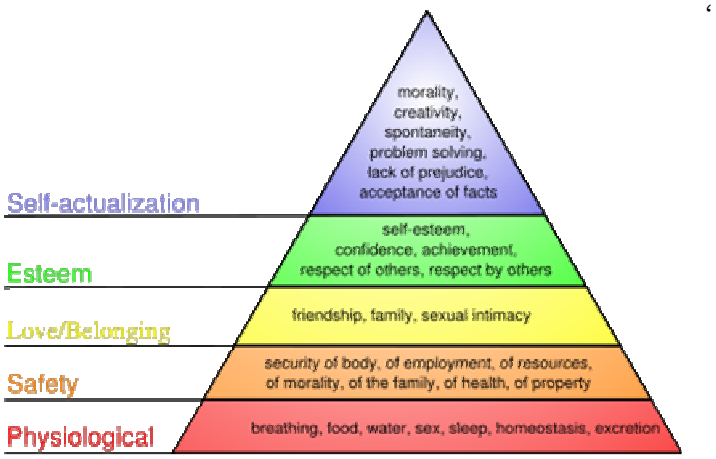
Rooted in philosophy and psychology[10], the basic needs approach came to prominence in the 1970's. Decades of economic growth had raised income levels, but failed to lift people out of poverty in the developing world. There was widespread dissatisfaction with the dominant economic growth with 'trickle-down' approach. It was felt that an alternative, human centred approach to development was needed. A diverse group of actors rallied beneath the banner of basic needs, but they proposed different means of meeting them. The World Bank did not see a conflict between economic growth and basic needs, policies could be developed which would meet basic

[10]See Allen & Anzalone, 1981.

needs and contribute to growth. The International Labour Organisation proposed providing households with income to meet their material requirements (food, shelter, clothing etc) and communities with essential services such as education, healthcare, water and sanitation (Rist, 1997). Others interpreted the approach more radically: The poor must be involved in identifying basic needs and determining the best way to meet them; the process would raise consciousness and strengthen people's ability to claim fulfilment of basic needs (Friedmann, 1979; Palmer; 1977).

Needs can be prioritised; Maslow's famous hierarchy of needs (see **figure 2.1** overleaf) orders needs into five levels. Lowest are physiological needs necessary for survival, higher level needs such as self-esteem, respect, creativity and self-actualisation are focused upon when lower level needs are met. The concept of a needs 'hierarchy' is not universally accepted however.

Figure 2.1 Maslow's Hierarchy of Needs



Source: http://en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs, accessed 20/12/07

Needs' are contextually specific and socially constructed. Even physiological needs vary between individuals, the resources people need to make a living vary depending on their skill-set and environment, and society often imposes 'needs' on people in order for them to fully function/participate (Rist, 1997). The process of defining and prioritising needs is important. It would be necessary to involve people in defining and prioritising their basic needs.

The basic needs approach was interpreted technocratically. Studies were undertaken to calculate the number of calories, square metres of cloth and housing a person needed to live decently, quantities were inevitably higher if you lived in the developed world (Rist, 1997). Formulaic procedures were proposed to meet basic needs[11]. A technocratic approach depoliticises the

[11] *"A set of basic needs is identified and given objective character, minimum human requirements of human needs' satisfaction are qualified, connections between the various needs are explored, present levels of basic needs' satisfaction are measured to discover possible 'shortfalls' and a calculation of*

process of identifying, prioritising and developing strategies to meet needs. The question of *why* needs are not already being met is not answered and no one is held accountable. Dissatisfaction became widespread with how the approach was operationalised, as it became clear that the means through which development was achieved was important, as well as the end result. The approach waned and the focus shifted, from meeting basic needs, to realising human rights.

2.3 The human rights based approach

The basic needs approach highlights that development should be human focused. The human rights based approach (HRBA) focuses efforts towards realising human rights. Basic needs are reframed as socio-economic rights; the difference is that where the basic needs approach shows what people *ought to have*, the HRBA shows what people are *entitled to.* A legislative framework[12] outlines the obligations of duty bearers to ensure human rights are realised. The HRBA furthermore is concerned with means as well as ends. It is founded upon a number of key principles - universality[13], equality and non-discrimination[14], accountability[15], participation and inclusion[16] - which are important to how it is operationalised (IPK, 2008).

The modern history of human rights is often traced to 1948, when the United Nations (UN) proclaimed a *Universal Declaration of Human Right*s (UN, 1948), setting out the basic rights and freedoms of all humans and called upon member states to respect, protect and fulfil[17] them. Rights were further cemented with the *International Covenant on Civil and Political Rights* (UNHCHR, 1966(a)) and *International Covenant on Economic, Social and*

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costs is arrived at to determine the capital and recurrent costs of activities intended to erase these shortages" (Allen & Anzalone, 1981:212).

[12] At international level the framework includes the International Bill of Rights, Declarations, Covenants, Conventions and Optional Protocols covering Human Rights (IPK, 2008). At national level the framework includes the articulation of Human Rights in the Constitution, legislation and policies.

[13] Everyone enjoys the same Human Rights (HR), HR are inalienable, and (unlike BN) non-hierarchical, furthermore they are interrelated and interdependent; the realization of a right contributes to the realization of another.

[14] Discrimination on any grounds is not allowed, to ensure that people's rights are realized equally, it may be necessary to focus efforts on vulnerable, marginalized and previously disadvantaged groups.

[15]Duty bearers can be held accountable – through the HR framework – for their contribution towards the full realisation of HR; but for accountability to be effective, it has to be demanded. People need to be aware of their rights, and able to claim them; duty bearers need to be transparent about their intentions, and accountable for their actions.

[16] People have the right to participate actively, freely and meaningfully in decision making that affects them; they have the right to be involved in determining the shape and form of their own development. Through meaningful participation critical consciousness is raised.

[17] **Respect** - refrain from interfering with – **protect** - prevent others from interfering with – **fulfil** - take progressive steps towards full realisation of the right.

Cultural Rights (UNHCHR, 1966(b)). Initially there was considered to be somewhat of a dichotomy between civil and political (CP) and economic, social and cultural (ESC) rights[18]. Human Rights organisations focused on promoting CP rights and development organisations focused on ESC issues. ESC issues were articulated in terms of promoting growth, meeting human needs, encouraging participation and so on, but rarely in rights language (Nelson & Dorsey, 2003).

However the separation of CP rights from ESC issues was not particularly applicable to the African context: *"Nationalist and anti-colonial movements framed their demands for self-rule in terms of the everyday constraints that colonial administrations imposed not just on their liberty, but on their livelihoods… It was* ***in the act of struggling*** *that rights were articulated and came to form the basis for action for social justice"* (Cornwall & Nyamu-Musembi, 2004:1420-21). African nations lobbied for greater recognition for ESC rights, and called upon states to create a more just, international economic order[19]. Nevertheless, understandings of the interconnected nature of CP and ESC rights remained on the margins. It was not until the 1990's that the link between development and rights was further explored. The Cold War created a divide between the champions of CP and ESC rights. When the Cold War ended, debate deepened (UNDP, 2000). NGO's experimented grounding their programme work in human rights frameworks. The publication of the 2000 UNDP Human Development Report*: Human rights and human development* announced the arrival of the HRBA in the mainstream.

In response development took a 'rights' turn. The shift was paradigmatic, from seeing development in terms of providing charitable assistance, to an obligation to assist in the fulfilment of human rights (Nelson & Dorsey, 2003). The HRBA offers a normative framework to aspire towards; basic needs are actually ESC rights which duty bearers have an obligation to fulfil. The HRBA emphasizes participation and empowerment, because people need to be aware of their rights in order to claim them. In the words of Uvin *"rights are tools that crystallize the moral imagination and provide power in the political struggle, but do not substitute for either"* (cited in Jones, 2005:420). The HRBA is no panacea and there are significant barriers to the realization of rights. States are the primary duty-bearers, some are weak and unable to protect rights, some are repressive and violate rights, and many are restrained by limited capacity and resources. Enforcement mechanisms are weak and under utilised. In deep rural areas many people are uninformed about their rights, much less able to claim them. Rights have yet to become 'tools' for struggle for more than a handful of urban communities and the jury is out on whether the HRBA can offer anything radically different in terms of transformative development.

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[18] Civil and political rights are also referred to as 'first generation' or 'negative' rights. They should be protected from interference by other parties (individuals, groups and/or the state). Economic, social and cultural rights are 'positive' in that resources are required to meet them. The Covenant on ESC rights obliges states to take progressive steps - within resource constraints - towards the full realisation of ESC rights; CP rights should be protected immediately (Mohan & Holland, 2001).

[19] For example through the *Declaration on the Right to Development (*UNHCHR, 1986).

2.4 The human right to water

Access to water is an ESC right and a prerequisite for the fulfilment of other human rights. A right to water was *implicit* in the rights to an adequate standard of living[20] and to health[21]. It was referred to explicitly in the *Convention on the Rights of the Child* (Article 24 (2c), UNHCHR, 1989) and the *Convention on the Elimination of Discrimination against Women* (Article 14, UNHCHR, 1979) and in 2002 the UN committee on economic, social and cultural rights released general comment 15 interpreting the human right to water (Article 1(1-2), UN, 2003).

> *"The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights…The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements."*

Sufficient relates to the quantity and regularity of supply; *safe* indicates it must be free from contamination and safe to drink; *accessible* relates to safe access, within easy reach of people's home, school and place of work; *affordability* relates that the right may not be compromised by poverty or inability to pay (WHO, 2003). General comment 15 emphasises water for personal and domestic use and highlights linkages between the rights to water, health and an adequate standard of living, but it could go further in support of livelihoods. Water plays a critical role in the realisation of other human rights. It is needed to produce food[22], as an input in productive activities[23], to protect the natural environment[24] and participate in cultural and spiritual practices[25].

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[20] Article 25(1), *Universal Declaration on Human Rights* (UN, 1948); Article 11(1) *International Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966(b)).
[21] Article 25(1), *Universal Declaration on Human Rights* (UN, 1948); Article 12(1), *International Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966(b)).
[22] The Right to Adequate Food: Article 25(1) *Universal Declaration on Human Rights* (UN, 1948); Article 11(1) *International Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966(b)); Article 24(2) *Convention on the Rights of the Child* (UNHCHR, 1989).
[23] The Right to Work: Article 6, International *Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966); Article 11, *Convention on the Elimination of Discrimination Against Women.*(UNHCHR, 1979)
[24] Right to Health: See footnote 20.
[25]Right to take part in cultural life: Article 15, *International Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966); Article 30, *Convention on the Right of the Child* (UNHCHR, 1989); Article 13, *Convention on the Elimination of Discrimination Against Women* (UNHCHR, 1979).

Recognising the human right to water has implications for the approach taken to policy and service provision. The state and other duty bearers are required to respect, protect and fulfil the right to water and make progress towards full realisation of the right. Water service provision must take human rights principles into account: Access must be universal, discrimination against people/groups is not allowed, including for example against people who cannot afford to pay. People should participate in the process of realising the right, and participation should empower them to claim their right and hold duty bearers accountable. Realisation may be progressive, but ***core obligations*** apply immediately, including provision of the minimum amount of water necessary to prevent disease (UN, 2002).

Full realisation of the right to water is a normative standard to aspire towards. There are of course complexities and problems, which arise. The literature finds these to be: Tension between and the principle of non-discrimination and cost recovery (Bond, 2003; Mehta & Ntshona, 2004); tension between national - policy making - and local – implementing - spheres of government; uneven resource allocation and capacity to deliver, in particular between rural and urban areas (Hagg & Emmett, 2003; Hemson, 2004; Wilson, 2006); and people's limited awareness about rights and ability to hold duty bearers to account (Jaglin, 2002; Mehta & Ntshona, 2004).

2.5 Livelihoods

Chambers & Conway, in their seminal paper, define a livelihood as: *"The capabilities[26], assets (stores, resources, claims and access) and activities required for a means of living"* (1991:6). It is particularly useful for understanding rural contexts, where people engage in a variety of activities to survive. The concept was first proposed by the Brundtland Commission as a tool for analysing human activities for environmental sustainability. A livelihood was considered sustainable if it led to maintenance or enhancement of the natural resource base long term (Ibid). Chambers & Conway expanded the idea of sustainability to include the social: *"A livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels in the short and long term."* (6).

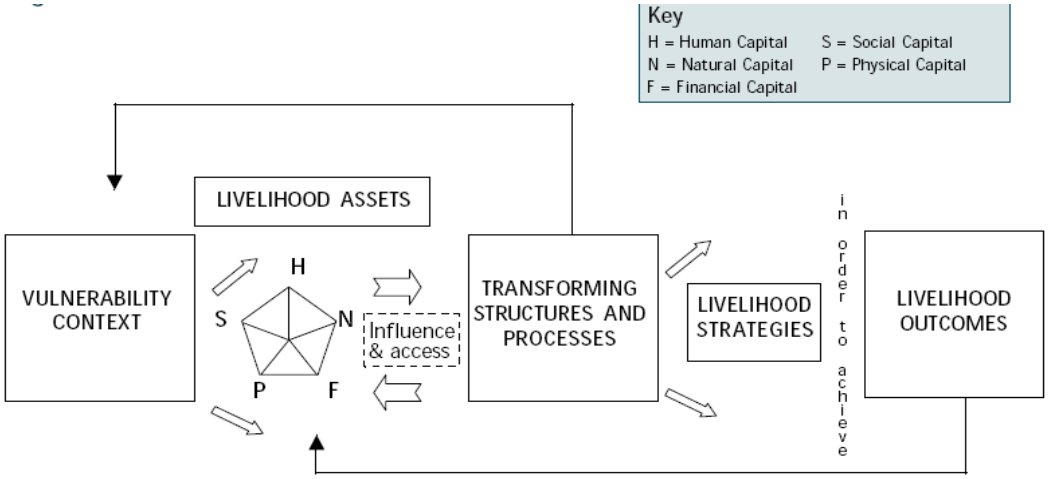
Many others contributed to and further developed the concept. Leach *et al* (1999), drew attention to the importance of formal and informal institutions and the distribution of power, in understanding how people gain access to and control over assets, and utilise them in pursuit of livelihoods. Included in their discussion of institutions and power was consideration of intra-household power dynamics absent from earlier analyses. Scoones (1998) drafted a theoretical framework to analyse livelihood sustainability taking

[26]The term *capabilities'* was coined by Amartya Sen, referring to what people are capable of using the assets at their disposal. The term implies that a person has freedom to choose the combination of *functionings* (e.g. growing food; working; caring for others; participating in community life etc) they desire, and is thus able to determine the life they lead, within the bounds of their *capabilities.* Enhancing capabilities leads to greater freedom and wellbeing (See Sen, 1999 and earlier work).

into account context, assets/resources, institutions, livelihood strategies and outcomes, which has been adapted and adopted as an entry point for the interventions of a number of development organisations. DFID's Sustainable Livelihoods Framework is depicted overleaf (**figure 2.2**) and explained below.

The **Vulnerability Context** is uncontrollable events including shocks, seasonality and long-term trends which influence livelihoods. **Assets** are the **human** (skills, knowledge, labour, health etc); **natural** (land, water, wildlife, hydrological cycle etc); **financial** (income and savings); **physical** (infrastructure including shelter, and the means to access water and electricity); and **social** (family, friends, networks and institutions) capitals[27] drawn on. **Transforming structures and processes** are the myriad institutions[28] at levels from local to international which mediate the operational context and influence people's access to and control over **assets. Livelihood strategies** refer to the mix of activities people engage in to secure **outcomes.** The choice of strategy will depend on context, available assets and people's capabilities. Ellis (1998) identifies three broad clusters of strategies which people engage in to enhance livelihoods – intensification/extensification, diversification and migration. Others question the appropriateness of the term 'strategy', when people may in fact be doing little more than reacting to situations of crisis (Francis, 2002). Livelihood outcomes can be analysed at different levels, but most research focuses on household livelihoods.

Figure 2.2: DFID Sustainable Livelihoods Framework



Source: DFID 1999

Proponents argue that by highlighting linkages between the vulnerability context, assets, institutions, livelihood strategies and outcomes, livelihoods

[27] Others identify additional categories of *capital* including **political** (relationship between the state and civil society) and **symbolic** (embedded in the cultural and/or historic setting) (Scoones, 1998).
[28] local committees; tribal authorities; government; legislation; beliefs; norms; codes of conduct, etc, etc…

analysis reveals spaces for interventions with the potential to make a real difference to people's lives. Critics point out a number of weaknesses: There are few 'tools' for analysing linkages (Carney, 1999); the practical focus neglects power relations and structural factors which keep people poor (Carney, 1999; de Haan & Zoomers, 2005); and, of particular concern to this study, livelihoods analysis pays insufficient attention to intra-community power relations and divisions along axes of gender, class, religion, race and so on (de Haan & Zoomers, 2005).

2.6 Livelihoods and water

Rural livelihood strategies are heavily reliant on the natural resource base, with water playing a key role: *"Most poor and malnourished people still live in rural areas and depend on agricultural production for employment, income and food. Water security is vital to their livelihoods – and to their prospects for escaping poverty"* (UNDP, 2006:173). Thus a livelihoods framework is a useful entry point to analyse access to water and water use.

The literature describes the intersection between water and livelihoods as follows: Raw water is natural capital but access and use of water can draw on a range of other capitals, for example financial (income and savings), physical (water and sanitation infrastructure), social (assistance from friends and neighbours, membership of committees), human (knowledge, skills, labour), political (relationship to State) and symbolic (customary law and/or rights of access). The vulnerability context includes drought and floods, seasonality and long term trends such as climate change which impact on the natural resource base. Institutions at various levels influence access to water and water use. These are likely to be context specific, but at household level could include rules and norms governing who collects and who has access to water. At community level local practices/norms, customary rights and traditional/tribal authorities are likely to be important (Adams *et al*, 1997; Rangan & Gilmartin, 2002). At regional level local/regional government, political processes, legislation and organisations authorised to monitor and/or provide water services and medium-large scale water users are likely to be influential. At national level the legislative framework, government, political processes and major water users. At international level the legislative framework, multi-lateral agreements and processes such as globalisation and privatisation (Bond, 2003).

As discussed in 2.1, prior to 1990's, water issues were constructed primarily in relation to health (Gleick, 1996; Nichol, 2000; White *et al*, 1972); the expression of water as an **economic good** created space for it to be recognised as a livelihood asset. Seeing water through a livelihoods lens has implications for the approach to policy and provision. If the focus is health-based, water quality is likely to be the paramount issue[29]. However, if the aim is to maximise availability of an asset, quantity and/or sustainability of supply may be equally, or more pressing concerns. This does not negate the

[29] However White *et al* (1972) argued that water *quantity* was more important than *quality,* even from a health perspective, because water-related diseases are more frequently water washed (e.g. spread by hands, feet, vessels etc) than waterborne, and if people have only a small amount of water, they are likely to neglect hygiene.

importance of safe water for consumption, but if the aim is to enhance livelihoods, this alone will be far from sufficient. Other researchers have found that people often use different water sources for different purposes, for example 'safe' water sources such as taps for consumption, borehole water for agriculture and 'unimproved' sources such as rivers and wells for laundry and livestock. A number of factors including available infrastructure, cost(s), preference and institutions determine how much water is used, from what source, for what purpose (Mehta & Ntshona, 2004; Moriarty *et al*, 2004; Thompson *et al* 2001; White *et al*, 1972). Understanding the difficulties people encounter accessing water and their water use priorities, is essential to make water more accessible for livelihoods. The literature finds that there are likely to be complex links between water and other assets, in particular land, livestock and food (Derman & Hellman, 2007; Nichol & Mtisi, 2003).

2.7 Gender

Livelihoods analysis often takes place at household level and tends to subsume people into homogenous groups. However, people have different capabilities, differential access to resources and interact differently with institutions. Gender - meaning social/cultural, as opposed to biological differences between males and females – is a key axis of difference. The study aims to draw on 'tools' and insights from livelihoods **and** gender analysis, for a rigorous assessment of the linkages between gender, water and livelihoods. Key features of gender analysis are explored below. It is important to bear in mind that the gender literature is vast, and there is space to do little more than paint in broad brush strokes here.

Consideration of gender issues in development arose from a concern about women. Early development efforts marginalised women. A false dichotomy was created between domestic (female) and productive (male) spheres. Women were seen only in their reproductive role as wives, mothers and carers and not as actors in their own right[30]. Mainstream development targeted men whilst women were relegated to the more marginal 'welfare' sector' (Kabeer, 1994). The proposed solution was a focus on women. The UN declared 1975-85 a *Decade for Women* and the Women in Development (WID) approach was born. Women were targeted with development assistance. It was hoped this would cover several bases: Make development more effective, reduce poverty, target Basic Needs and through redressing the earlier neglect improve gender equity (Kabeer, 1994; Moser, 1989). However WID was critiqued strongly. Social transformation was not broached (Cornwall *et al*, 2004), WID took a technical approach[31], sidestepping issues of power and inequality entirely, Kabeer claims it was like *"treating cancer with Bandaid"* (1994:11).

[30] The work of feminist economists such as Esther Boserup (1970) was important in bringing women's productive roles and economic contribution to the fore.

[31]For example developing an array of checklists, frameworks and other 'tools' designed to include women in development.

Early gender analysis was strongly influenced by 'Western'[32] feminism. It was critiqued by 'Southern'[33] feminists for making assumptions based on Western standpoints and claiming applicability to all women, and for appropriating 'other' women's struggles and experiences (Mohanty, 1988). It was pointed out that 'advantaged' women can be found in positions of power vis-à-vis other women and men (Kabeer, 1994). 'Marxist' feminists drew attention to the importance of class, finding women's disadvantaged position to be a structural feature of a system which prioritises the interests of the capitalist class (Beneria & Sen, 1982; Kabeer, 1994). On the African continent, the anti-colonial movement mobilised men and women towards political struggles, sometimes to the neglect of gender issues (Sow, 1989) and feminist researchers analysed the impact of the colonial experience, which often led to a deterioration in women's status vis-à-vis men (Mama, 1989; Sow, 1989; Walker; 1994). Two issues are important here: The question of voice – who is heard, what is their experience and who do they claim to speak for - and the need to be sensitive to context. Gender is always intertwined with other categories of diversity; how one experiences gender depends on where one is positioned in other social hierarchies. Amina Mama (2004:122) warns us to be *"constantly alert to the politics of location",* to consider history, and the interface between local, regional, national and global processes, when analysing gender.

Early gender and development work was critiqued for its focus on *women*. Gender is not just concerned with women, but how 'male' and 'female' are constructed in relation, and often opposition to each-other. Attention was drawn to the fact that men are also oppressed (Chant, 2000; Connell, 1995) and any attempt to achieve gender equity through social transformation will be futile unless men are engaged as allies. The approach changed to Gender and Development (GAD), which claimed a better understanding of power relations and diversities of race and class etc.

Gender frameworks were developed as tools for gender analysis. Some of these are useful to the study. The **Gender Roles Framework**[34] focuses on gender divisions in production, benefits of production, reproduction, access to and control over resources (Kabeer, 1994). The **Triple Roles Framework** analyses the productive, reproductive and community management roles of household members, drawing attention to the fact that all constitute 'work' (Moser, 1988). The **Social Relations Framework**[35] analyses the social relations of production within the household, community, market and state; in order to understand how gender and other inequalities are produced and reproduced. Rules, activities, resources, people and power are considered important here (Kabeer, 1994).

An important contribution of gender analysis was to 'deconstruct' the inner workings of the household, and relate these to broader societal processes. The work of feminist anthropologists and economists such as Moore (1988) and Folbre (cited in Kabeer, 1994:102) played a key role. Previously the

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[32] As mentioned, there is not space here to do more than paint crudely. There are many schools of 'Western' and 'Southern' feminism, see Morgan, 2006.
[33] See footnote 32.
[34] Originally developed by the Harvard Institute of International Development, in collaboration with USAID, the Gender Roles Framework adopts a WID approach (Kabeer, 1994).
[35] Developed by IDS, Sussex.

household was assumed to be a unit which maximised the welfare[36] of its members. Folbre demonstrated the paradox at the heart of this: *"Individuals who were guided by competitive self-interest in the marketplace became selfless altruists when it came to intra-household behaviour"* (Ibid:103). In South Africa domestic violence statistics[37] are a sober reminder that many women do not experience the household as harmonious, or even safe. The household can be viewed instead, as a constellation of people with different interests, a site of bargaining, co-operation and conflict. Thus access to and control over resources, strategising and decision-making embodies the exercise of "*power, domination and subordination"* (Wolf, 1990:60). However the workings of power are seldom clear. Lukes' analysis is useful here (Kabeer, 1994). Lukes' (1976) distinguishes between three types: 'Power to' make decisions and enforce one's will, for example what household income will be spent on; 'power over' meaning power to sanction which 'issues' are legitimate for discussion and who may be involved in decision making; and 'power to shape' people's perceptions, preferences, wants and needs. 'Power to shape' is difficult to surface as it can obfuscate. Someone may accept their position in the social order, because no alternative is imaginable.

People are never entirely powerless, in any situation there is always some room for manoeuvre. People strategise within constraints, and as Kandiyoti says *"distinct forms of patriarchy present women with distinct* "rules of the game" *and call for different strategies to maximize security and optimise life options with varying potential for active or passive resistance"* (1988:274). Kandiyoti finds women often internalise patriarchy, particularly if they operate in a system where they gain power as they get older, vis-à-vis younger women. This reminds us once again to be alert to *the politics of location* (Mama, 2004:122).

Gender interests are those interests people have due to their gender positioning vis-à-vis others (Moser, 1989). The literature distinguishes between *practical* and *strategic* gender interests. Practical interests are grounded in the reality of people's daily lives. They can be determined fairly easily, by asking what people's needs and wants are and interventions designed to meet them (e.g. providing clean, piped water close to home to reduce women's burden of water collection). Strategic interests are trickier. They are determined by analysing people's position vis-à-vis others, and developing strategies to improve it through social transformation (Kabeer, 1994; Moser, 1989) (e.g. challenging social rules/norms which position young women as household water collectors). The distinction between practical and strategic is useful because it highlights the difference between interventions which meet needs, but maintain the status quo, and those which advance equity through social transformation (Kabeer, 1994).

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[36] There is a significant amount of literature on intra-household welfare differentials (see Thomas, 1990 and Kennedy, 1989), which there is not space to go into here.

[37] In a submission to the South African Law Commission in 1999 the South African Department of Justice estimated, in 1:4 South African women survive domestic violence (statistics accessed at http://www.speakout.org.za/about/prevention/preventin_domestic_violence.html on 2/6/08).

2.8 Gender and water

Women are believed to have a special affinity with water. Water is associated with feminine power (Lawuyi, 1998; Strang, 2005) and across cultures women bear the burden of water collection. Women are also managers of domestic/household water, responsible for household health and wellbeing, and water users in their own right. Women are positioned in these roles by virtue of their gender, age and household status (Hemson, 2002).

In the water sector, gender tends to be equated with women and, beyond the notion that improved water access will reduce women's workload and therefore be good for gender equity, analysis has tended to be superficial. There is a paucity of research and poor understanding of the relationship between water and social change (Crow & Sultana, 2002; Wallace & Coles, 2005). For many years women's productive and community management roles in the water sector were obscured. It was assumed women's primary concerns were to do with collecting water and domestic use, and men were productive water users. Some gender analysts[38] even fell into this trap. This came about, in part, because of assumptions about the 'household'[39] and the false dichotomy between domestic and productive spheres. Where women's productive activities were visible, they were considered to be 'merely subsistence' and not as important as men's income generating activities (IGA). Thus women's productive water needs were overlooked, to the detriment of women, their households' and the economy (Michael, 1998). Women were also excluded from and marginalised in management roles and decision-making structures, creating efficiency[40] and equity problems (Hemson, 2002; Michael, 1998).

Failure to understand the gendered nature of water access can mean certain people are disadvantaged and water policies and programmes increase rather than decrease inequalities. Conversely ensuring men and women have equal access to water may reduce gender and other inequities[41] (Zwarteveen, 1997). Understanding social relations is key to understanding water access.

Crow & Sultana (2002) find four water access 'modes': Land ownership and technology; market access (purchasing water); communal/common property access and government-backed access (water service provision). Each 'mode' has social conditions which create water security and the converse deprivation. People, specific groups and/or the community/society at large can experience water security/deprivation. The literature suggests that factors affecting water security/deprivation are likely to be context specific and could include: land tenure; marriage contracts; inheritance rights; household roles/responsibilities; income; social status; rights and rules

[38] See Cleaver & Elson, 1995.

[39] *"The male head was believed to be the main farmer, decision-maker, and provider, while his wife engaged in household tasks, looked after the children, and occasionally helped her husband in the fields"* (Upadhyay, 2005:412)

[40] Projects failed, because of the disjuncture between water users (female dominated) and decision makers/managers (male dominated) (Michael, 1998).

[41] Access to resources has been found to correlate positively with bargaining power within the household, communities and society at large (Zwarteveen, 1997:1339).

regarding access to resources; social networks; government policy etc (Adams *et al* 1997; Crow & Sultana, 2002; Zwarteveen, 1997) as well as environmental conditions. Gender is likely to intersect with other hierarchies to influence access. For example poor women may be disadvantaged, first by lack of resources, then by low status vis-à-vis men.

More secure access will lead to greater water use[42]. A growing body of literature highlights the role of water in productive activities and its contribution to poverty reduction (Hope *et al*, 2003; Moriarty *et al*, 2004; Mulwafu 2003; Thompson *et al*, 2001; Upadhyay, 2005). There has been a little investigation of the gender dynamics of this. Upadhyay found many water using productive activities are engaged in *uniquely or primarily* by women and income earned goes directly to the women involved. Agriculture is an important component of rural livelihoods. Men and women often cultivate separately, and keep the proceeds of their own production, after household needs have been met. Making water available for irrigation makes agriculture more productive and secure[43] (van Koppen, 1999). Agriculture requires land and other assets, access to and the use of which is also gendered. In sum, there appear to be complex, gendered linkages between water and other assets.

2.9 Conclusion

Access to water is critical on a number of levels: For survival, to meet basic needs, realise human rights and sustain livelihoods. For many years the basic needs emphasis on water for survival and domestic needs dominated and has influenced water provision. An alternative is to take a HRBA, which is the approach a number of countries including South Africa appear to be adopting. An HRBA has the potential to recognise links between access to water and the realisation of other human rights including health, food, and security. This could lead to a different approach to water provision.

The aim of the empirical study is to investigate linkages between gender, water and livelihoods, as this is identified as an area about which relatively little is known, where greater understanding could contribute to poverty reduction and improve gender equity. Livelihoods and gender analysis will be drawn on and this chapter explored the conceptual foundations of these. Livelihoods analysis offers a useful entry point into a rural situation as it considers the vulnerability context, assets and institutions which affect livelihood activities and outcomes. However, analysis often stops short of unpacking the household. Gender analysis can be useful for doing this and investigating the power dynamics within. However this can be tricky, as the workings of power are seldom clear. One needs to be alert to issues of voice and the *"politics of location"* (Mama, 2004:122). The complexities discussed

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[42] For example, White *et al* (1972) and Thompson *et al*'s (2001) studies in East Africa found that households with piped water on site used three times as much water as households without.

[43] *"Irrigation allows more food to be produced from the same size land holding. This is crucial, especially where land reforms have stagnated and there are no other employment opportunities. Even a tiny irrigated plot significantly* 'adds to the range of options' *available in the livelihood strategies of the poor"* (van Koppen, 1999:3).

mean it will be difficult to research the gender, water and livelihoods dynamic, but being aware at least means being forewarned.

Chapter 3: National context and policy frameworks

This chapter outlines the evolution of South Africa's approach to water and the emergence of the post-apartheid water management framework. It builds a bridge between conceptual frameworks and the case study, by reviewing some of the literature relevant to South Africa, in particular rural KwaZulu Natal (KZN). Again, the aim is not to provide a comprehensive review of an extensive body of work, but highlight key issues relevant to the research questions. The chapter unfolds in four sections: It traces the emergence of South Africa's legislative and policy framework since 1994, looking at the influence of the basic needs and human rights based approaches (HRBA), water sector priorities, institutional reform and service delivery, ending with discussion of current water sector debates. Then the South African rural livelihoods and gender literatures are explored; finally a conclusion is drawn.

3.1 The emergence of South Africa's water management framework

This section unfolds chronologically, tracing the evolution of South Africa's water management framework in three stages - the transition from apartheid 1994-96, early priorities 1996-2001, and developments 2001-07, followed by a summary of the key debates.

3.1.1 The transition from apartheid 1994-96

"Access to water was one of the defining racial divides in apartheid South Africa. Since apartheid was brought to an end, a rights-based legislative framework and public policies aimed at extending access to water have empowered local communities and reduced inequalities. The task is not yet complete – but there are important lessons for other countries …" (UNDP, 2006:64)

The end of apartheid presented an opportunity to construct a new legislative framework placing respect for human rights at its core[44]. A constitution was drafted with the *Bill of Rights* embedded within, which outlined a raft of civil, political, economic, social and cultural rights, including the right to water[45] (RSA, 1996(a)). A constitutional court was established, tasked with ensuring

[44] In 1994 South Africa signed the *International Covenant on Economic, Social and Cultural Rights* (UNHCHR, 1966(b)*;* in 1995 it ratified the *Convention on the Right of the Child* (UNHCHR, 1989) and the *Convention on the Elimination of Discrimination Against Women* (UNHCHR, 1979) and in 1998 it ratified the *International Covenant on Civil and Political Rights* (UNHCHR, 1966(b)).

[45] *"Everyone has the right to have access to… (b) sufficient food and water"* (Chapter 2, Section 27, RSA, 1996(a)).

that the rights laid out in the constitution are upheld. Making redress for past discrimination was a priority, as black, indian and coloured South Africans had been denied civil and political rights, and were socio-economically disadvantaged vis-à-vis the white populace.

In 1994 the Department of Water Affairs and Forestry (DWAF) was expanded and restructured through the merger of 11 water and forestry related departments scattered across the former Republic and Homeland[46] areas. It had a formidable mandate as it was estimated 15.2 million people - the majority living in rural areas - did not have access to potable water and 20.5 million were living without sanitation. Water resource use was highly inequitable, with white people constituting 13% of the population, owning 87% of the land and using 95% of the water, advantaged by a system of riparian rights which linked water to land (Mehta & Ntshona, 2004).

The *White Paper on Reconstruction and Development* (RDP) (RSA, 1994) established social objectives for the new government. It was one of the first documents to envisage how water might be managed in the new South Africa. Meeting basic needs were a key reference point and water was considered one of these[47]. Targets were set for the provision of 20-30 litres per capita per day (lpcd) in the short term (5-7 years) rising to 50-60 lpcd medium term (unspecified timeframe) from a source within 200m of home. Water was declared an *"indivisible national asset **belonging** to all South Africans"* (Ibid: Chapter 9), setting the scene for the nationalisation of water resources and a complete legislative review.

Shortly after however, the RDP was superseded as the government's guiding strategy by Growth, employment and redistribution (GEAR) (RSA, 1996(b)). Crafted by a team of technical 'experts', GEAR was influenced by the global neoliberal thinking, it aimed to reorient the economy along outward lines, and reduce fiscal deficit to achieve higher economic growth. GEAR's architects argued it did not conflict with the core objectives of the RDP (Ibid); however resources available to implement the RDP were severely curtailed. There was a tendency to limit scope, revise targets and extend time frames[48]. Fiscal restraint resulted in reduced operating subsidies at a time when municipalities were expected to take on greater responsibility for water service delivery. Public-private partnerships and full cost-recovery were proposed as solutions to the financial squeeze. The installation of pre-paid water meters and cut-offs[49] for non-payment came to be widespread in low

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[46] The term 'Homeland' is explained and discussed in sections 3.3 and 5.1

[47] Meeting Basic Needs was one of six principles in the RDP and a key programme area in its own right: *"The basic needs of people extend from job creation, land and agrarian reform to housing, water and sanitation, energy supplies, transport, nutrition, health care, the environment, social welfare and security."* (RSA, 1994(a)).

[48] For example in the water sector, it was the short term target (20-30 lpcd) rather than medium term RDP target that was adopted subsequently into legislation and policy.

[49] In 2002 McDonald, using HSRC representative national survey data, estimated that 10 million South Africans had experienced water cut-offs in recent years. DWAF refuted the figure, which HSRC subsequently revised to 2% of connected households (250,000 people); a figure which remains cause for concern (Mehta & Ntshona, 2004).

income areas (Bond, 2000; Bond 2003; Mehta & Ntshona, 2004). Meeting basic needs was forced to take a back-seat[50].

3.1.2 Early priorities 1996-2001

DWAF inherited a legislative framework in need of overhaul, a backlog of millions without access to water, fragmented water service delivery arrangements and inequitable water resource use. Crafting a new legislative framework, eradicating backlogs, streamlining service delivery and improving equity were key early priorities.

The *Water Services Act* (RSA, 1997) was the first piece of new water legislation. It reaffirms the right to water: *"Everyone has a right of access to basic water supply and basic sanitation"* defined as a survival and health based interpretation of basic needs *"a reliable supply… sufficient* to *support life and personal hygiene"*. The act outlined a new framework for water service delivery. Previously, responsibility was split across various administrations and departments and the day-to-day operation of water schemes was managed by myriad actors (Mehta & Ntshona, 2004). Service delivery was to be decentralised. It would become the responsibility of municipal Water Service Authorities (WSA's) to contract Water Service Providers, or deliver services themselves, in their area of jurisdiction. DWAF would play a regulatory, monitoring and support role. The Department of Provincial and Local Government would also bear some responsibility for monitoring and regulating municipalities, but the greatest duties were placed upon WSA's.

The *National Water Act* (RSA, 1998(a)) lays the framework for water resource management. The act declares water a natural resource to be managed in the national interest, and sees water as a means to promote social and economic development, reduce poverty and redress inequities. Water resources will be managed on a catchment basis. The country is divided into 19 catchment-based water management areas (see Figure 3.1 below). Catchment Management Agencies will be established and tasked with regulating water allocation via a compulsory licensing process[51]. A number of uses are exempted[52]from licensing and a reserve - the quantity of water required to protect the environment and meet basic needs – is set aside before water is allocated to other uses. The act goes some way towards facilitating water for livelihoods, as subsistence, but not small scale for-profit productive activities, are exempt from licensing requirements.

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[50]Municipal services expert Glen Robbins, also argues that the state itself was not adequately capacitated and capable for meeting the service delivery challenge (Robbins, 2008, personal communication).
[51]See the *National Water Act* Chapter 4 (RSA, 1998).
[52] *Domestic use* from any source*; domestic use, non-commercial gardening and watering of animals* from a water source on land owned/occupied by one; rainwater and wastewater for any use (Chapter 17, Ibid)

Figure 3.1: South Africa: Catchment Management Areas

Source: DWAF, 2004:94

The period saw a great deal of investment in new water schemes and connections, particularly in rural areas, and a substantial number of people gained access to water for the first time. According to census data, between 1996-2001 3.5 million people gained access to water services at or above RDP standards (a safe water source within 200m of home) and 8.8 million gained access to water services at or below RDP standards (a safe water source further than 200m of home). However, the backlog of households without RDP standard water services increased from 1.8 to 3 million and the backlog of households without water services decreased only slightly from 1.8 to 1.7 million during the same period, due to growth in population and the number of households (Hemson, 2004). In addition, there were concerns about sustainability. GEAR's critics claim fiscal restraint led to underinvestment in infrastructure to serve the urban poor (Smith & Hanson, 2003) and the longevity of new rural water schemes was called into question. In a study of KZN rural water schemes Hemson (cited in Bond 2003:148) found 74% were functioning *at one level or another* but only 43% functioned to RDP standards and Hagg & Emmett (2003) reviewing community water supply policies and programmes since 1994 found they were constructed rapidly, without consideration for the skills, funding, social and community development necessary to keep them working.

In this period the legislative foundations were laid, but a great deal more would be required to achieve sustainable service delivery and equitable water resource management.

3.1.3 Developments 2001-07

In South Africa, meeting basic needs is linked to redress for past discrimination (Hemson & Owusu-Ampomah, 2005) as apartheid left deep economic and social scars. In 2001, going against the prevailing international

climate of full-cost recovery, the government announced its commitment to providing free basic services to the poor. DWAF announced its *Free Basic Water* (FBW) policy shortly after, the aim being to provide a basic water service free to poor households (DWAF, 2002(a)). Norms and standards released shortly afterwards defined a *basic water supply service* as 25 litres per capita per day (lpcd) or 6000 litres per household per month (lphm), from a potable source within 200m of home, with a minimum flow of 10 litres/minute and service interruptions less than seven days a year (DWAF, 2002(b):13).

A considerable amount of institutional change took place during this period. The *Municipal Structures* and *Municipal Systems* Acts (RSA, 1998(b); RSA, 2000) redrew boundaries, created a municipal system with district and local tiers, and established the rights, duties, functions and powers of municipalities. Decisions were to be made about which level would become WSA's. Many fledgling municipalities had no experience of water service provision; others had experience, but found their jurisdiction greatly altered by the inclusion of new areas with little or no water infrastructure (Wilson, 2006). Infrastructure was transferred to WSA's and the newly mandated WSA's were to make decisions about institutional arrangements for water service delivery. DWAF stepped back from direct provision taking on more monitoring and support duties; one of the most critical being to capacitate WSA's.

The Strategic Framework for Water Services (DWAF, 2003) reviews nine years of progress and outlines the vision for water services in the coming decade. It reiterates the primacy of basic water provision, retaining the 25 lpcd definition, however it raises the possibility that this may be revised upwards in future to 50 lpcd. WSA's are encouraged to provide households with more than a basic service.

The National Water Resource Strategy (DWAF, 2004) sets out a meta-plan for water resource management. It gives information about the amount of water available for allocation[53] and outlines a 21 year schedule for water licensing. The strategy recognises water plays a role in sustaining livelihoods[54] and notes that *basic water* does not meet livelihoods, it suggests an additional quantity of 50-100 litres per household per day be made available to households during the water licensing process.

The period saw another substantial increase in the number of people provided with water services. In 2005 DWAF announced that 10 million people had gained access to water since the end of apartheid and 31 million people were benefiting from FBW (UNDP, 2006). However, a stubborn backlog

[53] Total available water – the (environment and basic needs) reserve = water available for allocation. It is not clear whether the reserve and the water available for allocation will be recalculated, if and when the definition of *basic water* is revised upwards.

[54] *"The rural poor, many of whom do not yet have access to reliable water supplies or sanitation services, often rely for their livelihoods on cultivating food, gathering natural products and other water-dependent activities. But their water sources are often unreliable and insufficient, threatened by droughts and floods, and eroded or degraded by developments over which they have no control"* (DWAF, 2004).

remains. According to DWAF[55] on 30 November 2007 2.9 million people were without water infrastructure and a further 4 million received below RDP standard water services (see figure 3.2 below). Thus 6.9 million people (14% of the population) did not receive water services to basic needs standards. On the same date 37.5 million people (77% of the population) were said to be benefiting from FBW. A higher percentage of non-poor (83%) than poor (70%) people benefited from FBW.

Figure 3.2: The national view of water service delivery and FBW implementation

Population	Total	Poor
Total	48,897,554	22,718,758
Served	37,552,312	15,942,644
%	**76.80%**	**70.17%**

Service level view

Total Population Served					
Service Level	No Infrastructure	Below RDP	at RDP	Above RDP	Total
Total	2,876,682	4,034,554	8,920,919	33,065,399	48,897,554
Served	88,775	3,673,100	6,094,012	27,696,425	37,552,312
%	**3.09%**	**91.04%**	**68.31%**	**83.76%**	**76.80%**

Service level view

Total Poor Population Served					
Service Level	No Infrastructure	Below RDP	at RDP	Above RDP	Total
Total	1,894,791	2,219,447	5,248,731	13,355,789	22,718,758
Served	41,837	2,034,312	3,344,199	10,522,296	15,942,644
%	**2.21%**	**91.66%**	**63.71%**	**78.78%**	**70.17%**

Water Sevice Authorities			
Total	Providing to all	Providing to some	Not Providing
169	17	147	5

Source: downloaded at: http://www.dwaf.gov.za/FreeBasicWater/ on 2/12/07

Policies and progress have been critiqued on a number of fronts. Norms and standards for the provision of FBW are premised on a household of eight receiving 6000 litres monthly, which works out to 25 lpcd. Households of more than eight will receive <25 lpcd, whilst households of less than eight will receive >25 lpcd. This disadvantages poor households which tend to be

[55]WSA's provide FBW data for their area of jurisdiction. DWAF does not have a means of verifying the data, which is recognised as being problematic!

larger than non-poor households. The amount furthermore is not sufficient for the basic health and hygiene needs of households with water-borne sanitation (Bond, 2003). There are concerns that FBW may *reduce* access in rural areas, by undermining the revenue base of cash strapped municipalities (Hagg & Emmett; 2003) and there are logistical problems. It is easier to provide FBW to households already 'connected' to water networks and very difficult to reach those in deep rural areas. Furthermore the capacity of WSA's differs greatly and many of the least capacitated WSA's have the largest backlogs[56]. The *equitable share*[57] provides municipal WSA's with revenue which could be used to implement FBW, but is often used for other purposes. The Municipal Infrastructure Grant is available to address backlogs, but there are capacity problems regarding its uptake. It is widely recognised that operations and maintenance are underfunded (Galvin, 2008, personal communication). In this context, decentralisation can reinforce rather than reduce inequities (Wilson, 2006).

Legislation took steps towards recognising water for livelihoods. For livelihoods, access to more than basic water is important, as is consistency of supply. Inequity in terms of water use remains striking however. In the Mhlatuze basin – location of the case study site - 10% of the people use 99% of the water resources (Schreiner *et al*, 2002:129). A framework for more equitable water resource management may be in place, but little has actually altered in terms of allocation and use, the proportion of water consumed by the poor is still almost negligible.

3.1.4 Summary: Key debates in the South African water sector

South Africa's framework and approach to water management have been lauded, for being progressive, effective and pro-poor (UNDP, 2006). Achievements include: Crafting new legislation aiming to redress past discrimination, providing 10 million more people with access to water and introducing a FBW policy to meet the basic needs of the poor. Critics point out that real transformation has yet to take place (Schreiner *et al*, 2002), new water schemes are hampered by sustainability issues (Bond, 2003), population growth has offset the reduction of backlogs (Hemson, 2004) and FBW does not meet the basic needs of the poor (Bond, 2003). Furthermore cost-recovery interferes with the human right to water (Ibid; Mehta & Ntshona, 2004), and resource and capacity constraints hamper service delivery.

Critiques must be read with awareness of the *politics of location* (Mama, 2004:122) as concerns are very different in rural and urban contexts, for men and women, and across other axes of diversity. Vociferous urban critics command the most attention. Soweto residents recently won a case against

[56]Some well capacitated WSA's have large backlogs too, as a result of redemarcation.

[57]A portion of national revenue - which is determined by a formula developed under the *Division of Revenue Act* - is allocated to municipalities each year on the basis of poverty levels in their area of jurisdiction, this is known as the equitable share.

Johannesburg Water, who was ordered to halt the installation of pre-pay water meters and provide 50 lpcd FBW. The judge commented: *"To expect the applicants to restrict their water usage, to compromise their health by limiting the number of toilet flushes in order to save water, is to deny them the rights to health and to lead a dignified lifestyle"* (irinnews, 2008). In rural areas, access is hampered by lack of capacity and resources, many people walk kilometres to fetch water from unsafe sources and FBW – if it is available - usually means water from a communal standpipe (Hagg & Emmett, 2003). Using up FBW flushing the toilet is not an issue, as 16 million people are without sanitation (UNDP, 2006).

South Africa has a strong human rights framework and a range of mechanisms available to hold duty bearers to account. However as discussed in 2.3, rights realisation requires more than a framework. More often than not gains are made through struggle and contestation[58]. It has been suggested that there is a marked lack of will on the part of duty bearers to fulfil rights (Mehta, 2006) but the capacity of the state to deliver is also a concern (Southall, 2007). In rural areas people tend to be less well informed about rights and organised than their urban counterparts, they are further from institutions that can assist with claiming rights; tradition and culture play a central role in daily life and institutions such as Traditional Authorities (TA's) frame rights issues differently.

3.2 Rural livelihoods in historical context

Here the South African rural livelihoods literature is explored and set in historical context. This section focuses on assets, activities and strategies relevant to rural KZN livelihoods, particularly where there are linkages with water.

Colonial and apartheid residues are embedded in the landscape in particular ways. Black South Africans were dispossessed of land and removed to 'homelands' constituting 13% of the landmass, where they were contained in ethnic groups, whilst people of European origin occupied and owned prime land in the Republic of South Africa (RSA). In 'homelands' people were governed by tribal, (now known as traditional) authorities (TA's). The system suited the colonial and apartheid governments, who used it to maintain indirect rule from afar, a system Mamdani (cited in Rangan & Gilmartin, 2002:639) refers to as *"decentralised despotism".*

Able-bodied men were encouraged to migrate temporarily from the 'homelands', to mines and urban centres for work, but not to move permanently, or bring their families. The migrant labour system had an influential impact on rural economies, as Walker explains: *"All regions were heavily dependent on migrant labour as a source of cash"* and *"most men could expect to migrate at least once in their lives".* Women remained behind *"locked into homestead production and the underwriting of a predominantly male migrant labour system"* (1994:176-7). Although the system has been

[58]See Cornwall & Nyamu-Musembi (2004)

dismantled, its legacy remains. Poverty and unemployment are concentrated in pockets in the former homeland areas[59].

Historically, labour remittances made an important contribution to livelihood strategies, but Walker posits women's agricultural production played the most important role in household reproduction. Homelands were densely populated - and have become more so, - the land is difficult to cultivate, nevertheless subsistence agriculture still underpins many rural livelihood strategies. May found 62.5% of KZN households were 'involved' in agriculture, the majority having just a garden sized plot (1996:8); Rangan & Gilmartin (2002:638) report most households in former homelands have plots 0.1-0.2 hectares, which is barely sufficient to meet subsistence needs. Livestock are another important asset, imbued with social and cultural meaning: *"Cattle provide meat and amasi, the mainstay of the Zulu diet, as well as hides for shields and clothing, while the wealth of a man is always reckoned in cattle, since it is in cattle that he must acquire wives for himself and his sons, and pay doctors fees when there is illness in the kraal. Cattle consequently provide a variety of functions, including meat, milk, manure, draught power, a means of social exchange, security against adverse conditions, and assets which may be rapidly liquidated"* (Hatch, 1996:81). Hutchings & Buijs' rural KZN study found that migrant labourers reserve their income for purchasing livestock (2005). Cattle ownership appears to be highly concentrated, with a minority of people owning the majority of cattle, and many owning none (Hatch, 1996).

As the population increased, people were squashed into smaller and smaller areas of land. Dependency on wages [and remittances] increased and people 'plundered' the natural resource base to meet their basic needs (Cross *et al*, 1996). Formal employment peaked in 1970's, although the size of the labour force continued to grow, creating a pool of unemployed, forced to seek alternative income sources. Informal sector[60] employment came to play an important role[61] (May, 1996). Cash transfers in the form of disability and old age pensions and social grants which support women and children have been a key source of income for some time, however their distribution was inequitable. The social welfare sector was overhauled in 1980's in the interests of removing racial discrimination and promoting equity. A means-tested Child Support Grant was introduced in 1998 to replace the State Maintenance Grant, which had primarily benefited coloured, Indian and white women and children (Lund, 2008). Cash transfers are now a critical source of regular income for poor households in rural and urban areas.

To briefly summarise: rural assets include: Land; livestock; natural resources; labour; human capital (education, skills, health etc); wages; family, household and social networks; claims and entitlements to social security and remittances. Activities include: Consumption/sale of livestock products and crops; harvesting natural resources for consumption/sale;

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[59] In 2000 53% of South Africans were classified as 'poor'; 95% of the poor were black Africans, and 75% of poor African households were located in former 'homeland' areas (Rangan & Gilmartin, 2002:638).
[60] The *informal sector* includes subsistence agriculture, employment in farm and non-farm micro-enterprises and the small-scale production of goods and/or services for sale (May, 1996).
[61] In 1995 it was estimated that the informal sector employed 13 times as many people as the formal sector in KZN (May, 1996:6).

formal and informal employment and income generating activities (IGA's); collecting social grants and remittances; investing in household and social networks. From a skim of the literature, livelihood strategies appear to be diverse. People draw on a wide range of assets, and typically engage in a number of activities, to guard against risk and maximise income. The vulnerability context includes population growth, threat of retrenchment, illness and death. HIV/AIDS is having a major impact[62], with some rural areas experiencing 'reverse migration' as people return home to be nursed and to die (Hutchings & Buijs, 2005).

3.3 Gender in context

The historical and anthropological gender literature relating to KZN is explored below. Once again, the intention is not to achieve breadth of coverage, but surface key features and drivers of gender relations, bearing in mind that these are in a state of constant flux.

Rural KZN was the former Zulu homeland ruled by the *amakosi*[63]. Zulu tradition and culture still has a great deal of influence over daily life and Traditional Authorities[64] (TA's) remain perhaps the most powerful institution in rural communities (Hutchings & Buijs, 2005; Rangan & Gilmartin, 2002). Most of the former homeland area is now administered by the Ingonyama Trust, established in 1994 to manage land in the interests of the people and communities who live on it, but *in effect*, the TA determines land allocation, granting people permission to access, occupy and use land, which they can revoke at will (Rangan & Gilmartin, 2002:641).

Traditional Zulu society is hierarchical and patriarchal: The position of *inkosi*[65] is hereditary and almost always held by a male, he selects *izinduna*[66] to govern on his behalf in *izigodi*[67], there are no elected representatives. The household head (HH) is usually male and most household decisions are deferred to him, even if he spends some or most of the time living elsewhere (Hutchings & Buijs, 2005; Zulu, 1996). Polygamy is prevalent. It is acceptable for a man to have as many wives as he can give *lobola*[68] for and support financially, and common practice for men to establish relationships and often households in different locations with multiple partners, if not wives (Hutching & Buijs, 2005). Culture is dynamic however. Marriage is declining - due to a number of factors – and women also take multiple sexual partners (Hunter, 2005). The proportion of women heading households is

[62]HIV prevalence rates in KZN are 2x the national average and higher than any country in the world (Statistics South Africa, 2007(a))
[63] Chiefs (see glossary)
[64] Comprising the *inkosi* (chief; see glossary), who is the chairperson; *izinduna* (headmen; see glossary) and other advisors.
[65] Chief (see glossary)
[66] *Izinduna* are also almost always male, but I know of one rural KZN *isigodi* with a female *induna* – the woman took up the post after her husband – the former *induna* – died.
[67]Traditional authority wards (see glossary)
[68] Bridewealth (see glossary). *Lobola* is usually set at 11 cows, or monetary equivalent.

rising over time, with the greatest increase occurring in rural areas (Posel, 2001; Rangan & Gilmartin; 2002).

Access to resources such as land and water are gendered. Hutchings & Buijs (2005) and Rangan & Gilmartin (2002) find rights to access and/or use resources are usually granted to the male HH, although women are largely responsible for farming and meeting household subsistence needs. Customary law - which the constitution recognises as long as it is not in conflict with other legislation (RSA, 1996(a)) - views women as being under the 'guardianship' of their husband or other male relative. Their assets are considered household property and could potentially be appropriated if their male 'guardian' to die (Rangan & Gilmartin, 2002).

Zulu culture ascribes men and women gender-specific roles. These are believed to be different but complimentary (Daber, 2003), but from a feminist perspective are entrenched in a system of male domination (Scorgie, 1998). Domestic and reproductive tasks including caring for children and the sick, fetching water, cooking and cleaning are women's work. Women also grow crops for household consumption. Men seek employment to support the household financially and raise livestock. As discussed (3.2), cattle are a measure of a man's wealth. It is useful to disaggregate the household further, as gender intersects with age and household status to determine the division of labour in the domestic sphere. Older/senior women wield more power and are able to command the labour of junior women (Annecke, 2003; Hemson, 2003). In recent years HIV/AIDS has impacted on the gender division of labour. In households where the burden of caring for the sick has increased, children and the elderly may be drawn into more domestic work (Hutchings & Buijs, 2005).

3.4 Conclusion

This chapter explored how water management, livelihoods and gender intertwine in South Africa. The end of apartheid presented the opportunity to create a new water management framework focusing on meeting basic needs, realising the human right to water and redressing past discrimination. The evaluation of the outcome for poor people is mixed. On the one hand South Africa is held up as an example of best practice (UNDP, 2006), on the other it is claimed the government is failing rather than serving the poor. There are concerns around whether FBW is sufficient to meet basic needs (Bond, 2003); the sustainability of water schemes (Hagg & Emmett, 2003); backlogs and service delivery (Hemson, 2004) and inequity in water resource use (Schreiner *et al*, 2002). Many concerns relate to state incapacity (Southall, 2007) and some to unwillingness to deliver (Mehta, 2006).

Water is believed to make an important contribution to rural livelihoods. KZN rural livelihood strategies appear characterised by diversity, with water being one of a number of assets drawn on. Gender, water and livelihoods appear to interface via the household division of labour, the gendered nature of access to resources, and influence of the TA.

Chapter 4: Methodology

Here the rationale behind the methodology is explained. This chapter covers the research approach, sampling strategy, data collection and analysis and critical reflections on the methodology from the field.

4.1 Research approach

4.1.1 Case study

A case study approach was taken and an information rich case selected. Case studies allow for in-depth study from a variety of perspectives, of a community - or other unit of study - embedded in its unique context, at a specific point in time. They can yield rich findings which reveal new insights about the 'wider phenomenon' under investigation *"Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the enquiry… researchers think through* ***what are the cases they could learn the most from*** *and those are the cases that are selected for study"* (Patton, 2002). A potential weakness, is that a case may be too different, and the findings of limited relevance to other situations. This can be countered by not focusing too narrowly on the *individual-ness* of the case, and remaining aware of the wider context within which it nestles.

4.1.2 Ethnographic inquiry

Ethnographic inquiry was used. Rooted in anthropology, this is a particular form of inquiry which seeks to understand culture and social life from an 'insider' perspective. A variety of - mostly qualitative - research methods can be used and the researcher typically immerses him/herself in the culture and social life under investigation for extended periods of time. As discussed in 2.7, gender is socially constructed. Ethnographic inquiry then, is a useful route to investigate gender.

Qualitative research and ethnographic inquiry in particular, have been critiqued for being subjective and susceptible to bias, as the researcher immerses him/herself in a context, and later attempts to interpret and analyse it. This can be countered by the researcher being aware of their own standpoint and reflexive about their feelings towards the situation/subject. A research journal is a useful tool and findings should be tested by being subjected to triangulation[69]. As an 'outsider' seeking an 'insider' perspective, there is a danger of misunderstanding/interpreting a situation and/or being misled, this can be countered by drawing on the insight of key informants.

[69] See Guion, 2002.

4.2 Sampling strategy

4.2.1 The case

A purposive sampling strategy was used. The aim was to select an information rich case which would illuminate the interface between gender, water and livelihoods. Mseleni in Northern KZN was selected as the case study site, because previous fieldwork (Hazell & Wilson, 2006) suggested it was an interesting case, the researcher was known, and negotiated access into the community via local 'gatekeepers'[70].

4.2.2 Diversity within the case

"The case is singular, but it has subsections, groups, dimensions and domains – many so well-populated that they need to be sampled" (Stake, 2005).

In order to sample diversity, three *izigodi* where people accessed water in different ways, were selected for in-depth study. *Izigodi* which were believed to have poor, medium and good overall access were selected, on the basis of experience from previous fieldwork (Hazell & Wilson, 2006) and personal communication with a local water engineer (Nash, 2006) (see Table 4.1 below).

Table 4.1: Characteristics of *izigodi*

Isigodi	**Bangizwe**	**KwaJobe**	**Mboma**
Primary water Source	Borehole Open wells	Taps connected to piped water scheme	Protected tubewells[71]
Means of access	Communal	Private and communal connections to piped water scheme	Private and access via neighbours' water sources
Access overall	Poor	Good	Medium

4.2.3 Respondents

In each *izigodi*, a focus group discussion (FGD) was arranged and a number of households visited for observation and interviews. Respondents were selected in different ways. In **Bangizwe** the *induna* invited people to attend the FGD; he chose 15 females and 15 males and selected households to be

[70] Permission was obtained from the Traditional Authority (TA) to conduct research. The assistance of Izinduna, the community water committee, local Engineering firm Partners in Development (PID), and local Research Assistants is acknowledged.

[71] A small well made by driving a tube into the ground until water is reached. The Tubewells in Mseleni were neatly constructed and covered to prevent debris from falling in. Thus they were 'improved' sources.

visited for observation and interviews from amongst the participants. In **KwaJobe** people attending a community meeting called by the *induna* volunteered to participate in the FGD and be visited for observation and interviews. In **Mboma** the *induna* invited people to attend the FGD and a key informant arranged households for interviews and observation.

Assistance from the *izinduna* is a potential source of bias, but *izinduna* are community gatekeepers and it would have been impossible to do the research without their support. Furthermore, it would have been difficult to select households differently. Mseleni is deeply rural, homesteads are scattered and difficult to find, they are not marked on maps and some are several km from tarred roads; local knowledge was essential.

A diverse sample was requested, of households and people who access water from different water sources and in different ways. One female and one male were interviewed per household, where possible. In two instances it was not possible as there was no male at home. As age and household status are believed to influence gender relations in rural KZN (see 3.3), it was endeavoured to interview people of diverse ages and position within the household. However, without knowing more about the wider population, claims to neither diversity nor representivity can be made.

Further information about the gender composition of the focus groups, and the gender, age and social status of interview respondents is displayed in Tables A1 and A2 in Appendix 1. In the write up, quotations from the FGD are referenced with the letter **f** (female) or **m** (male), followed by **FGD**, and the ***izigodi* name**. Quotations from the interviews are referenced with the letter **f** or **m**, **age** of the respondent and **Household (H) number.** Where additional interviews are drawn on, these are referenced as **interview**, followed by the **date.** A schedule of the additional interviews drawn on can be found in Table A3 in Appendix 1, with additional details about the respondents, if they gave permission. Research journal entries are referenced by **research journal**, and the **date.**

4.3 Research methods

Case study researchers typically collect data from a number of sources and use multiple methods to construct a 'thick', detailed understanding of the case. This has a number of strengths: Different methodologies illuminate from different perspectives, the investigation is rich in detail and complexity; multiple sources and methods facilitate triangulation - if data from different sources/methods corroborate, the findings are robust (Guion, 2002; Patton, 2002; Yin, 2003). However, this type of research is demanding, it requires a great deal of time to collect and analyse data properly and the researcher must be competent in a variety of data collection and analysis techniques (Yin, 2003).

4.3.1 Research design

The principles of case study research (Patton, 2002; Yin 2003) and methodologies utilised by other water use studies (Perez de Mediguren, 2004;

Thompson *et al*, 2001; Upadhyay, 2005; White *et al*, 1972) were reviewed. Discussions with other water researchers[72] also informed the research design. It was decided to use a number of primarily qualitative research methods to collect data, in order to gain insight at different levels. Participant-observation, structured interviews, FGD and participatory visual methods commonly referred to as Participatory Rural Appraisal (PRA)[73] were used.

4.3.2 Data collection

A literature and document review was carried out from February-June 2006 and revisited between August-December 2007. This included literature on water use, basic needs and rights based approaches, livelihoods and gender, South African policy documents and documents relating to the case study area.

The researcher lived in the community for the duration of fieldwork – five weeks between June-July 2006 – in order to be a participant observer and experience the context first hand[74]. Data collection instruments were piloted in the field. Structured interview questions were tested with three households which were not part of the sample. Some questions were subsequently reworked, and others added. The FGD questions and participatory visual activities were tested in a 'workshop' with local Research Assistants and members of the household where the researcher lived. The data collection instruments are attached in Appendix 2.

Fieldwork was conducted for one week in each *isigodi* starting with Bangizwe and ending with Mboma. For the first three to five days household visits were carried out. The research team arrived at the first household in the early morning and accompanied people on their journey to fetch water. Distance to the water source was measured by counting steps and multiplying steps by the length of stride[75] and the journey was timed. The trip provided an opportunity for relaxed discussion. Back at the homestead the research team carried out interviews with one female and one male household member, and a senior household member was asked questions about household structure, wealth and assets. In total 33 interviews were conducted with 18 females and 15 males from 18 households (see Table 4.3). Structured interviews[76] were conducted in Zulu by a Research Assistant, recorded and later translated by

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[72] Thanks to David Hemson and Zoe Wilson for suggestions and insights.
[73] Participatory Rural Appraisal (PRA) is also referred to as Rapid Rural Appraisal (RRA), methods include timelines; mapping; trend analysis; scoring; ranking etc see Chambers (1992) and Dunn, (1994).
[74]The Researcher had also lived in the community for 4 weeks in **June-July 2005** and 8 weeks in **April-June 2006**, whilst working on another research project (Hazell & Wilson, 2006); thus the research was grounded in a detailed understanding of the context.
[75]This method was suggested by Dr David Hemson, Research Director at the HSRC.
[76] Although the interviews were structured, there were times when 'issues' emerged. The Research Assistant was encouraged to engage with the emerging issues and return to the interview guide when the issue had been explored.

a Research Assistant and transcribed by the Researcher. Focus groups for discussion and PRA activities were arranged on a weekend day following the household visits. Having FGD follow interviews made it possible to probe in more detail issues which emerged in interviews during the course of the week. FGD's were facilitated in Zulu by Research Assistants, recorded and later translated by a Research Assistant and transcribed by the Researcher. Focus groups were attended by females and males. Discussion was facilitated with the entire group, but females and males worked in separate groups for the PRA.

In addition to 'formal' research activities, the researcher was a participant-observer in the community and had the opportunity to attend a number of events, including a wedding and *Umemolo*[77] celebration, and have informal discussions, which deepened her understanding of the role of water in social and cultural life. The researcher also interviewed men and women who use water for IGA and key informants.

4.3.3 Data analysis

Data was analysed from August-October 2006. The content of interview and FGD transcripts was analysed and coded according to themes. Some themes relating to the gender and livelihoods literature were pre-determined, others emerged. The process was iterative - initial analysis generated a lot of codes, which were refined and consolidated through subsequent rounds of analysis. Observation notes and a research journal were treated as data and analysed in the same way. Data generated by the PRA was pinned up and subject to constant comparison - a technique used to identify similarities, differences and themes in visual data (Maykurt, 1994). The PRA data was photographed (see Appendix 3) with the permission of the respondents, but unfortunately, by the time the hand drawn maps and charts were photographed, the quality of some had deteriorated considerably. Quantitative data was entered into Excel and basic statistical analysis performed to calculate descriptive statistics - minimum, maximum, average, range and differences between people and households. A simple framework structured around themes relating to the gender and livelihoods literature was used to guide analysis. Findings from different sources and obtained using different methods were triangulated.

4.4 Reflections from the field

The researcher reflects critically on the research methodology and process below. As the reflections are personal, the first person is used where appropriate, in this section.

4.4.1 The politics of research

Research is never entirely objective; the researcher affects the context and vice versa, and the researcher's 'position' may influence interpretation of the findings. I endeavoured to be aware of my position vis-à-vis others, my

[77] Coming of age celebration for a young woman; see glossary.

feelings about the research, and alert to how they might influence outcomes. I was a white, educated, unmarried woman researching people of a different race, culture, social status and class. Some people in the community saw me as powerful, they believed - or hoped – my research would lead to an intervention which would improve their situation, or perhaps that is what they wanted me to believe. People responded to the research differently, some appreciated the opportunity to reflect on their situation, others became frustrated that their participation and co-operation did not lead to the change they expected, or hoped, it would bring.

4.4.2 Methodological issues

Immersion had strengths – I gained trust and in-depth understanding - but also weaknesses. Some people began to get research fatigue, they wondered why I was there for so long, and why I always seemed to ask the same questions. And the research affected me, I became caught up in the drama of the situation somewhat, and found it difficult to be impartial and analytical until there was distance between the case and I.

A strength of the research approach is that it generated a great deal of rich and textured data. It was possible to triangulate by comparing findings obtained from different sources and using different research methods. However the amount of data generated is also a weakness. There was a trade-off between breadth and depth of analysis. More data was collected than it was possible to analyse thoroughly within the scope of a coursework Masters dissertation. Consequently it was necessary to be very focused and selective about which data to include in the dissertation. In retrospect it would have been better to collect less data.

Some lines of questioning were not meaningful to the respondents. A number of people did not know their age and household members were often related in ways which were not readily understandable or translatable into a Western paradigm. People - and women in particular - did not understand 'distance' the same way the researcher did. When asked to estimate a distance in km, people would say *it's far* or *very far* and describe their journey, understanding this to be the distance (see 6.2.2 for further discussion).

People were asked to estimate distance, quantity and time. Where possible these were verified through observation, measurement and by asking other household members. Quantities were difficult however, they are *estimates* and not robust enough to be more than indicative. If households had water meters, readings were taken, but this was rare (two cases). People were asked to estimate using containers they were familiar with – 25 litre spac spacs and 200 litre drums. Where households were a substantial distance from the water source, quantities could be estimated fairly accurately, by asking the people who collect water how often they go and how many containers they fill.

It was intended to conduct interviews individually, however in some households the respondents preferred that others were present when they were interviewed. Parents were always present when a child was interviewed and in a number of cases the husband wanted to be present when their wife was interviewed. This may have influenced what was said, however the

research team felt it was appropriate to be flexible in order to set people at ease. The anthropological literature finds Zulu culture to be communal (Daber, 2003) and the research team found that people liked to sit together and join in. Often the person being interviewed would shout out to ask others, if they did not know the answer to a question, or others would chip in.

There were pros and cons to working with interpreters. Local research assistants became key informants as they interpreted culture and meaning as well as language. In this regard their input was valuable and I believe the research is richer for it. However interviews and FGD were conducted almost entirely in Zulu. Often I was not able to follow the conversation and issues were discussed which I didn't know the detail of until the transcript was translated, which made it difficult to respond to emerging issues. Undoubtedly a great deal of meaning and metaphor was lost in translation.

4.4.3 Community dynamics

A 'case study' is the study of a bounded system (Stake, 2005), in this case a community, but communities are seldom neatly bounded, and neither are the movements of people who live there. The 'community' studied was a number of *izigodi* under the jurisdiction of Mabaso Traditional Authority (TA). Boundaries were fluid, people sometimes referred to the 'community' as their *isigodi,* sometimes as Mseleni (the name of the District Hospital) and sometimes as Mabaso TA.

As has been the case with the 'household' (see 2.7), there is also a tendency to see the 'community' as a homogenous unit and altruistic social entity. Cleaver & Elson (1995) and Guijt & Shah (1998:1) warn us about the *myth of community* and remind us to be alert to power and voice: *"'Community' has often been viewed naively, or in practice dealt with, as an harmonious and internally equitable collective. Too often there has been an inadequate understanding of the internal dynamics and differences… hiding a bias that favours the opinions and priorities of those with more power and the ability to voice themselves publicly"*. The community encountered appeared, at least superficially, to be homogenous. People were of the same race, culture and tribe, and the research team were often told that *everyone in the community gets water in the same way.* However I was aware that everything the research team saw and did occurred underneath the watchful eye of the TA. They are gatekeepers into the community and I was advised to obtain their permission to carry out the research. Perhaps the research team saw what the TA wanted them to see. There were silences, some things were *implied* rather than said - for example dissatisfaction with the TA - because they were not legitimate for discussion. Lukes' (1976) analysis of power is useful, and we are reminded that gender analysis can assist in analysing power dynamics and understanding societal processes operating at many levels.

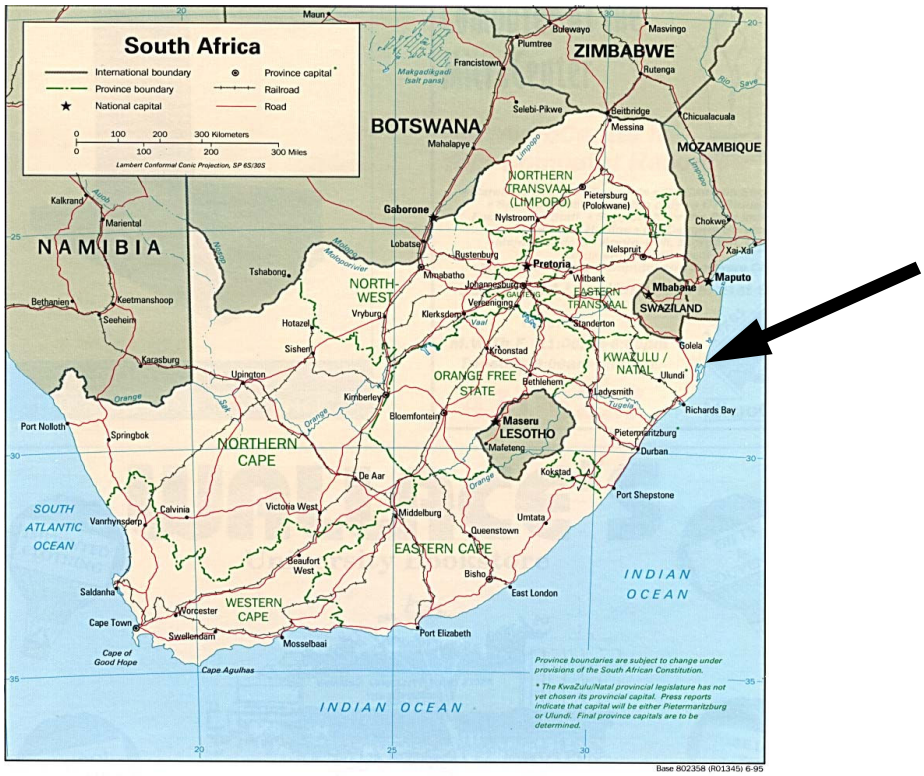
Chapter 5: Case study site and context

This chapter introduces the findings. It provides background information about the case study site and context; local history, politics, institutions, geography, socio-economic situation, access to services, water resources and water service delivery are covered. The chapter draws on a document review, participant observation, photographs, maps and charts (see Appendix 3) created using visual, participatory methodologies.

5.1 Case study site

5.1.1 Location of Mseleni

Figure 5.1 Map of South Africa showing the location of Mseleni



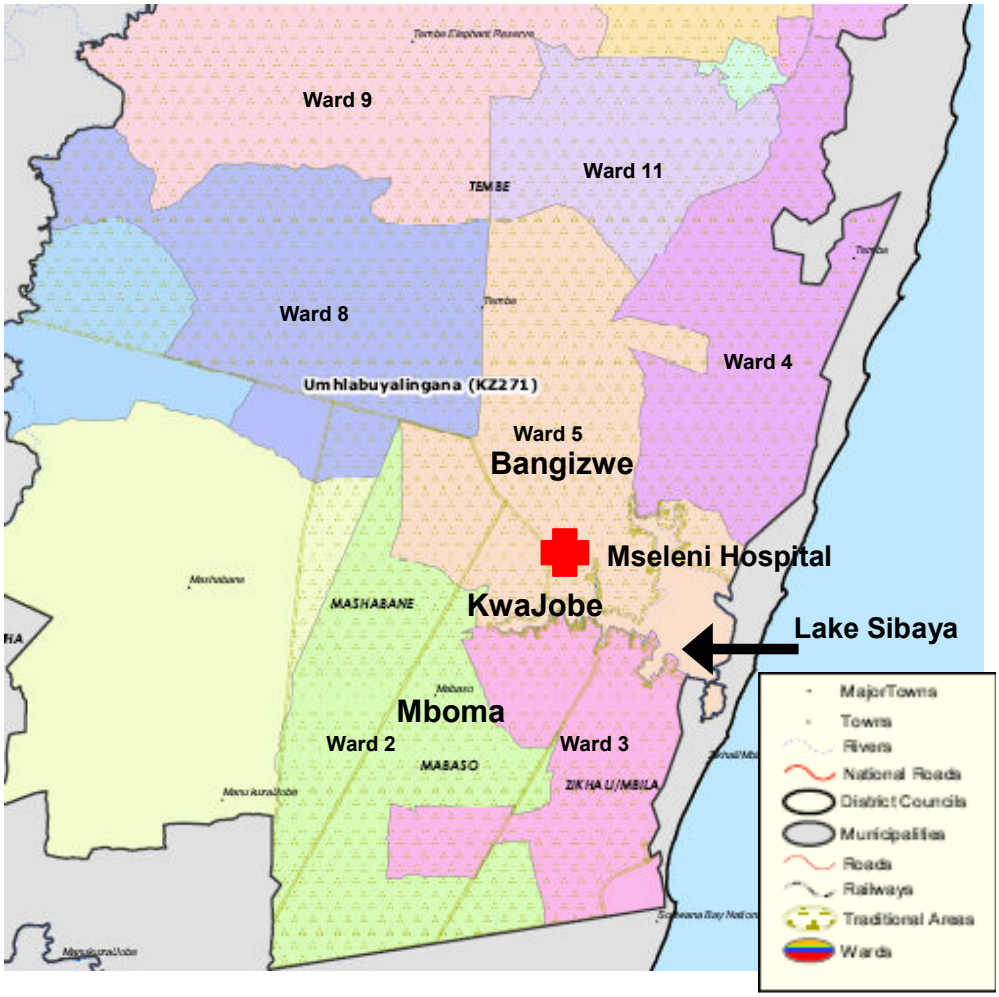
Source: www.1uptravel.com accessed via Google Image Search on 12/5/08

Mseleni is in North Eastern KZN in the former KwaZulu homeland, now commonly referred to as Zululand. It falls under the jurisdiction of Umkhanyakude district and Umhlabuyalingana local municipality, most of Mseleni lies within Mabaso traditional authority (TA).

5.1.2 Location of Bangizwe, KwaJobe and Mboma

Mseleni is the collective name for the *izigodi* surrounding Mseleni district hospital. Fieldwork took place in three *izigodi* - **Bangizwe, KwaJobe** and **Mboma -** their location is shown in **Figure 5.2** below.

Figure 5.2: Map of Umhlabuyalingana showing ward and tribal boundaries



Source: Umhlabuyalingana, 2005, *izigodi* and ward number labels added.

Mseleni is at the intersection of several municipal ward boundaries, which do not map neatly onto tribal ward (*izigodi*) boundaries. Municipal boundaries are used for planning and service delivery. However people do not use municipal boundaries to demarcate their community, they use *izigodi,* and identified themselves primarily as members of the Mabaso tribe.

5.2 Case study context

5.2.1 History

In 1908 a mission station was established at Mseleni. The missionaries were concerned about spiritual and physical wellbeing, and founded a hospital, which is today a 190 bed district hospital. The hospital has played a key role in the provision of water and sanitation. In 1980's the hospital initiated a community wells project. A cholera epidemic in the late 1980's highlighted the link between access to safe water and health, and motivated the medical Superintendent to raise funds to extend the hospital's piped water supply into the community. The first pipelines were laid in 1990.

Communities surrounding the hospital benefited from better healthcare, access to services and charitable assistance, vis-à-vis other rural Zulu communities. A residue of this is that some people see white people as benefactors and expect to be given things, particularly in the *izigodi* adjacent to the hospital. Christianity has taken strong root, often in hybrid forms, combined with traditional beliefs.

Mseleni was part of the KwaZulu homeland. As discussed in 3.2, homelands were governed by tribal authorities led by *amakosi*[78]; the apartheid government channelled resources to and via the *amakosi*. In the Mabaso tribal area, the *inkosi* was the first Zulu to receive piped water, when the government paid for the infrastructure to pipe water to his home. With the end of apartheid, KwaZulu was amalgamated with Natal to create KZN.

5.2.2 Politics and institutions

As discussed in 3.1.3, the Municipal Structures and Municipal Systems Acts demarcated and gave new powers to municipalities. Umhlabuyalingana local and Umkhanyakude district and municipality were created, and in 2005 Umkhanyakude assumed Water Service Authority (WSA) responsibilities, in terms of the *Water Services Act* (RSA, 1997). In former homeland areas the new system led to TA's losing a great deal of their formal power. However, in Mseleni the TA remains a very influential institution; an example of this can be seen in access to land. As covered in 3.3, the Ingonyama Trust was established to manage land in the interests of the people. However, when people in Mseleni discussed land they said it belonged to the *inkosi,* and there was some evidence he was keeping prime income generating land for himself[79]. The TA remains a powerful force to be reckoned with and some conflict was evident

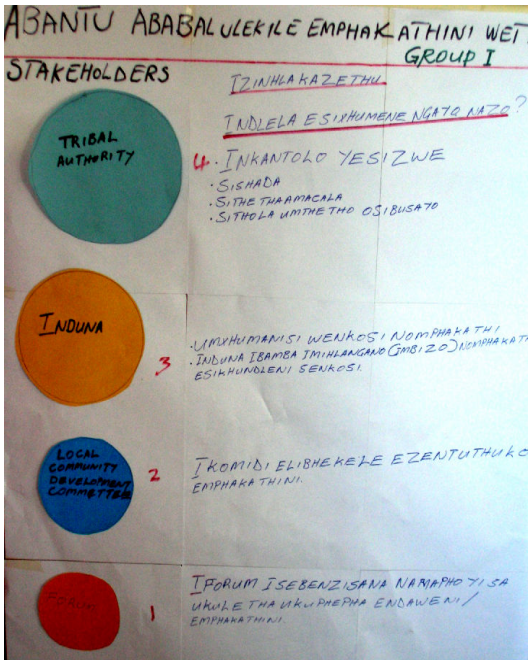
[78] Chiefs (see glossary).

[79] On the outskirts of Mseleni is a plantation; the inkosi and +/-20 community members have plots and are growing trees there which will be sold to SAPPI when grown. People discussing the plantation said *it is a community project but the inkosi owns the land.* A further +/-20 people had paid the *inkosi* R50/each, for a plot in another plantation, for which an application was pending. At the time of research DWAF reported they were considering the application, but found the *inkosi*'s request for a plantation of equal size for his own use, as for the community unacceptable (**Interviews and participant observation**).

between municipal and traditional structures[80]. People mapped the most important institutions in their daily life. The TA was identified as the most important, evidenced by the size of its shape and where it was placed in relation to other institutions (see **figures 5.3** and **5.4** below).

Figure 5.3 Women's map of institutions

Figure 5.4 Men's map of institutions



Photos: Eleanor Hazell

[80] The senior *Induna,* reflecting on what is better and worse, under the democratic government, said it is better because all people are equal and worse because the new government does not respect the *Amakosi.* There was also conflict between the municipality (IFP controlled) and provincial government (ANC led). In Mseleni most people support the IFP, they said the ANC government denies them their fair share of resources because of this. The ANC supporters refuted this and said the reason for differences was that the IFP controlled municipality was not as competent as those run by the ANC.

During interviews, people were asked which institutions were responsible for ensuring they had water and which helped them to access water (see Table 5.1 below). Councillors, the municipality and TA were most frequently identified as being responsible for, but less frequently identified as helping people to access water. Community level institutions (water committee; community/neighbours etc) and none/don't know were most frequently identified as helping people access water.

Table 5.1 Institutions important in the water situation

Institution	Responsible for water	Helps access water
District municipality	6	4
Councillors	10	1
Mhlathuze Water	1	1
DWAF	1	1
Traditional authority	6	1
Water committee	3	7
Development committee	1	1
Community/neighbours	2	4
Plumbers/engine guards	2	1
Other person	3	4
Don't know	3	5
None	0	6
Total	38	36

The political and institutional situation sketched, is one characterised by a powerful TA, with tensions between municipal and traditional structures, and confusion over who is responsible for water service delivery. People feel that neither municipal nor traditional institutions assist them adequately, to access water, and draw on community level support instead. The situation concurs with Nichol & Mtisi's (2003:45) description of *institutional complexity* in the rural water sector, and findings of other livelihood researchers that people still access productive resources via the chief in former homeland areas (Francis, 2002; Rangan & Gilmartin, 2002).

5.2.3 Geography, population and health

Land use is primarily residential, agricultural and grazing. Homesteads are scattered, with areas of bush inbetween. The land is flat and the soil sandy. The Zululand coastal aquifer, a substantial groundwater resource lies beneath the ground (DWAF, 2002(c)).

Census figures indicate that the population increased 15% from 1996-2001. This is surprisingly high, given labour migration from rural areas and the impact of HIV/AIDS. Population growth has implications for the provision of water services. The population is 56% female, 44% male and the majority young - in 2001 43% of the population was aged under 15 (Umkhanyakude, 2003).

A disease known as Mseleni Joint Disease (MJD) is endemic to the area. MJD affects people as young as their 20's, and women more often than men. Sufferers have severe arthritis and experience difficulty walking without an

aide; the cause is unknown. Cholera was a problem in the past, it has greatly reduced, but cases still occur. The greatest health problem by far is posed by HIV/AIDS. Barron *et al* (2006) report that in 2005/06 one in three Umkhanyakude antenatal clinic attendees were HIV positive and Mseleni hospital staff report[81] that the majority of deaths at the hospital are AIDS related.

Figure 5.5: Mseleni Topography

Source: Kuang, 2005

5.2.4 Socio-economic situation

Mseleni is very deprived. Census figures indicate that in 2001 just 12% of people in the Mseleni Mbazwana 'cluster'[82] were employed, 21% were unemployed and 67% not economically active. Twelve percent of households reported receiving no income, and households receiving income, received very little: 68% of households received <R800/month (Umhlabuyalingana, 2005). Many households subsist on income from social security and informal income generating activities (IGA).

5.2.5 Access to services

The Integrated Development Plan highlights basic service provision as a development priority. Electricity connectivity is very low. In 2001 only 8.5% of households had electric lighting. With regards to sanitation, 7% of households

[81] Interviews with Dr Victor Fredlund 8/5/06 and Dr Jenny Nash 24/4/06.
[82] Wards 2,3 and 5 (see map 5.2 for specific location) all census statistics relate to refer to these three wards in 2001.

had waterborne sanitation, 6% a chemical toilet, 26% a latrine, 2% used the bucket system and 60% had no sanitation (Ibid). The municipality has recently constructed a significant number of latrines however (PID, 2005).

According to the census, in 2001 25% of households had piped water on site and 7% had a tapstand within 200m of home. Thus 32% received water to RDP standards. 20% collected water from a tapstand beyond 200m, 21% from a borehole, 7% from a spring and 2% relied on rainwater. Thus 82% accessed water from 'improved'[83] sources. Of the remaining 18%, 15% collect from a river/pool and 3% obtain water from a vendor/other. However, the draft Water Services Development Plan (WSDP) finds that 62% of people in Umhlabuylingana receive water to RDP standard, making it the best served local municipality in the district (Umkhanyakude, 2003).

5.2.6 Water resources

Mseleni is in the Usutu to Mhlatuze Water Management Area (see figure 3.1). As noted in 3.1.3 water use is highly inequitable in the basin. Major water users include commercial agriculture, forestry, mining and industry. The majority of rural dwellers use a negligible amount of water, the issue is not water scarcity but poor access. As noted in 5.2.3 there are considerable water resources underground, but the water supply infrastructure is underdeveloped (DWAF, 2002(c)).

5.2.7 Water service delivery

Umkhanyakude district municipality is the WSA; it assumed responsibility in 2005 and appointed Mhlathuze Water the water service provider for three years. The draft WSDP provides information about the situation in 2003: 27 different organisations were providing water services, there were 72 piped water schemes in rural and urban areas, many communities were responsible for the operation and maintenance of their own water scheme and most did not have the capacity to do so. Information about water scheme operation was scanty, but many were believed to be non-functional, or not functioning adequately. In addition boreholes were scattered throughout the district, which many people relied on as a primary water source. Key problems were highlighted as: Huge backlogs, poor management of water schemes, lack of information about water schemes, insufficient budgets for operations and maintenance, high water loss through leaks, lack of payment records, non-payment by consumers and illegal connections (Umkhanyakude, 2003). Many of these issues play out in the context of the Mseleni Water Scheme (see **box 5.1** p47). In addition to difficulties at local level, the researcher's impression of Umkhanyakude was of a municipality characterised by instability and lack of capacity[84].

[83] See footnote 3.

[84] The researcher had difficulty engaging with Umkhanyakude. She wrote in March 2006 requesting an interview with Mr Zondi, Director of Water Services. She was granted a meeting on Tuesday 4th April 2006 and arrived as scheduled, but Mr Zondi could not be found. She phoned and left a message on his cellphone. Over the course of the next week she left several

At the time of research, the cost of water varied in the district. Free Basic Water (FBW) was implemented in parts, but not in Mseleni. Umkhanyakude had announced their intention to provide 3000 litres per household per month (lphm) FBW with the long-term aim of providing 6000 lphm when resources allow, and charge R6/1000 litres thereafter.
With regards to planning, the WSDP notes that people use water for agriculture and livestock, but does not plan for these or other livelihoods uses. Basic water services are prioritised because of the huge backlog. In the

past, boreholes and tubewells were considered viable options for water service delivery, evidenced by the number scattered throughout the district. Informants reported that the WSA no longer supports these technologies and prefers to develop piped water schemes. The WSDP plans on the basis of 0% population growth, however it was seen (5.2.3) that the population increased 15% 1996-2001.

The water situation in Mseleni illustrates the concerns others raise regarding equity (Schreiner *et al*, 2002), state incapacity (Southall, 2007) and the interface between the two (Wilson, 2006). Decentralisation without resources, capacity and support can lead to equity losses rather than gains, as areas like Umkhanyakude fall further behind in terms of service delivery. Managed by the community, the Mseleni water scheme was dysfunctional. Managed by the municipality, little has improved thus far.

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more messages which were not returned. She wrote to Mr Zondi again in May 2006 requesting a telephone interview, but received no response. She requested a copy of the WSDP - a public document - and was told from February- June 2006 it was being updated and she could not have a copy until this was complete; when it was ready she must come to the municipality office to collect it, as there was no budget for postage. Eventually she managed to obtain a copy of the draft WSDP prepared in June 2003, from the DWAF regional office in Durban. On 5th June 2006 she interviewed Mr Johan Coetsee, Umkhanyakude's Technical Services Manager, who reported that on 1st April 2006, his department had been given responsibility for operations and maintenance of water services, without funds as the annual budget had been spent in 7 months, however, by mid-July 2006 this function had been returned to the Water Services department. It was implied - by other informants - that Umkhanyakude was in financial difficulties and owed money to Mhlathuze Water.

Box 5.1 The Mseleni Water Scheme

The Mseleni Water Scheme began in 1990 as a community development initiative managed by a community co-operative (see 5.2.1). Over the years it was extended in a haphazard manner as funding allowed. Today the water scheme extends in a 15km radius around the hospital, covering an area with population of approximately 17,000 (3,280 households). It is believed around 10,000 people receive water from the scheme and 50% of households have their own connection. The scheme draws water from Lake Sibaya and is designed to provide 600,000 litres of water/day; which would provide 35 lpcd to 17,000 people if it were fully operational and distribution equitable, however it functions erratically. Close to the hospital - where water is treated and stored – people receive a more or less constant supply, but the situation deteriorates rapidly with distance; at the extremities people receive piped water rarely, if at all. The scheme was not designed to support so many connections, water pressure is low and up to 70% of water is lost through leaks. People with connections often experience cut-offs. There are financial problems, many households are in arrears and there is insufficient funding for operations and maintenance.

At the time of research, piped water from the scheme cost R1/1000 litres or R15/month (without a meter) and people paid the cost of their own connection. There were a few communal taps where water can be collected free, but many were closed several years ago. 'Illegal connections' are a problem. A connection is considered illegal if it was made without authorisation and/or a tap installed before the water meter. However, people can wait a long time for a connection and sometimes do their own installation to save time and money. Plumbers employed by the water scheme sometimes do 'freelance' installations after hours to supplement their income. Some households are connected to more than one pipeline, in order to reduce the risk of experiencing a cut-off.

In 1998 a community **Water Committee** was established to manage the water scheme. The committee is supposed to stand for re-election every two years. People expressed great discontent with the water committee, which had not been re-elected since 1998 and struggled to make headway with the many water challenges the community faced. Although people criticised the water committee openly, they were unwilling to confront members and ask them to step down.

In 2005, Umkhanyakude district municipality assumed responsibility for running the water scheme. The **water committee** continued to meet, albeit with little power, in an advisory role. When the water scheme changed hands it was functioning very poorly; the situation appears to have improved marginally since then. Water scheme staff became employees of Umkhanyakude/Mhlathuze Water (it wasn't clear which) and morale improved, technical expertise and funding for operations and maintenance became more available. However, the scheme continues to function erratically and many people with connections do not receive piped water. (Fishlock, 2002; Kuang, 2005, participant observation).

5.3 Description of izigodi

Each *isigodi* was unique. The situation in Bangizwe, KwaJobe and Mboma is briefly sketched below.

5.3.1 Bangizwe

Bangizwe is the smallest *isigodi* in terms of population, the poorest and least developed. Households are scattered and the population dispersed. Bangizwe stretches around 7km East to West from the tar road (R22). A primary school, shop, windmill powered borehole and mobile clinic constitute the 'centre' of Bangizwe 5km from the road. There is no electricity and few services. The mobile clinic (see Figure 5.6 overleaf) is made of branches and leaks when it rains. Transport infrastructure is very poor. The nearest bus stop is at the tar road, no one owns a vehicle and the sandy terrain makes walking difficult. Water access is poor, some households are connected to the water scheme, but they receive no water. People rely on communal water sources, many of which are unprotected. There are few jobs and economic opportunities. Residents are poor and have very few possessions. Houses are made of mud and branches and rebuilt annually. Bangizwe is known as a good place to keep livestock and people from other izigodi bring cattle here to be raised.

Figure 5.6: Bangizwe Clinic

Photo: Eleanor Hazell

5.3.2 KwaJobe

KwaJobe extends around 5km East to West from Mseleni Hospital beyond the R22. Homesteads are clustered together by the hospital and tar road and more dispersed elsewhere. KwaJobe is well served with infrastructure and services, these include a district hospital, primary and secondary schools, shops, businesses, market place, community hall, library and tar roads. Public transport departs regularly from the market place to Mbazwana, where onward connections can be made to Manguzi, Mkhuze – seats of the local and district municipalities - and elsewhere. There is some class

differentiation. Close to the hospital and tar road people tend to be wealthier, live in cement houses with electricity and own consumer goods; further away people are poorer and live more modestly (see figures 5.7 and 5.8 overleaf). Many households are connected to the water scheme and those close to the hospital receive a regular supply. Elsewhere, people collect water from communal taps at the marketplace and/or the river.

Figure 5.7: KwaJobe house

Figure 5.8: KwaJobe house

Photos: Eleanor Hazell

5.3.3 Mboma

Mboma lies between Mseleni hospital and Mbazwana. People living here appeared better off than Bangizwe residents and not as visibly wealthy as some KwaJobe residents, but they did not *perceive* themselves to be as poor as the respondents in Bangizwe or KwaJobe did[85]. Mboma had primary and secondary schools, small businesses, a cement clinic, tar and sand roads. Some Mboma residents owned cars. Mboma was hillier than the other *izigodi* and dryer, with no surface water. A few households were connected to the water scheme, but received water rarely; primary water sources were protected tubewells and the river.

[85] When asked to compare themselves to others in the community, 18% of the Mboma sample (n=11) said they were better off, 36% felt the same and 36% felt poorer. In Bangizwe 100% of the sample (n=12) felt poorer and in KwaJobe (n=10) 60% felt poorer and 40% felt the same as other households. **Interviews.**

Chapter 6: Findings and analysis

This chapter contains the research findings and analysis thereof. As discussed in 4.4.2, it is not possible to present all the data collected within the constraints of this dissertation. Findings most pertinent to the research questions are presented here. Even so, the chapter is dense. It is necessary to present the findings in some detail, to give justice to insights at different levels and from multiple perspectives, which the methodology generated. The chapter is divided into four sections. The first focuses on household differentiation and intra-household dynamics; the second, gender and access to water; the third, water use, once again through a gender lens. Sub-research questions are covered in the first three sections. The final section draws findings together in a discussion on gender, water and livelihoods, which attempts to answer the overarching research question.

6.1 Inter-household differentiation, intra-household dynamics

This section covers household structure and livelihood strategies, intra-household roles and responsibilities, resource access, allocation and the distribution of benefits.

6.1.1 Household structure

A household was defined as a group of people who share resources and live under one roof (see 1.4). However, this was problematic as it was found that 'households' often consist of people living in a number of houses clustered around a homestead. It was common for the husband, wife (wives) and grown up children to have their own houses.

There were a wide variety of household 'types' in the sample (see Table 6.1 overleaf). Households ranged in size from 4-29 members, all were multi-generational and 50% consisted of three or more generations living together. Household members were mostly related. A 'typical' household was headed by an adult male, with the relationship between a male household head (HH), his wife and children at its core. Households also included mothers, daughters-in-law and grandchildren of the HH, the HH's brothers and sisters, nieces and nephews, and in instances where an adult sibling had passed away – their widow. Non-related members included a live-in domestic helper and orphans adopted into the household. The sample included four female headed and one *de jure* female headed household. Two of the female HH's were grannies and two were young women.

Table 6.1: Household (H) structure

	Bangizwe	KwaJobe	Mboma	All
Number of H sampled	7	5	6	18
Maximum H size	11	29	12	29
Minimum H size	6	6	4	4
Average H size (mean)	7.4	10.8	8	8.9
Number of 4 generation H	0	0	2	2
Number of 3 generation H	5	1	1	7
Number of 2 generation H	2	4	3	9
Number of female HH	3	0	1 (+1 *de jure*)	4 (+1 *de jure*)
Number of male HH	4	5	5	14

Polygamy was common and it made for complex intra and inter-household dynamics. A number of men headed more than one household[86], one polygamous household operated as a unit – three wives had a separate house within the homestead – some operated as sub-units[87], and others operated independently. In some households people were quite open about polygamy but in others respondents did not mention other wives or households, the research team were informed about them by others, and they were sometimes in different locations.

Diverse household composition is important to note. Gender analyst's critiques of the 'household' unit (Kabeer, 1994; Moore, 1988; Wolf, 1990) were discussed in 2.7. In the South African context, researchers remind us that the 'household' is an institution in flux, (Hunter, 2005; Posel, 2001; Rangan & Gilmartin; 2002). There is also the impact of HIV/AIDS to consider. One household in the sample was very large; it contained 20 children and was absorbing children orphaned by AIDS. South Africa's current water policies do not accommodate such diversity. Norms and standards premised on the assumption of an eight member household (DWAF, 2002(b):13) will fail to meet the needs of larger households, and households affected by HIV/AIDS.

6.1.2 Livelihoods

Following livelihoods theory, households draw on 'assets', including natural, social and other 'capitals' and engage in activities, which they combine in a livelihood strategy (Chambers & Conway, 1991). Livelihoods are mediated by institutions and the vulnerability context (DFID, 1999).

Table 6.2 (below) displays the livelihood assets, activities and influencing factors found in Mseleni. Items are included if they were reported by at least one person, thus the table displays the *range* of items, rather than their relative importance, or how they were combined in a livelihood strategy.

[86] It was reported that one male in the sample headed four households.
[87] *"The two families don't share things, as such, they don't cook together, but they seem to spend a lot of time together and often help each other out, if they need to borrow something, they just ask."* (Research Journal, 3/7/2006).

Table 6.2: Livelihood assets, activities and influencing factors

Assets	**Activities**
Water; land; wild resources; livestock; infrastructure (wells, tubewells, taps, dwellings, roads etc); pensions and social grants; skills (craft work, farming, building etc); wage contracts; remittances; family networks and 'obligations'; reciprocity between neighbours.	Dry and irrigated agriculture for subsistence and sale ('dry' crops = cassava, mielies, groundnuts, imfino, imbumba, pumpkins; 'wet' crops = all dry crops AND vegetables and sugar cane); livestock raising; harvesting natural resources; brewing amahewu[88] and Zulu beer; catering; domestic work; craft work (baskets, mats, grinding blocks etc); work in the 'formal' sector trading and shop keeping; informal trading; block making and building; casual labour (photography, ploughing, repairing cars etc).
Vulnerability context	**Institutions**
Unreliable rainfall; drought; irregular piped water supply; income instability Water-cut offs; HIV/AIDS; crime.	Traditional Authority – Inkosi, izinduna; municipality; councillors; ward development committee; water committee; Vuka Mabaso; community; neighbours Community Health Worker's; hospital; schools; churches; small businesses; Community Policing Forum; Police Station; Dept of Home Affairs.
Livelihood constraining factors	
Lack of water (for agriculture, building, brewing and catering); lack of markets; lack of finance (investment); lack of electricity; livestock polluting water sources; livestock destroying crops; lack of land; lack of irrigated land; poor access to technology and transport	

Table 6.3 (below and overleaf) shows the number of households drawing on assets and engaging in activities. It indicates the *most common characteristics* of livelihood strategies and draws attention to inter-household differentiation.

Table 6.3 Livelihood characteristics

	Bangizwe	**KwaJobe**	**Mboma**	**All**
Households sampled	7	5	6	18
People in households sampled	57	54	48	159
ASSETS				
Households with wet land (muddy place)	0	2	3	5
Households with dry land (field)	7	3	3	13
Households with wet and dry land	0	2	2	4
Households with backyard only	0	2	2	4
Households with cattle	5	0	1	6
Households with goats	1	3	1	5
Households with chickens	7	3	5	15
Households receiving pensions	4	2	3	9
Households receiving child grants	5	2	2	9

[88] A popular Zulu drink made from maize, see glossary.

	Bangizwe	KwaJobe	Mboma	All
ACTIVITIES				
Households which grow food	7	4	4	15
Households which grow food in muddy place	0	2	2	4
Households which grow food in field	7	3	3	13
Households which grow food in backyard	1	2	4	7
Households which grow food to sell	0	1	1	2
Households which sell food if surplus	4	1	1	6
Households with someone formally employed	2	4	3	9
People formally employed	2	8	4	14
People described as self-employed	1	1	9	11
Households receiving regular income from self-employment	2	2	6	10

6.1.2.1 Assets and activities

The natural resource base is critical to a number of activities. Wild resources (herbs, reeds, wood products, etc) are harvested; they are inputs into income generating activities (IGA). There are 'production chains' e.g one person harvests wild resources and sells them to another, who treats them and turns them into a product, which another person sells. Land is the most important natural asset, used to grow food for consumption and sale. Of the 18 households in the sample, 15 grew food - four in a 'muddy place', 13 in a field (dry land) and seven in the backyard, some grew food in more than one location. Agriculture was often described as *critical;* its relative importance to livelihoods however, depended on the availability of other income streams. Successful agriculture was dependent on productive land being available, as well as other inputs (labour, technology etc). Access to water influenced the crops cultivated, where crops were grown, yield, and whether they were grown for consumption or sale. If water was available people grew sugar cane and vegetables, in addition to 'dry' crops. If water was not, only 'dry' crops such as cassava, mielies and groundnuts were grown. Only two households with water on site regularly grew crops to sell; a further six sold if there was surplus after meeting subsistence needs. Both males and females were involved in growing food, but women appeared responsible for meeting household subsistence needs.

Livestock are another common asset. Fifteen households kept chickens, for consumption and sale (R30/each); chicken is an important protein source for households with little or no income. Five households had goats, which they kept for sale (R500/each) and slaughtered on social/cultural occasions. Six households owned cattle; they were raised for sale (R2000-R3000/each), slaughtered and exchanged on social/cultural occasions. Livestock ownership was gendered, only men owned cattle and goats and the animals were cared for by men and boys.

Nine households received pensions and nine received grants. Social security was critical if other income was limited: *"Mr ….. is working, but he is not supporting the family, we are not eating good, healthy food. We can only afford to buy meat once a month, on pension day"* **interview, 30/6/06.** The income is regular, and as the above quote illustrates, it often goes to women, who use it for household welfare.

Formal employment contributed to livelihoods in 50% of households. In the households sampled 15 out of 79 working age adults were formally employed. Where formal employment was not available, other activities became important. Ten households received regular income from self-employment and 11 household members were described as 'self-employed'. However, it became clear during interviews that many more people were involved in IGA. Out of 31 adults interviewed, three were formally employed, one was self employed and 15 were involved in a wide range of IGA, from harvesting natural resources to photography and repairing cars (see table 6.2). Although IGA are included in the official government definition of employment[89], most people did not consider their IGA employment, or describe themselves as self-employed, because the income they received was very low (R<100–900/month) and was not regular or guaranteed. People engaged in IGA because they had no other income source.
Finally, remittances were claimed from relatives living and working elsewhere, and social capital drawn on (e.g. sharing meals and collecting water from neighbours' sources).

6.1.2.2 Vulnerability, institutions and constraining factors

Livelihoods are affected by a range of factors in the community and wider environment; those of particular relevance to the study are discussed here. As seen in 5.2.2, the Traditional Authority (TA) is the most powerful institution influencing daily life; land and other productive resources are accessed via the TA. Access to land and irrigation affects agricultural success (see box 6.1 below), and agriculture underpins many livelihood strategies; thus the TA has a critical influence over livelihood outcomes. Drought and low rainfall were blamed for poor harvests and the death of livestock. Poor water access and frequent water cut-offs were cited as preventing people from engaging in IGA such as brewing, block making and catering. However, there are other livelihood constraining factors, for example lack of finance and electricity, poor access to technology, transport and markets. Social capital appeared strong; community level institutions featured prominently in daily life, as did support from relatives and neighbours, perhaps due in part to the lack of support from institutions at higher levels.

[89] The official definition of employment (Statistics South Africa, 2007(b)) includes persons who *did any work or who did not work but had a job or a business* in the past seven days.

Box 6.1: The Hot Chillies co-operative

There are a number of community gardens in Mseleni – large areas cultivated communally or sub-divided into individual plots. The Hot Chillies co-operative is one of the former. Founded in 2004, the Hot Chillies co-operative has 11 members (two men, nine women). People joined because there were no jobs, they were hoping to grow vegetables together, sell them in the community and earn income to support their families. They planned to give vegetables to households with sick people in need of nutritious food and donate some of their profit to families who couldn't afford to send their children to school. Hot Chillies has come a long way since 2004. The co-operative is registered, members completed a number of training courses and they have a business plan, prepared by a consultant, paid for by the municipality. The TA allocated some land, which was cleared, ploughed and the soil tested, but the co-operative is still facing problems and members are getting discouraged. Their land is very dry; they have no irrigation and have not been able to raise money for an irrigation system. Without water the only crop they can grow is groundnuts. They harvested 80.5kg in May 2006, but because many people grow groundnuts they were unable to sell the crop and have been consuming it instead. **Interview, 24/7/06.**

6.1.2.3 Conclusion

There was inter-household differentiation and stratification in terms of livelihood outcomes. There were significant differences between households with access to formal employment and those without; between households with access to land, irrigated land and those without; households with livestock and those without. It was surprising - in light of the stratification - that there were a limited range of assets, and the livelihoods activities were remarkably similar. The context was relatively homogenous, but households manipulated it to achieve different outcomes. It has been suggested that households diversify to survive and/or accumulate (Ellis, 1998; Francis, 2002). In Mseleni it was found that households diversify to survive. If income from formal employment was not available, other assets and activities became important – agriculture, social security, IGA's and social capital. Growing food was critical to the survival of many households. *In the context of rising global food prices, growing food is likely to become even more important.*

It is not enough to leave analysis at household level. The household does not always operate as a welfare maximising 'unit'; it can be viewed instead as a constellation of people with different interests. People may pursue their own strategy, as well as or instead of contributing to the household's one. The findings have already surfaced gender differentials regarding assets and activities, and alluded that it is important for females to have their own income streams. It is necessary to unpack the 'household'.

6.1.3 Intra-household dynamics

The literature finds Zulu society to be patriarchal and hierarchical (Hutchings & Buijs, 2005; Zulu, 1996), ascribing gender specific roles and responsibilities (Daber, 2003; Scorgie, 1998) and reproducing a hierarchy amongst females in the household (Annecke, 2003; Hemson, 2002). The extent to which hierarchies were found in relation to water-related roles and responsibilities, decision making and access to and benefits from resources is explored overleaf.

6.1.3.1 Roles, responsibilities and decision making

Table 6.4: Household roles, responsibilities and decision making

	Pays for water	Decides water allocation	Collects water	Responsible for ensuring water avail	Does domestic tasks	Responsible for domestic tasks
Male HH	14	2				
Female HH	4	4	2	3	2	4
Mother of HH	1					
Male (not HH)	2					
Wife of HH	5	17	5	21	3	20
Male HH & wife jointly	2	3				
Senior & junior women jointly	2	2	1	1		5
Junior women		1	5	5	6	2
Women & children jointly			2	1	14	2
Women & girls jointly			7	1	7	
Junior women & girls jointly			2		1	
Children			3			
Hired person			2			
Everyone		1	3	1		
No one	3	3	1			
Total	33	33	33	33	33	33

Respondents were asked about intra-household roles, responsibilities and decision making. In answer to "***who pays for water"*** half the respondents said men pay, a third said women pay (sometimes with money they receive from men), and the remainder said men and women pay jointly, or no one pays. There was some evidence, that providing financially for the household is a male responsibility. Men were said to dominate in the 'productive' and women in the 'domestic' sphere. Thus paying for water was framed as a male concern, and male productivity used to justify women's domestic roles and responsibilities: *"Women are the ones who are involved in fetching water, because in most cases, in a family men usually work and the women are always at home with the girls"* (**male (M), focus group discussion (FGD), KwaJobe**). However, on closer scrutiny, it became apparent that in addition to their 'domestic' work, women work in other capacities[90] and contribute to the household financially.

With regards to *"**who usually collects water**"* four respondents (from households with a regular piped supply) said everyone or no one, of the remaining 29, just under half said women, 11 said women and children/girls, three said children, and two said a hired person (male with a car). Three male respondents said they *sometimes collect water* for their own personal use. In addition, males collect water when/if female labour is unavailable, and are paid to collect water in cars. Women are ***responsible for ensuring water is available*** in the household. Thirty respondents said women are responsible, two said women and children/girls and one (from a household with regular piped supply) said everyone. Responsibility falls largely on the shoulders of the wife of the male HH. Women and children ***usually carry out domestic tasks***. Twenty two respondents said women and children/girls usually do domestic tasks and 11 said women. As with collecting water, women are also ***responsible for domestic tasks***. Thirty one respondents said women are responsible and two said women and children. When asked ***"who decides water allocation"*** 24 respondents said a woman, four said everyone or no one, three said a man and woman decide jointly, and two said a man.

There is a gender division of labour within the household, with women responsible for domestic tasks and growing food for household consumption, and men dominating in the 'productive' sphere. It was found, in common with gender analysts (Boserup, 1970; Kabeer, 1994; Moser, 1989) that women's important 'productive' input is often hidden from view. Children assist with domestic tasks when they are not at school[91]. Here too there is a gender division, as probing revealed that 'children' often means girls. Boys appear to have more choice over whether or not to help: *"If you have children, boys and girls, the girls end up being affected most, because if they ask the boys to go with them to collect water the boys just push their foreheads and say hie, hie, hie"* (**F, FGD, Mboma).** However, some boys have roles and responsibilities girls do not - caring for livestock.

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[90] Of 79 working age adults in the sample nine men and six women were formally employed, four men and seven women were self employed. Of the 31 adults interviewed six men and nine women were involved in IGA (excluding agriculture) and many more women than men were involved in growing food for consumption and sale.

[91]It did not seem that domestic tasks kept children out of school; however it was reported they sometimes prevented children from doing homework.

Gender divisions intersect with age and social status, to increase the burden of domestic work for young, junior females. There is a hierarchy amongst household females. Seniority is related to age and household 'status'. If the mother of a male is present, she occupies a position of authority, and can claim labour from younger females, particularly the wives and girlfriends of her sons: *"I was paying someone to fetch water before my son got a wife; I used to pay R100 for someone to collect water for the whole month"* **(F, 56, H6)** (see also box 6.2 below). Her status appears to be particularly high if her son is the HH. The wife of a male HH has a number of domestic responsibilities. She has to supervise tasks, though not necessarily carry them out, and is able to draw on the labour of younger females and children. Her burden increases if they are not available to help, and being responsible can be stressful - *"I am the one who wakes up in the middle of the night, to go to the tap to find out if water is available or not"* **(F, 37, H10).**

Figure 6.1: Males assume domestic roles when female labour is unavailable

Photo: Eleanor Hazell

Box 6.2: Household three

Household three was headed by an elderly lady. Ten people lived there - five males and five females. One of the females was the household head and the remaining four were aged 19-24; one was a live-in maid, three were wives and one was the 'girlfriend' (with a child) of the HH's grandson. The 'girlfriend' usually did all the household tasks - assisted by the live in maid - she collected water twice daily from the river, a 10.6km round trip, did the cooking, cleaning, cared for the elderly HH and helped grow food for household consumption. Her position of disadvantage vis-à-vis other household females appeared related to her unmarried status.

Decision making is hierarchical and gendered. Some women deferred to their husband to ask permission to participate in the research. Women however, were decision makers in the domestic sphere. The findings concur with Posel (2001) that men assume responsibility for decision making in the productive and women in the domestic sphere, in South African households.

6.1.3.2 Perceptions of the household

Males and females from the same household sometimes gave different answers to questions about roles, responsibilities and decision making, revealing different perceptions about the household. They also gave different answers to questions about water use (see 6.3.2).

Most respondents - particularly men - spoke of the household as a unit, with members having shared interests and pooling resources: *"The income comes to this home, to me and my wife; we put it in one bag"* (**M, 67, H10).** This perspective was seldom challenged openly. Some women said men did not contribute as they should to household welfare[92], but more often it was implied. For example, during PRA, women said it is mostly females who drink water, men *just drink some beers,* meaning men spend their money on beer. Lukes (1976) explanation of 'power over' sanctioning which issues are legitimate for discussion[93] is useful here. Women also observed that although both sexes are active in the 'productive' sphere, women must also assume domestic roles and responsibilities. Culture was evoked in justification[94], revealing how it has the 'power to shape' gender identities and perceptions (ibid).

6.1.3.3 Resources: Access and benefits

Intra-household hierarchies can create differentials, in terms of accessing and benefiting from resources and services. Sanitation and income generation are given as examples to illustrate; access to water is covered in 6.2.

A situation the researcher witnessed as a participant observer is cited: *"I rented a room from a retired lady, Mrs ….. I lived with her and a young lady of 24 Miss …., who had lost both her parents and been 'adopted' into the household. Mrs …… was supporting Miss … to finish school and Miss… assisted around the home, doing all the domestic chores. The house was one of the best in the village, with running water and a flush toilet inside, as well as pit latrines outside. Shortly before I left, I discovered that although Miss … lived in the house and cleaned the inside toilet, she was not allowed to use it, she had to use the pit latrine outside"* Research journal, 23/7/06.

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[92] See for example the quote on p66: *"Mr ….. is working, but he is not supporting the family…*

[93] 'Power over' was also evident at community level, criticism of the TA was not sanctioned (see 4.4.3).

[94] *"Even if you are both working, the woman is the one who must make sure that the house is clean and food is cooked. I don't know, maybe it is our culture. Yeah it is our culture"* **F, FGD, KwaJobe**.

Senior women are resource allocators in the domestic sphere. They are often given money to spend in the household interest – entrusted with resources and the responsibility to ensure household needs were met. However if they do not have their own income, women are dependent on contributions from others, which are not guaranteed. Women are also active in the 'productive' sphere, participating in agriculture, employment and IGA's[95], even traditionally 'male' dominated activities such as block making. Women have more domestic responsibilities however, leaving them less time for other work; with some women having particularly onerous domestic responsibilities. Material benefits - if there are any once household subsistence needs are met, and *often there are not* - accrue to the person who generates the income. Thus employment, social security and IGA's have potential to increase an individual's income[96], which has been linked to enhanced bargaining power (Upadhyay, 2005). There was however, some evidence that males have *ultimate* control of all household resources: *"The animals are for my husband, because he is still alive, everything is owned by him*" (F, 50, HH14).

6.1.3.4 Conclusion

In Mseleni gender intersects with other inter and intra-household hierarchies (e.g. class, age and social status) to determine roles and responsibilities. Males are believed to dominate in the 'productive' and females in the 'domestic' sphere, but in reality women are involved in many kinds of work. In particular, young, junior women, women living in poor households and households with few females, are disadvantaged vis-à-vis other women and men, as they have less time available to spend on other activities. Here, the findings concur with Annecke (2003) and Hemson (2002). Hierarchies furthermore, can result in directly differential access to resources. It is not always apparent why someone accepts a position of disadvantage, and even assists in reproducing it. Lukes' explanation of 'power to shape' is useful, as there were examples of culture being evoked in justification. An alternative explanation is Kandiyoti's (1988) 'patriarchal bargain' whereby a position of disadvantage is accepted now, with the knowledge that women gain more power vis-à-vis other females as they rise up through the ranks. However, there is not enough evidence to comment conclusively.

6.1.4 Conclusion

The context was relatively homogenous, but heterogeneity, hierarchy and complexity were found. The households encountered varied in structure, number of members and livelihood strategies. Furthermore, there were intra-household hierarchies which influenced roles, responsibilities, decision making, access to resources and benefits. Initially, it was difficult to surface diversity and dissenting viewpoints, the research team were often told *things here are the same*. Lukes' (1976) analysis of power assists. Some issues were

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[95] See footnote 90.

[96] *"I spend my money for investing that money for my child, or buying hair clips and also my clothes and food"* **(Interview, 14/7/06).**

not legitimate for discussion and others not thinkable. Gender analysts who research the workings of power at household (Kabeer, 1994; Kandiyoti, 1988) and community (Cleaver & Elson, 1995; Guijt & Shah, 1998) level remind us to be attentive to *who speaks on behalf of whom*.

Formal employment is of great importance to livelihoods. If formal employment is not available, households diversify. Agriculture is critical for food security - particularly in the current context of escalating food prices - and success is dependent on access to productive land and water. Household level livelihoods analysis is not sufficient, as intra-household hierarchies affect access to resources and the distribution of benefits. Informed by a greater understanding of inter and intra-household differentiation, attention turns to how people access water below.

6.2 Gender and access to water

This section unfolds in five parts, considering **people** who collect water, **journeys, costs** involved and **water sources** accessed, and the findings are drawn together in the **conclusion**.

6.2.1 People

The biblical *"drawers of water"* were servants and slaves (Joshua 9:21, cited in Thompson *et al*, 2001:11). Water collection is still hierarchical and gendered. Specific household members are tasked with collecting water. Males access water via females, and senior women via junior women.

The *social relations of access* (Crow & Sultana, 2002) are further influenced by technology, transport, money and distance to source (see Table 6.5 overleaf). If water is available from a tap at home, everyone collects; if it is necessary to draw water from underground, women and children collect; if it is necessary to walk to fetch water, women and girls collect. However, if technology and/or transport are used, men also collect: Some men use wheelbarrows to collect water for their own personal use, and men with vehicles earn money collecting water. Technologies and transport which have a labour reducing effect, appear to remove the 'domestic' stigma attached to water collection, such that men are willing to assist. Monetary exchange leads to water collection becoming 'productive', a source of income and more attractive. In addition to men with vehicles being paid[97], older women sometimes paid[98] younger unrelated females to fetch water.

A few other researchers have commented on the impact of technology and transport on gender and water access. Thompson *et al* (2001) found technological changes altered the gender distribution of water collection in

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[97] I interviewed a man who hired his car to collect water. He hired his car not just to collect water, but for other purposes, including taking people to the clinic/hospital. He estimated he earned R800-1000/month in this way. **Interview, 27/7/06.**

[98] In Bangizwe in 2006 the going rate was R5/25 litre container or around R100/month.

East Africa; jerry cans, bicycles and handcarts were acceptable containers and modes of transport for men. Strang (2005:34) however, taking a longer term view, recounts how increased technical complexity and removal of water from the 'domestic' sphere leads to alienation, as water becomes the domain of 'experts', the majority men.

There are also the gender dynamics of monetary exchange to consider. Men and women both paid for water, women sometimes with money given to them by men. Men appeared to have better access to technology and transport, which enabled them to exchange water for money. Thus although technology, transport and money appears to have a gender equity effect in terms of water access, it is important to consider *who controls access* and *who benefits,* as this affects livelihood outcomes.

6.2.2 Journeys

Collecting water is an activity many people expend significant time and energy on. For the households sampled, the distance to the nearest water source ranged from 0km to 8.9km (see table 6.5 overleaf). Most households did not have transport; people usually walked to fetch water.

The journey by foot involves walking to the water source with containers, seeing if water is available, queuing, filling containers and walking home, perhaps stopping for a rest along the way. If water is not available at the first source, it is necessary to walk to another and try again. The terrain is difficult, there are few tarred roads and the soil is sandy. It takes longer to walk on sand than over firm ground.

Figure 6.2: Sandy soil makes collecting water difficult

Photo: Eleanor Hazell

Table 6.5: Access to water: People and journeys

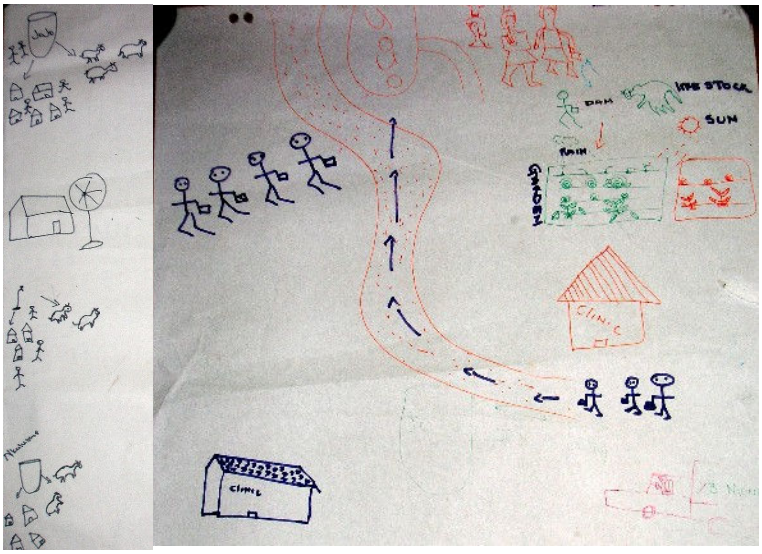
Household	Who usually collects	Who sometimes collects	Distance (round trip)	Transport	Source
Bangizwe					
1	Women & children		5.8km	walk	Communal open well
2	Junior females	Wife of HH	5.8km	walk	Communal open well
3	Most junior female & domestic help		10.6km	walk	River
4	Women	Girls when no school; Male HH own water	8km	walk	Communal protected well
5	Adult female HH	Adult male own water	5.2km	walk	Communal open well
6	Junior female & girl		1.6km	walk	Communal open well
7	Junior females	Girls after school	6.2km	walk	Communal protected well
KwaJobe					
8	Hired person	children	16.4km	Hired car /combi	Communal tap
9	Hired person		17.8km	Hired car	Communal tap/river
10	Girls	Wife of HH/ Hired person	0km	walk/ hired car	Yard tap but inconsistent supply/ river
11	Everyone		0km	-	Yard taps
12	Everyone		0km	-	Yard tap
Mboma					
13	Wife of HH		0km	-	Protected well in yard
14	Children	Wife of HH	0.2km	walk	Protected well near home
15	Adults females	Boys	1km	walk	Neighbours' protected well
16	Wife of HH	Junior male own water	0.2km	walk	Protected well near home
17	Wife of HH Children		0.8km	walk	Neighbours' protected well
18	Adult females		0.2km	walk	Neighbours' protected well

Collecting water carries health implications. Women carry 25 litre containers, which weigh 25kg when filled with water; children carry 20 litre containers, weighing 20kg when full. Carrying heavy loads can cause health problems including fatigue, headaches, chest, neck, back and waist pains, and interfere with children's physical development (Thompson *et al*, 2001). In addition, the journey can be dangerous. One respondent revealed a scar on her leg, and recounted how she was injured: *"Cattle pushed me at the well, I fell and they walked on top of me and my leg got injured. I went to hospital"* **(F, 56, H6)**. She no longer goes to the well; the burden has increased for other household members, who fetch water on her behalf. Ill health makes fetching water difficult and if household members are unable to fetch water, the burden increases on others. A number of people had Mseleni Joint Disease (see 5.2.3) and experienced difficulty walking. HIV/AIDS however, was the greatest health problem. Health problems were exacerbated by drinking unsafe water: *"As you know that people are having this disease of AIDS, you find that person going to the river to collect the dirty water, and come back home to use that dirty water, adding more sickness to their body"* **(F, FGD, Mboma).**

Journeys to collect water emerged visually during PRA. When asked to map the water situation in their community, women drew journeys to fetch water. It was notable that whilst women mapped journeys and processes, men mapped infrastructure and boundaries (see **figures 6.3 & 6.4** below, details from **figures A8 & A9** in Appendix 3).

Journeys to fetch water, detail from maps created during PRA

Figure 6.3 Figure 6.4



Photos: Eleanor Hazell

Where the water source was further than 8km, someone with a vehicle was hired to fill containers every few weeks. Vehicles were also hired if a lot of water was needed (e.g. for a social occasion and building a house), and when the primary water source was 'cut-off', provided money was available. The poorest households could not afford to hire vehicles, the burden of collection

increased when more water was needed: *"We use a lot of water when building a house. I go to the well twice as usual, then I go again to fetch the spac [25 litre container] that I am going to put into the drum [200 litre container]. Then when we have filled the drums, we have enough water to build the house"* **(F, 30, H5).**

There were considerable water access differentials between *izigodi* and households (see table 6.5). Access was worst in Bangizwe. In all households people collected by foot, water was collected once or twice daily and the nearest water source was up to 5.3km away. One respondent travelled 21.2km and spent 4 hours 36 minutes each day walking to fetch water. Access was variable in KwaJobe. Two households received a regular supply from a yard tap, one received an inconsistent supply from a yard tap, and two were more than 8km from the nearest source and paid a man with a vehicle to collect water. In Mboma three households had a tubewell in the yard, the remaining three collected from a neighbours' source 0.1-0.5km distant, making two or three trips daily.

The interface between gender, journey to fetch water, transport and time is complex. Collecting water is seen as 'domestic' and thus women's work, but this can change when technology, transport and money enter the equation. Respondents felt that males and females have different water collection concerns. Women expend time and energy fetching water and are not remunerated for their 'domestic' work. Men feel they bear the brunt of the financial burden, and are forced to spend what little money they have on water. With this in mind, the other 'costs' involved in accessing water will be considered.

6.2.3 Cost

There are numerous costs involved in accessing water. Water collectors bear health costs. In addition, if people get sick drinking unclean water and need medical care, there are financial costs and the burden of work and care increases on other female household members. Collecting water involves energy and opportunity costs. Walking to fetch water and carrying it home requires considerable energy, a cost other researchers' (Thompson *et al*, 2001; White *et al*, 1972) have estimated by calculating calories expended, and the price of food. The opportunity cost on livelihoods has also been noted (Moriarty *et al* 2004; Thompson *et al*, 2001; WaterAid 2001); time spent collecting water can not be spent on other activities. These costs are borne by the females who collect water. This study does not attempt to *quantify* these indirect costs. However, there are a number of easily measurable financial costs, and some potential benefits, which are displayed in table 6.6 overleaf.

Most households had the option of accessing water from a number of sources, the decision on which to use took cost and other factors into account. Whilst several households did not pay directly for the quantity of water consumed, most paid in a number of other ways, including for installation, maintenance of technology/source and transport.

Table 6.6: Financial costs involved in accessing water

Transport			
Hire person to walk	R5/25 litres or R100/month		
Hire car	R60-150 a trip depending on number of containers; R65-180/month		
Water source	**Installation**	**Charge for water**	**Maintenance**
River	R0	R0	R0
Rainwater	R0	R0	R0
Tanker/jojo tank	R0	R0 (officially) but variable charge to purchase extra water from corrupt municipal officials	R0
Communal open well	R0	R0	R0
Communal tap	R0	R0	R0
Communal protected tubewell	R0-45 (contribution)	R0	R5-10 when repairs needed
Own protected tubewell	R3000-3500	R0 potential income	R17.5-20 when repairs needed
Neighbours' protected tubewell	R0-100 (contribution)	R0-20/month	R0-10 when repairs needed
Own tap	R470-2500	R15/month flat rate or R1/1000 litres; potential income	Variable; whatever maintenance required

At the time of research, hiring someone to fetch water cost R5/25 litre container or R100/month by foot and R60-150/trip (depending on the number of containers) by car. Households which regularly hired a vehicle to fetch water paid R65-180 month for transport. To give an idea of cost in relation to income, the wage for an unskilled labourer was R25-40/day. Clearly, transporting water was a significant financial burden. Since the research was conducted two years ago, the price of fuel has increased 100%; it is likely that the cost of transporting water by vehicle has likely increased accordingly, such that it is beyond the means of many households.

River water was free, however the source was not convenient, and there were health risks involved in drinking it. Rainwater was free and most households collected rainwater using homemade technologies. However, it was not a source that could be relied on, it was used to supplement other sources. Bangizwe was without water infrastructure, the municipality provided tankers to fill up jojo[99] tanks with water. Officially this water was free; however, municipal officials sold the water left over after the tanks had been filled. Tanker water was not a reliable source as people did not know when the tanker would come, and the water only lasted a couple of days. Water from communal wells was free, but not convenient, and there were serious health concerns. Water from communal taps was also free; however there

[99] Large water storage tank; see glossary.

were few which worked, only the taps at the market place by the hospital had a regular supply, and it was reported that market vendors sometimes asked people for money when they collected water from these taps.

There was a communal protected tubewell in Bangizwe. Respondents contributed R45 per household when it was installed several years ago, and R5-10 when repairs are needed. A number of households in Mboma had their own tubewell. Initially, tubewells were installed by a local engineering firm. The engineering firm still installed tubewells, and some of the labourers employed by the firm employed on a casual basis also did 'freelance' work. The cost of installation was R3000-3500, with minimal additional outlay; owners paid R17.5-20 for a replacement rope every few months and received an unlimited supply of groundwater. Owning a tubewell was a potential source of income, as people could be charged to collect water. In Mboma, up to 20 households collected water from one tubewell and contributed R5-10/month, if they could afford to: *"People pay if they have money, others don't have money to pay... maybe the money they get only covers their family's needs"* **(F, 24, H14)**. Elsewhere, tubewell owners were less generous. In Bangizwe, people were only allowed to collect water if they paid R20/month.

People paid R470-2500 to install a tap, which included parts and labour. The cost was less close to the main pipeline, as fewer pipes were needed. Some people saved money doing the connection themselves, or paid one of the water scheme plumbers to do so after hours[100]. However, having a connection was no guarantee that water would be received, and there was no means of redress: *"I do have a tap here, but there is no water. I paid for this tap, but since I paid for it I never got water from it... even now if I look at that tap I get angry"* **(M, 45, H4)**. Households with taps paid R1/1000 litres for water, with a meter; or a flat rate of R15/month, without. The water scheme was ineffectual in enforcing payment however, many households were in arrears. It was reported that some people did not pay their water bills, yet sold water from their taps. Thus a functional tap was a potential source of income, but it did not appear that a great deal of money was made selling water. Social capital was strong and people were willing to help their neighbours in times of hardship and cut-offs.

DWAF's Free Basic Water (FBW) policy aims to provide a basic amount of water free of charge to the poor. However, implementation is uneven and many rural areas are without basic water, let alone FBW (Mehta & Ntshona, 2004). Most people in Mseleni did not receive basic water – defined as 25 litres per capita per day (lpcd) or 6000 litres per household per month (lphm) from a potable source within 200m of home, with a minimum flow of 10 litres/minute and service interruptions less than seven days a year (2002(b)) – none received FBW, and most paid dearly in a number of ways. The financial and other 'costs' involved in accessing water in rural areas are often hidden from view. Greater cognisance of the gendered 'costs' of water access, should make it possible to develop strategies, policies and programmes to reduce these, thereby making water more accessible to rural men and women.

[100] Doing this without informing the water office would constitute an 'illegal connection', see Box 5.1.

6.2.4 Water sources

The sources people access water from and their concerns regarding them are discussed in this section. It is worth remembering that if water is seen as an asset, and a livelihoods approach taken, providing sufficient quantity and ensuring a reliable supply, may be equally or more pressing concerns than water quality. The literature finds that people access water from multiple sources. Cost, preference and infrastructure influence which sources are used for what purpose (Mehta & Ntshona, 2004; Moriarty *et al*, 2004). Different sources are often used for activities which occur away from home (Hope *et al* 2003; Perez de Mendiguren, 2004). The choice of water source may differ from those envisaged by policy makers and planners; for example 'improved[101]' sources intended for domestic use may be used for 'productive' activities (Mulwafu 2003; Perez de Mendiguren, 2004) and 'unsafe' sources may be used for consumption and domestic use (Moriarty *et al* 2004).

Mseleni Water Sources

Figure 6.5 (left): Collecting water from the river

Figure 6.6 (left): Collecting water from the well

[101] See Footnote 3 for the WHO definition of 'improved' and 'unimproved' sources; a number of 'unimproved' sources are considered unsafe.

Figure 6.7 (left): Collecting water from the tap

Figure 6.8 (left): Collecting water from the tubewell

Photos Eleanor Hazell

Table 6.7 (overleaf) shows the primary, preferred and other sources households access regularly, alternative sources used when 'shocks' occur, and sources used for activities which take place away from home.

A number of households access water from rivers and open wells. These are not 'preferred' sources, but poverty, lack of infrastructure and cut-offs cause them to be the primary and/or secondary supply. There are serious health concerns. People drink from the same sources as livestock; sometimes cattle fall down the wells, get stuck and have to be pulled out. People know they ought to treat this water before drinking, but some cannot afford to: *"We don't have money to buy Jiq; sometimes we try to kill the germs in the water by placing a spac in the sun so that the sun will hit the germs"* **(F, FGD, Mboma).**

Almost all households collect rainwater, to supplement other sources. Rainfall is seasonal and cannot be relied on. Water-intensive activities such as building occur during the rainy season, and the majority of people have nothing other than rainfall to irrigate their crops. Households in Mboma access water from protected tubewells - their own, or neighbours' sources.

Table 6.7: Water sources households' access

House-hold	Primary source	Preferred source	Other source(s)	Source(s) when 'shocks'	Source(s) for activities away from home
Bangizwe					
1	Communal open well	Neighbours' tubewell	Rainwater;	Neighbours' tubewell; Communal tap	Rainwater (agri) Open wells (cattle)
2	Communal open well	Neighbours' tubewell	Rainwater;	Windmill tap	Rainwater (agri)
3	River	Jojo tank	Rainwater; communal tap when occasions	-	Rainwater (agri)
4	Communal tubewell	Own/ neighbours tap	Rainwater; windmill tap; communal tap when occasions	Communal tap	Rainwater (agri) River (cattle)
5	Communal open well	Neighbours' tubewell	Rainwater	-	Rainwater (agri)
6	Communal open well	-	Rainwater	-	Rainwater (agri) Open well (cattle)
7	Communal tubewell	Own/ neighbours' tap	Rainwater; windmill tap; communal tap when occasions	-	Rainwater (agri)
KwaJobe					
8	Communal tap	Own tap	Rainwater	-	Rainwater (agri & goats)
9	Communal tap/river	Communal tap	Rainwater	-	
10	Yard tap	Yard tap	Rainwater	River	Rainwater (agri field); river (agri muddy place)
11	Yard tap	Yard tap	Rainwater	Alternative yard tap	River (agri muddy place)
12	Yard tap	Yard tap	-	Communal tap	-
Mboma					
13	Own tubewell	Own tubewell	-	-	
14	Own tubewell	Own tubewell & tap	-	-	Communal open well near business (shop)
15	Neighbours' tubewell		Rainwater	-	River (agri muddy place) Rainwater (agri, field)
16	Own tubewell	Own tubewell	Rainwater	-	River (agri muddy place)

					Rainwater (agri field)
17	Neighbours' tubewell		Rainwater		Rainwater (agri)
18	Neighbours' tubewell		Rainwater		

They do not experience cut-offs, water is always available and they are happy with the quality: *"Tubewell water is nice and it satisfies a person when they are drinking… tap water is a bit salty"* **(F, 24, H13).** However, people requested tap water for washing clothes and growing vegetables, because it is more convenient than drawing water from underground by hand! This demonstrates that the policy distinction between water services - for basic needs - and catchment based water resource management - for other uses - does not match water use on the ground.

Six households in the sample have taps, but only two receive a regular supply, the others experience frequent cut-offs and/or have not received water for years. One household engineered a solution by connecting to two pipelines, if the water cuts off at one, they switch to the other. Other households collect water in bulk and/or store it in case of cut-offs. Storing water is potentially hazardous to health as it increases the risk of contamination (Thompson *et al*, 2001). Other responses to an insufficient and/or inconsistent supply included reducing the quantity of water used, not engaging in activities (e.g. washing bodies) and engaging in activities elsewhere (e.g. clothes washing). In short, livelihoods were constrained. Other studies have found similar responses to reduced water availability. Thompson *et al*'s (2001) longitudinal study revisiting the same communities as White *et al* (1972) found the reliability of piped water supplies had deteriorated; households were storing water and relying on alternative sources, per capita use had declined 50% in 30 years.

There is considerable diversity in water sources accessed and water concerns. For people who collect water from rivers and open wells, health issues are of major concern. Households with tubewells have reasonable access and like the water quality, but want labour reducing technology. Consistency and cut-offs are often a problem for households with taps. Poorer households without their own sources are concerned about exhausting their 'social capital' collecting water from neighbours. It was found, in common with other researchers[102], that people access a range of sources and do not respect distinctions between water for 'domestic' and 'productive' uses. Access is inadequate to meet people's water needs in terms of water quality, quantity and consistency of supply; these issues impact on livelihoods.

6.2.5 Conclusion

This section explored a range of factors affecting gender and access to water. The argument previously structured - that gendered intra-household

[102] See Moriarty *et al* (2001); Mulwafu (2003); Perez de Mendiguren (2004) and Thompson *et al* (2001).

hierarchies affect access to water - was further developed. Intra and inter-household hierarchies intersect, to maximise the burden of domestic work, for young, junior women in poor households, with inadequate access to water. Technology, transport and money appear to influence the social relations of access, but there is very little research and literature[103] documenting the impact of these.

There is considerable variation between households regarding water access, which ranges from relatively good to very poor. Many people walk kilometres to fetch water from unsafe sources, most households do not receive a basic water service, let alone FBW, and many households with 'piped' water receive water rarely, if at all. Accessing water involves considerable financial and other 'costs'. People 'pay' for water in numerous ways - through health, energy and opportunity cost, for transport, infrastructure, maintenance and bribes - in addition to the quantity of water consumed. Although many people pay, some gain. It is important to examine the dynamics of access, to consider *who controls access*, *who benefits* and *how*.

Crow & Sultana's (2002) typology is useful for understanding the social dynamics of water access. They find four 'modes': Ownership of land and technology, direct purchase, common property access and government service provision. In Mseleni, access is differentiated by class and other divisions. Households with sufficient wealth to invest in taps and tubewells, access water via the first mode; households with money can pay others to collect water and/or collect water from private sources; poor households access water from common property sources – rivers and open wells; the government occasionally provides water by tanker and is responsible for the piped water scheme. The typology however does not capture social capital - accessing water via neighbours' sources - which is a mode of access in Mseleni, and does not assist in understanding intra-household hierarchies.

6.3 Gender and water use

This section builds on the understanding of intra and inter-household hierarchies and social dynamics of water access. Activities people use water for and the quantity of water they use are explored.

6.3.1 How people use water

There are many varied water uses in Mseleni. A water use typology was introduced in 2.1 and the following terms used in the descriptive analysis that follows: **Direct consumption, domestic, health and hygiene related** and **productive** - which include agriculture, livestock, building and income generating activities (IGA). The typology however, does not capture the complexity found. There was no clear distinction between **domestic** and **productive** activities, some people earn income doing '**domestic'** tasks and many engage in **'productive'** work for subsistence/household use. As both types of activity contribute to livelihoods, Moriarty *et al*'s (2004) concept of **household water** is a better fit. Other complexities concern where the

[103] See Strang (2005) and Thompson (2001).

activity takes place, on what scale and for what purpose (e.g. direct use/consumption, to fulfil obligations to others, to make a living, for spiritual/cultural reasons). Few other studies comment on these complexities.

6.3.1.1 Direct consumption

Everyone needs to drink water to live. Water is consumed pure and mixed with other substances. Women brew *amahewu* and Zulu beer for household consumption, and on a larger scale when there is a social/cultural 'occasion'; some people brew *amahewu* and Zulu beer for sale. As discussed in 2.1.4, water is also consumed through food. People need water to grow food[104] as well as to prepare it and cook with. Women and children prepare food and cook daily for household consumption.

6.3.1.2 Domestic

Domestic use includes cleaning and washing**.** The house and toilet are cleaned every few days and utensils washed daily. Women and children do cleaning; some men assist and clean their own rooms. Clothes' washing is done in bulk at weekends, and smaller loads at other times. Washing is done more frequently in households with children, where clothes and school uniforms are washed everyday, if possible. Linen is washed every few months. Women are responsible for washing; older children help and wash their own school uniforms. Washing requires a large amount of water. If it is not available at home, clothes are taken to a water source to wash. A great deal of water is used for cleaning and washing when there is an 'occasion' to prepare for (see box 6.3 overleaf).

6.3.1.3 Health and hygiene related

Health and hygiene related uses include bathing/washing, sanitation and caring for sick people. People wash their bodies everyday if water is available, and if not they economise[105]. Very little water is used for sanitation, only cleaning the toilet (see 6.3.1.2) and washing hands afterwards. None of the households surveyed had water-borne sanitation. Elderly people use a small amount of water to steam body parts to relieve arthritis, and extra water is needed to care for people with HIV/AIDS. The burden of care is gendered and falls largely upon women.

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[104]This is seldom considered under water requirements for direct consumption, see Falkenmark & Rockstrom, 2004

[105]*"Sometime we wash our bodies but not all the time if we have small water"* **(F, 44,H2).** This finding concurs with White *et al* (1972)'s concern that hygiene is neglected when a small amount of water is available. White *et al* argue that sufficient water quantity is even more critical than quality, because most water-related diseases are water washed (e.g. spread by hands, feet, vessels etc).

Box 6.3 Preparing for an *Umemulo* Party

Umemulo is a coming of age celebration. Mr and Mrs Sithole* arranged an *Umemulo* for their eldest daughter Precious* as a thank you for finishing Matric. Mrs Sithole started preparing on Sunday a week before – collecting wood and water, cleaning the homestead from top to bottom, washing clothes and furnishings, brewing *Amahewu* and Zulu beer for the guests. Five other women helped. The Sitholes have a tap at home, but the water was cut-off until Thursday, so Mrs Sithole and her helpers had to walk to the river to fetch water. Mrs Sithole lost track of the number of times, she said it was many. She made 200 litres each of *Amahewu* and Zulu beer, which was finished by the guests. On the morning of the party they woke early and Mr Sithole slaughtered a cow. Guests arrived throughout the day, **hundreds** of neighbours, friends and relatives came from near and far, bringing gifts for Precious. Feeding everyone was a big operation: two cauldrons of rice, one of samp, 16 chickens and a cow were prepared. At eight o'clock in the evening Mr Sithole chased the last guests away. It took Mrs Sithole two days to clean up afterwards, with help from her neighbours. The next 'occasion' will be in December when Mr Sithole opens his kraal.

* Names have been changed

6.3.1.4 Productive water use

Water is used productively in numerous ways. Some people earn money doing 'domestic' tasks including collecting water, cooking, cleaning and washing. These will be called 'domestic for income' activities, and are done mostly by women. The line between income and obligation intersects with social hierarchies and is sometimes blurred: *"P… sometime did washing for her boyfriend's aunt; she did not receive money but the lady 'helped' her from time to time"* **Research Journal 5/7/06**.

Water is used to grow food (see figure 6.10) for consumption and sale. As discussed in 6.1.2, access to water has a positive effect on agriculture, which underpins many livelihood strategies. Women appear responsible for growing food to ensure that household subsistence needs are met. Water is given to animals. Chickens consume a small amount of water from the household supply. Goats are given water daily, if it is available, and infrequently if not. Cattle consume a large amount of water, it was reported (but not verified) that one cow drinks up to 25 litres a day. Cattle are owned by men and cared for by men and boys; boys have an obligation to care for livestock owned by older relatives and are sometimes paid to look after cattle. Cattle are taken to water sources away from the homestead to drink, people complain that cattle pollute these sources, and there is sometimes conflict between cattle and people for water.

Figure 6.9 Growing vegetables with water

Figure 6.10 Block making co-operative members

Figure 6.11 Woman making mats

Photos: Eleanor Hazell

Water is used for building - to make blocks, lay floors, build houses and carry out repairs. Mud houses are rebuilt annually; concrete houses are more long lasting, but require more water to construct. Zulu homesteads comprise several buildings and people usually undertake construction themselves, sometimes hiring labourers. Building is male dominated, however females in households without males engage in building, and women participate alongside men in a block making co-operative (figure 6.11). Water is used for IGA's; e.g. to soak reeds and boil dyes to make baskets and mats (figure 6.12), to make grinding blocks and other household objects to sell, to make lollypops, repair and wash cars, and to wash food traded at the market place. People listed many more activities they *would like to do* if sufficient water was available.

6.3.2 How much water people use

Researchers suggest different amounts of water are required to meet basic and other human needs. 20-30 lpcd is considered the minimum necessary for consumption and domestic use (UNDP, 2006). The South African government aims to provide 25 lpcd FBW to meet basic needs; however critics argue this is not sufficient for domestic use (Bond, 2003), let alone livelihood needs (Moriarty *et al*, 2004). Norms and standards should be based on what is needed and what is possible. Much can be learnt about people's priorities by investigating water use. However, it is important to bear in mind that actual use may be higher or lower than perceived need.

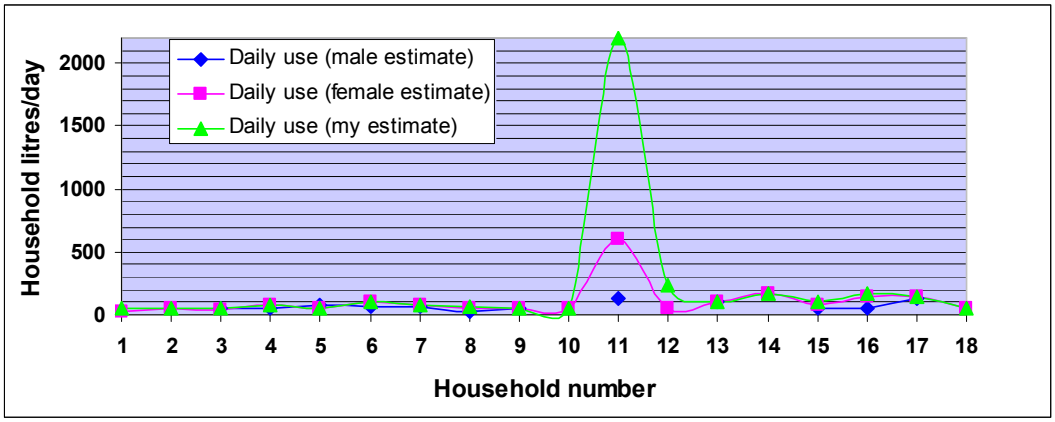
Respondents were asked to estimate how much water their household uses daily. Males and females gave different answers; women tended to estimate larger amounts, because they were aware of, and involved in, more water using activities than men[106]. Results are summarised below in Table 6.8 (overleaf) which shows male, female and my estimate of household water use and my calculation of lpcd. Figure 6.13 (overleaf) displays daily household water use graphically. There is a huge variation. Household daily use ranges from 50-2200 litres. However, as we have seen (6.1.1) households are structured very differently. Figure 6.14 (page 93) takes number of household members into account in calculating lpcd. Here too, there is considerable difference, lpcd ranges from 5-81 litres. However, household 11 which appears in Figure 6.13 to use an *excessive* amount of water, now uses a more moderate amount. Not a great deal more than the 50-60 lpcd RDP medium term target (RSA, 1994), at the lower end of the 50-200 lpcd recommended for livelihoods and less than is typically supplied to urban consumers (Moriarty *et al* 2004).

[106] Three men were unable to estimate how much water their household uses because they are not involved in collecting, managing or using water, except for direct consumption.

Table 6.8: Estimates of daily household water use

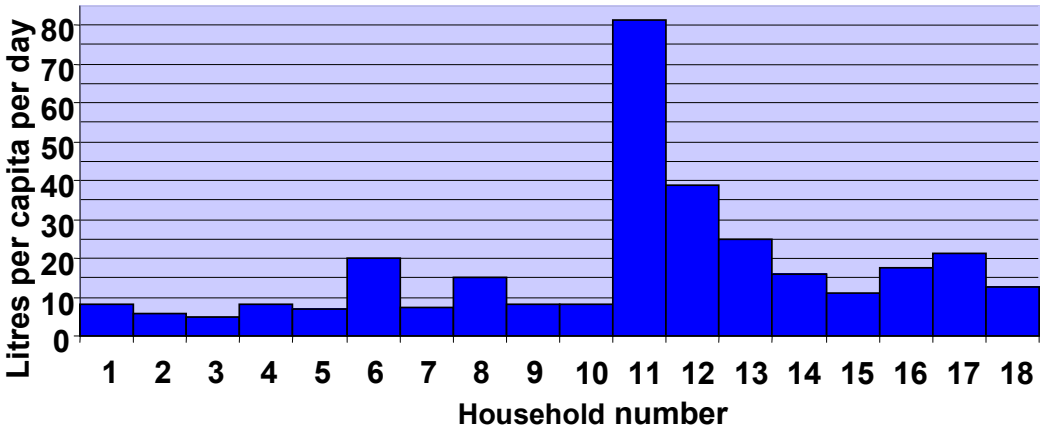
Household	*Daily water use (male estimate)*	*Daily water use (female estimate)*	*Daily water use (my estimate)*	*lpcd (my estimate)*
Bangizwe				
1	-	25	50	8.3
2	-	50	50	5.5
3	50	37.5	50	5
4	50	75	75	8.3
5	75	50	50	7.1
6	62.5	100	100	20
7	60	75	75	7.5
KwaJobe				
8	30	50	60	15
9	50	50	50	8.3
10	don't know	50	50	8.3
11	135	600	2200	81.4
12	don't know	50	232	38.6
Mboma				
13	105	100	100	25
14	don't know	175	175	15.9
15	50	75	100	11.1
16	50	150	175	17.5
17	130	150	150	21.4
18	-	50	50	12.5

Figure 6.12: Daily household water use



Source: Mseleni project data, own calculations

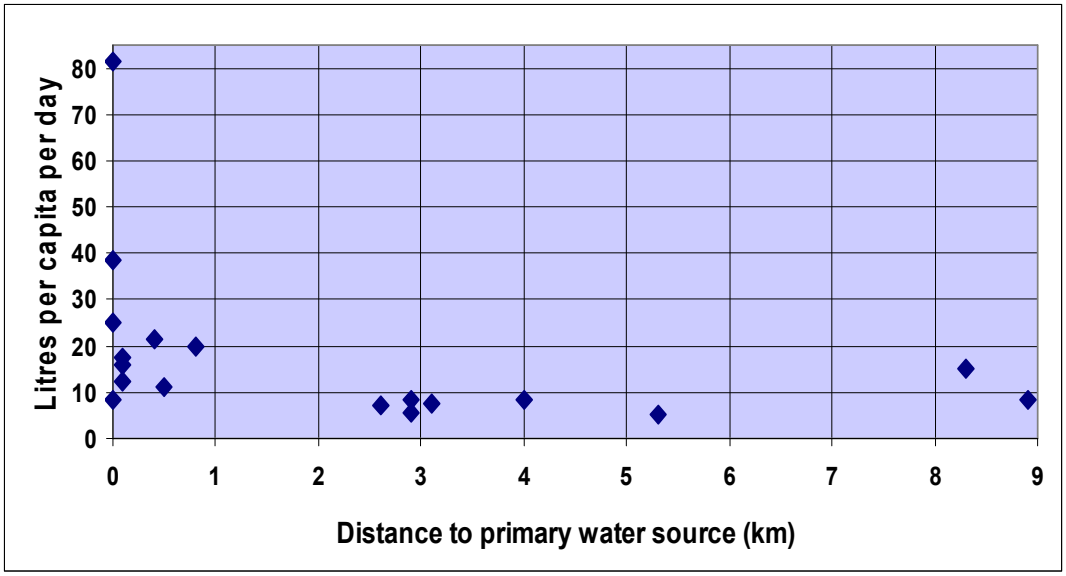
Figure 6.13: Litres per capita per day (lpcd)



Source: Mseleni project data, own calculations

There is variation between *izigodi*. Bangizwe use ranges from 5-20 lpcd, with the average[107] 8 lpcd. KwaJobe use ranges from 8-81 lpcd, with the average 53 lpcd. Here there is variation between households, the two that receive water regularly from a yard tap use a great deal (39 and 81 lpcd), the others 8-15 lpcd. Mboma daily use ranges from 13-25 lpcd, with the average 17 lpcd. Use is slightly higher in households with their own tubewell than those which access water from a neighbours' source. The variation can be understood by considering the journey to reach the primary water source.

Figure 6.14: Litres per capita per day plotted against distance to source



Source: Mseleni project data, own calculations

[107] Average = mean.

Figure 6.14 (previous page) plots lpcd against distance to primary water source. Households can be divided into four groups: Those where the primary source is in the yard (0km), where it is 0-1km, where it 2-6km and those where it is 8-9km. When distance =0, lpcd ranges from 8-82, however, the household with lowest lpcd (8) do not receive water consistently from their primary source, the other households use 25+ lpcd. Households 0-1km from the primary source use 11-21 lpcd. Households 2-6km from the primary source use <10 lpcd, with the household furthest from the source (5.3km) in this group, using the least water (5 lpcd). Households 8-9km from the primary source use 8-15 lpcd. In these households water is transported using a vehicle, which we have seen (6.2.3), is dependent on money being available.

There are weekly, seasonal and other fluctuations in water use and water using activities occur outside the home. These have not been discussed thus far, in the analysis of daily household water use. The most common *occasional* activities, and agriculture and livestock uses which occur elsewhere are summarised in table 6.9 (overleaf). All households reported[108] using water to wash clothes, and for at least one other occasional activity. Clothes' washing occurs at least weekly, and if water is not available at home, is done elsewhere. Brewing requires 1-2 litres per litre of *amaheŵu* or Zulu beer produced and happens weekly, monthly or whenever an occasion arises. Building requires 400+ litres for a mud house and more for concrete. Mud houses are rebuilt during the rainy season, and concrete houses when money is available. Numerous IGA's were reported, but few required much water. Some households use significant amounts of water for agriculture and livestock away from, as well as, at home.

Water use is inequitable. One household uses more water daily than the sum of the other 17, but even this household does not use an excessive amount, taking household structure into account. Overall water use is exceedingly low. Of the 18 households sampled, only one uses the 50-60 lpcd RDP medium term target (RSA, 1994), which falls within the 50-200 lpcd recommended for livelihoods (Moriarty *et al*, 2004). Three use the 25 lpcd DWAF considers 'basic water' (2002(b)). Five use the 20 lpcd WHO recommends as a 'social minimum' for drinking and personal hygiene (UNDP, 2006; WHO, 2000). Eight use less than 10 lpcd. The findings are considerably lower than other rural water use studies[109]; they reveal a situation in which many households have barely enough water to cover physiological consumption requirements[110]. There are likely to be serious health implications.

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[108] There may have been other activities respondents did not recall.
[109] Upadhyah's Indian study (2005) found 36.1 lpcd used in villages with a source and 18.6 lpcd in villages without, where people relied on water from a government tanker. In South Africa, Perez de Mendiguren (2004) found 22.4 lpcd used for *basic needs only* in villages with 'better' and 21.2lpcd in those with 'worse' supplies. Thompson *et al*'s (2001) study in three East African countries *at a lower level of economic development* than South Africa, found rural households without piped water used 18 lpcd.
[110]Thompson *et al*'s (2001) study of 1015 rural and urban households found consumptive (drinking and cooking) water use was non-discretionary. It remained statistically constant at 4.1 lpcd across the sample population, for

Table 6.9: Water use: Occasional and outside the home activities

House-hold	Clothes amount (litres)/ frequency	Brewing/ amount (litres)/ frequency	Building/ amount (litres)/ frequency	IGA/ Amount (litres)/ frequency	Agri/ source	Livestock/ source
Bangizwe						
1	50/weekend		House/ 400/ Summer			Cattle
2	25-50/ weekend	*Amahewu*				
3	50/weekend		House/ 400/ summer			
4	don't know/ school days & weekend,		Floor/25/ anytime			Cattle/river
5	50-100/ weekend	*Amahewu* /once week	House/ 1200/ summer			Goats
6	100/ whenever required	Zulu beer & *Amahewu* /1000/ when occasion		Mats/6/ when making		Cattle/ Communal well
7	Up to 400/ weekend		Houses			
KwaJobe						
8	50/weekend		Houses			Goats/ rainwater
9	don't know /weekend					Goats
10	don't know/ when tap water avail				Muddy place/ Lake	
11	600/ weekend		Houses		Muddy place/ river	Goats/ yard tap
12	don't know/ weekend		Houses			
Mboma						
13	50-100/ once week		Houses/ summer	Baskets/2/ when making		
14	150/weekend	*Amahewu* /10/once month		Lollies/25/ every 2days		Goats/ tubewell Cattle
15	don't know/ weekend	*Amahewu* /weekly		Mats/2/ daily	Muddy place/ river	
16	175/ weekend		Concrete house/4000	Repair cars/10/ when working	Muddy place/ river	

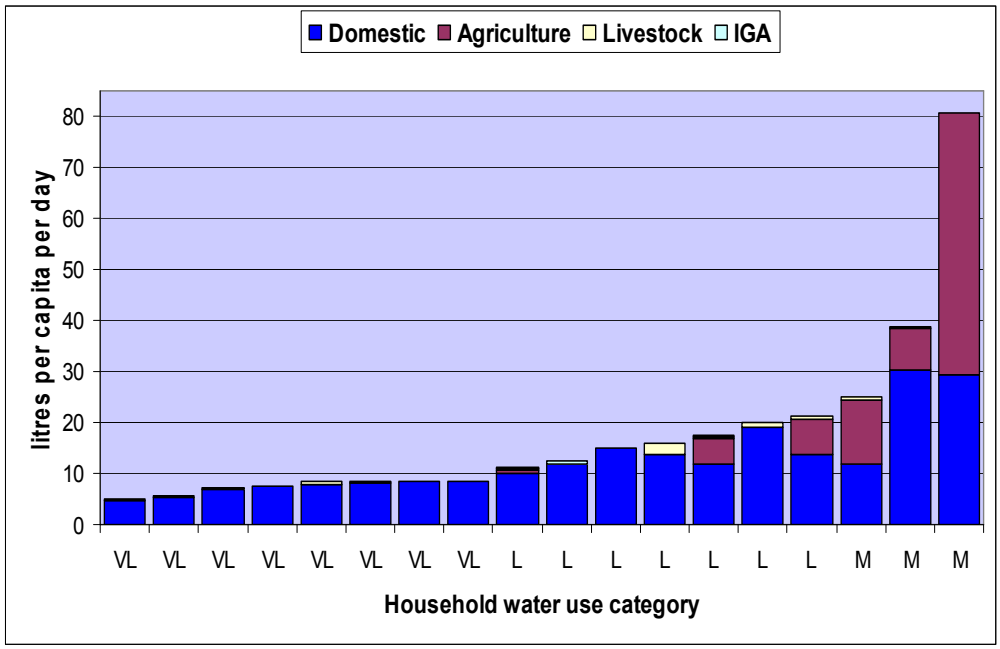
all people in all households. If there were water shortages, hygiene was compromised.

17	175/ weekend		Block making	Cook *ilala*/38/ when making		
18	25/weekend		Floors	Mats & baskets/5/ when making		

6.3.3 Water use and livelihoods

Water is an asset used in a range of activities, their role and relative importance in livelihood strategies varies. 6.1.2 began to explore this; it is discussed further below.

Figure 6.15: litres per capita per day, by water use category



Source: Mseleni project data, own calculations

Households can be divided into three groups, on the basis of daily water consumption. Figure 6.16 (above) shows households ordered from lowest to highest users. The column height indicates lpcd and the colour indicates what type of activity water is used for. Very low (VL) water users (<10 lpcd) use more than 95% of their water for consumption and domestic use. This is in keeping with the 5-15 lpcd other researchers (Gleick, 1996; Thompson *et al*, 2001) suggest is the bare minimum for direct consumption. Low (L) water users (10-24 lpcd) also use most of their water for domestic use, but they also use some for livestock and agriculture, demonstrating that even if people have only a small amount of water, they still value 'productive' uses. Medium (M) water users (25-100 lpcd) use a significant amount for agriculture, the portion used for agriculture increases when >30 lpcd is available, suggesting if more water is available, it will be used to grow food. Activities which occur

less frequently and happen outside the home were also analysed (Table 6.9), and it was seen that lack of water causes activities to occur less frequently and/or away from home.

Growing food is the most significant water using livelihoods activity. As discussed, (6.1.2), access to water is a critical factor influencing success. Women are predominantly involved in agriculture, and are responsible for growing food to meet household subsistence needs. If there is surplus to sell, and proceeds after household needs have been met, people keep the income they generate. Livestock rearing is an area where men dominate. It was felt (by some women) that this activity did not benefit household members equally, and there was some conflict between people and livestock over water. Men and women are involved in a range of other 'productive' activities. Whilst more men than women were formally employed, a greater number of women than men were self-employed and involved in IGA's[111]. This concurs with Moriarty *et al*'s finding (2004) that many water using 'productive' activities are carried out mostly by females. Thus, whilst 'productive' activities are important to both sexes, it can be ventured they are *more important* to women.

Respondents were asked whether they had enough water, and if there was something they would like to do, if they had more water. 76% said they didn't have enough water. Regarding things they would like to do, 73% said grow vegetables, 30% said make blocks/build houses, and a small number said water livestock, wash clothes more frequently and make food/drink to sell. Responses reveal people's priorities and gaps in the current provision. People *would like* water use to grow food, create homes and generate income.

Water has been described as a livelihoods constraining factor. Would improved access *enhance* livelihoods? Quite possibly, but water alone is unlikely to be sufficient, as there are a range of other livelihoods constraining factors (6.1.2.2). Other research gives mixed reviews. Perez de Mediguren (2004) comparing 'best' and 'worst' case villages found water access influenced the range of IGA's, their productivity and number of households engaging in them. However James (2004) warns that IGA's require effective facilitation and 'productive' water use needs an enabling environment. In another twist, availability of other assets – technology, transport and money – makes water more accessible, which creates possibilities to enhance livelihoods, which improves livelihood outcomes and makes other assets more available. There is a multiplier effect.

6.4 Discussion and conclusion: Gender, water and livelihoods

This chapter presented and analysed findings under three key areas: Inter and intra-household differentiation (6.1), access to water (6.2) and water use (6.3). It now remains to tie these threads together by returning to the key research question: *How does gender influence water use and how does water contribute to livelihoods in Mseleni?*

[111] See footnote 90.

It is wise to consider the *politics of location* (Mama, 2004:122). In Mseleni, gender intersects with other intra and inter-household hierarchies, to influence roles, responsibilities, access to and benefits from resources. At intra-household level these were found - in common with other researchers (Annecke, 2003; Hemson 2002) - to be age and household status. At inter-household level, class and favour with the Traditional Authority[112] (TA) were found to have an influence. Women have 'domestic' roles and responsibilities, which include collecting water, caring for children and ensuring there is food for household consumption. When 'domestic' responsibilities are fulfilled, women are involved in other kinds of 'work', which support household livelihoods and generate personal income. The domestic burden is particularly heavy for women positioned at the bottom of the household hierarchy. In households which are poor and disadvantaged in terms of other assets, people have to work harder to make ends meet. Men's 'productive' responsibilities include supporting the household financially and raising livestock, they are sometimes involved in agriculture, and only do 'domestic' work when females are not available.

In light of the research findings, and supported by the literature, it is argued that gender influences water use because activities - including those using water - are gendered. Collecting water is women's work, however - as noted elsewhere by Thompson *et al* (2001) and Strang (2005) - technology, transport and money alter the social dynamics of access. Everyone consumes water and uses it for personal hygiene. Men use water 'productively' to water animals, for building and a range of IGA. Women use water for domestic tasks, to care for sick people, grow food, and for an extensive range of IGA. Females were found to engage in a wider range of 'productive' activities than was first apparent, including those said to be 'men's work'. Water use is further influenced by access, water availability and time. Access is gendered as men access water via women and senior women via junior women. Gender differentials were not found to influence water availability[113]. There was however, considerable inter-household variation and many households experienced water scarcity. As discussed already, gender influences the time people have, via the division of labour.

Linkages between water and livelihoods can be positive and/or negative (see Table 6.17 overleaf). If water access is poor, there are opportunity and health costs which impact negatively (Thompson *et al*, 2001). Conversely, improved access creates time savings, which have been linked to increased income from small enterprises (James, 2004; WaterAid 2001). There is a 'market' for water. Some people earn income collecting and/or selling whilst others pay for water. Poor water access contributes to some and impacts negatively on other livelihoods. Men appear to benefit more than women. No women the research team spoke to gained financially, collecting water was part of their domestic chores. People who own vehicles gain the most. Vehicle ownership provides control over the means of water access. All the vehicle owners encountered were male. As discussed in 6.2.2, there are many other 'costs' involved in accessing water in rural areas. Whilst opportunity and health

[112]Other researchers (Hutchings & Bujis, 2005; Rangan & Gilmartin, 2003) find the TA's influence critical to accessing land and other assets. Access is gendered, the TA usually registers assets it grants in the name of a male.
[113]Intra-household water allocation appeared to be equitable, however *it was not investigated in detail.*

costs are likely to be borne by the women who collect water, financial costs are borne by males and females.

Table 6.10 Water and livelihoods linkages

+ve	**Water access issues** More time for other activities Increased income from small enterprises $ earned collecting water	**Gender issues** Females benefit from time savings IGA particularly important to women Women earn $ collecting water on foot; men have greater control over technology & transport and earn $ collecting water via these modalities
	Water use issues More opportunities for agriculture, IGA, livestock, building, domestic 'for income' activities	Women responsible for food production, men control livestock, men dominate in building, both do IGA, women earn income doing domestic' activities.
-ve	**Water access issues** Opportunity & energy costs Health costs, $ cost to access medical care $ cost to access water	Females who collect water pay opportunity & energy costs Females who collect water face health problems, females care for sick Men & women pay $ to access water
	Water use issues Insufficient quantity and unreliable water supply constrains agriculture, hygiene, IGA, building and livestock	Males and females are affected differently agriculture affects women, hygiene affects all but health issues impact on women, IGA affects all, livestock affects men

On the positive side, water enhances livelihoods in a number of ways. Water and water using activities were found to contribute to food security, shelter, livestock rearing, income generation, health and hygiene, and participation in social/cultural life. There was a noticeable difference in many respects, between households with a sufficient, reliable water supply, and those without. Water made livelihoods more secure, and enhanced livelihood outcomes. Other researchers have found positive water and livelihoods linkages via agriculture, livestock and IGA. Derman & Hellum (2007) identify food gardens as important for self-reliance in Zimbabwe and Perez de Mendiguren's rural South African study (2004) calculates that productive water use contributes 17-31% to household income. This research adds to a growing body of literature documenting small-scale 'productive' water use (Hope *et al*, 2003; Mulwafu 2003; Perez de Mendiguren, 2004; Upadhyay, 2005; WaterAid, 2001) and advocating for recognition and inclusion in water norms, standards, policies and programmes (Moriarty et al, 2004).

The importance of improving access and making water available for 'productive' activities can be argued from a livelihoods perspective. It can also be argued from a gender perspective. Men and women both use water 'productively'; women to a slightly greater extent, and people keep the proceeds of their own labour, if there are any after household needs are met. Upadhyay (2005) found women use water for multiple purposes, which sustain household livelihoods and generate individual income. James (2004) found women consider income earned through IGA special and draw on it during lean times. Women's independent income has been linked to improved

household education and health outcomes (James, 2005; Moriarty, 2003 cited in Upadhyay, 2005:411) as well as increased influence in decision making and enhanced bargaining power at intra-household, community and higher levels (James, 2004; Upadhyay, 2005). This study did not set out to measure the impact of livelihoods water use on gender relations; however, women said it was important to household and individual wellbeing, for them to have their own income.

The greatest potential to enhance livelihoods with water in Mseleni is via irrigation - by making water available to grow food. Therein are opportunities to reduce household expenditure, improve nutrition and generate income, *particularly in the context of escalating food prices*. As other researchers (James, 2004) warn however, water alone is unlikely to be sufficient. Success would be dependent on access to land and other assets and surmounting livelihood constraining factors. Gender analysts remind one that rights to access and use assets must be secured equally for men and women in the interest of gender equitable outcomes (von Koppen, 1999; Zwarteveen, 1997). As the availability of other assets and factors influence the conversion of water into livelihood outcomes, water impacts on the conversion of other assets. The 'multiplier effect' was discussed. Water access and use has repercussions on many sectors. Sufficient water for livelihoods is a pre-requisite for the achievement of other basic needs and realisation of human rights.

Chapter 7: Conclusion and recommendations

Water is necessary for survival, health and wellbeing. Access to sufficient water to meet basic needs has been identified as a critical development issue and a human right (UNDP, 2006). However, the impact of water access on development goes far beyond basic needs[114]. Water is an asset and input into myriad livelihood activities. The 'livelihoods' approach has recently come to the fore (Nichol, 2000). Researchers have documented a wide range of 'productive' water uses, and made conceptual links between access to water and poverty reduction (Moriarty *et al*, 2004). Few of the water and livelihoods studies take gender into account[115]. In fact, the livelihoods approach has been critiqued for *neglecting* power relations within the household and society at large (Carney, 1999; de Haan & Zoomers, 2005), which feminists argue is *critical* to understanding development and advancing equity (Kabeer, 1994).

The study set out to investigate the dynamic relationship between gender, water and livelihoods in a traditional, rural community in KwaZulu Natal (KZN). The intention was to document an information rich case, which would yield insight transferable elsewhere. The methodology combined participant observation, household interviews and focus group discussions (FGD) with participatory techniques, to capture insight at different levels and sample diversity within the community; this being often overlooked (Guijt & Shah, 1998). The case proved to be extremely information rich, insight was generated into: Household structure; rural livelihood strategies; intra-household hierarchies; the potential of technology, transport and money to alter the social dynamics of water access; 'costs' involved in accessing water; 'social capital' as a water access 'mode' (Crow & Sultana, 2002); and the gendered nature of positive and negative water and livelihoods linkages.

In retrospect, the study scope was perhaps too broad for a Masters dissertation, resulting in some trade off between quantity of data collected and depth of analysis. Sub-research questions were answered relatively superficially and it was not possible to draw on the breadth of gender, water and livelihoods literature for insight. Further methodological issues included loss of nuance and meaning in translation and difficulty surfacing dissent at household and community level. Nevertheless, the study broadly succeeded in its aims. The combination of livelihoods *and* gender analysis informed a deeper understanding. An in-depth study of the gender, water and livelihoods situation in Mseleni was presented, and insights generated which are likely to hold true elsewhere.

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[114]Which are usually defined as consumptive, hygiene and domestic requirements (Gleick, 1996; UNDP, 2006; WHO/UNICEF, 2000)
[115] James (2004) and Upadhyay (2005) are exceptions.

7.1 Recommendations for theory, policy and practice

Here the research findings are linked to recommendations to enhance livelihoods and advance gender equity, and areas are suggested for further research. Summary recommendations are displayed in tabular form (Table 7.1 overleaf) and key recommendations discussed in more detail below.

7.1.1 Recognise livelihoods in basic needs and rights based approaches

South Africa's water management framework is grounded in basic needs and rights based approaches. Currently, these offer a very limited understanding of the role of water in livelihoods. The basic needs approach would be informed by understanding the limitations of viewing human needs as hierarchical (Rist, 1997), greater recognition of linkages between needs, and the definition of water for 'basic needs' should be expanded to include livelihoods uses. The research findings show the contribution water makes to food security, shelter, income generation and social/cultural life. The human rights based approach (HRBA) would also benefit from more explicit acknowledgement of the interrelated and interdependent nature of rights (IPK, 2008). Realisation of the right to water is prerequisite to the fulfilment of other rights. The 'right to water' should be interpreted as water for 'livelihood security', rather than 'basic needs'. If livelihoods are 'mainstreamed' in basic needs and HRBA approaches to water management, norms, standards, policies and programmes are more likely to take livelihoods uses into account.

7.1.2 Support, empowerment and equity

Attention should be focused on the particular challenges of meeting basic needs and realising human rights in rural areas, and ensuring access to assets is equitable.

Support should be given to women and other disadvantaged groups to define their needs and claim their rights; bearing in mind that rights are most often realised through contestation (Cornwall & Nyamu-Musembi, 2004; Jones, 2005). It will be necessary to create spaces for disadvantaged people to speak and participate in decision making at various levels, to ensure their concerns are heard and addressed. Resistance is likely to be encountered from actors such as Traditional Authorities (TA's) who interpret rights issues, access to and ownership of assets differently (Hutchings & Buijs, 2005; Rangan & Gilmartin, 2002), and people who benefit from the *status quo*. The sensitivity and complexity of these issues should not be underestimated; research and dialogue is needed to find ways to negotiate equitable outcomes with/via hierarchical institutions such as Traditional Authorities and/or bypass them. Addressing the challenges of meeting basic needs and realising rights in rural areas is likely to lead to greater overall and gender equity, as these are the areas where the greatest backlogs persist, and disadvantaged women shoulder the huge burden of water collection.

Table 7.1: Recommendations, livelihoods and gender equity

Level	Recommendation	Livelihoods effect/issues	Gender equity effect/issues
Theoretical, Basic needs	Expand definition of water for 'basic needs' to include livelihoods uses (food, shelter, employment); greater recognition of linkages between basic needs. Involve people in defining context specific 'basic needs'	Greater recognition of livelihoods in norms, standards, policies and programming	Not clear, important to ensure men and women's livelihood 'needs' are considered. Involve men and women in definition
Theoretical, HRBA	Greater recognition of linkages between water and other human rights; expand the 'right to water' to include water for food and livelihoods	Livelihoods recognised in standards, policies and programming; range of 'tools' available to claim water for livelihoods	Rights should enshrine gender equity, but in reality many women/ other disadvantaged groups are unaware/ unable to claim rights
National (norms, standards, policy, programmes)	Accommodate diversity, don't bias large households in norms/standards. Greater consideration of rural agendas, address rural cost and access issues. Prioritise rural areas with none/dysfunctional infrastructure. Greater operations and maintenance subsidises for rural areas. Greater support for rural WSA's. Subsidise technology & transport to access water. Invest in simple technologies which make water more livelihoods accessible in rural areas. Expand 'basic needs' amount to 100 lpcd and account for this in the *reserve*. Prioritise enhancing equity in water resource use	Rural livelihoods issues will be mainstreamed in policy making. Greater support for livelihoods water users. Water for livelihoods uses more accessible More water available for livelihoods	Reduction of opportunity and health costs bourne by women Ensure men and women's voices are heard. Ensure men and women benefit from technology Consider basing norms/standards on individuals rather than the 'household' unit
Municipal	Subsidise technology & transport to access water. Invest in simple technologies' to make water for livelihoods accessible. Support for small-scale agriculture and IGA; mentorship for entrepreneurs and assistance overcoming livelihood constraining factors.	Greater support for livelihoods. Water for livelihoods uses more accessible	Ensure men and women benefit from technology & transport, Support men and women's livelihoods activities

Community	Ensure men and women have equal access to assets including land, productive land, technology and transport, including disadvantaged and single women. Ensure men and women participate in decision making structures. Provide information about water treatment & make treatment kits available free at health clinics.	Promoting greater equity in terms of access & assets, creates opportunities to enhance livelihoods	Promoting gender equity in terms of access & assets is likely to encounter resistance from traditional/tribal structures. Women's health burden reduced
Intra-household	Ensure males and females have equal access to land, productive land, technology and transport.	Promoting greater equity in terms of access & assets creates opportunities *and incentives* to enhance livelihoods	Promoting gender equity in terms of access & assets likely to encounter resistance from 'advantaged' household members

7.1.3 Technology and transport, for water for livelihoods

Seeing water through a 'livelihoods' lens has implications for the approach taken to provision. If the aim is to maximise the availability of an asset, providing a reliable supply of sufficient quantity are of great concern. Innovative solutions utilising simple technologies are required to bring reliable, sufficient water supplies to deep rural areas. The unreliability of the piped water scheme in the case study community created a number of problems: People were forced to use alternative, *unsafe* sources, store water and economise on water use. These problems are not confined to Mseleni. Thompson *et al* (2001) found piped water schemes becoming less reliable over time, leading to a 50% decline in water use. Piped treated water schemes requiring expensive maintenance are unlikely to offer suitable sustainable solutions which meet rural livelihood needs. A small amount of water is required for direct consumption; much more is needed for cleaning, washing, agriculture, livestock and income generating activities (IGA). Uncomplicated technologies - such as tubewells combined with mechanisms for drawing water, rainwater harvesters and pumps for drawing groundwater - are more suited to providing water for livelihoods. Gender specific needs should also be taken into account. Technology which makes water available for agriculture is likely to benefit women; men's gender specific needs include water for livestock. The effect of technology and transport on the social relations of water access was noted, they are potential entry points to leverage equity. Technology and transport relieve the burden of water collection, make more water available and make it socially acceptable for men to collect water (Thompson *et al,* 2001). It is important to ensure however, that they are distributed equitably, and not controlled by 'elites' who can use them to limit water access. The interface between technology, transport, water and social change would be a fruitful area for further research.

7.2 Conclusion

Livelihoods analysis offers the means to attain a more nuanced understanding of the multiple ways in which people use water, but it is important to dissect the 'household' which is made up of members with different interests, and is the site of power struggles. Gender analysis can provide useful tools for unpacking power dynamics within the household, and elsewhere, because the same processes operate and obfuscate at multiple levels.

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Appendix 1: Focus group and interview respondents

Table A1: Focus group respondents

	Bangizwe	*KwaJobe*	*Mboma*	*Total*
Females	15	9	15	39
Males	15	4	8	27
Total	30	13	23	66

Table A2: Interview respondents

		Bangizwe		**KwaJobe**		**Mboma**	
Household Number	Sex	Age	Relationship to HH^	Age	Relationship to HH^	Age	Relationship to HH^
1	Female	42	2nd wife	47	Wife & *de jure* HH	24	Wife
	Male	-	-	21	Son	29	HH
2	Female	45	1st wife	58	Wife	50	1st wife
	Male	-	-	25	Son	50s	HH
3	Female	19	Grand daughter-in-law	37	Wife	38	Niece
	Male	27	Grandson	67	HH	43	HH
4	Female	41	Wife	28	3rd wife	40	Wife
	Male	45	HH	72	HH	23	Son
5	Female	30	HH (unmarried)	29	Wife	26	Wife
	Male	24	Brother	16	Son	36	HH
6	Female	56	HH (widowed)			35	HH (unmarried)
	Male	27	Son				
7	Female	14	Daughter				
	Male	35	HH				

^ Where the HH is female, further information about their status is provided in brackets

Table A3: Schedule of additional interviews

Date	**Respondent details**
24/4/06	Dr Jenny Nash, Mseleni Hospital
8/5/06	Dr Victor Fredlund, Mseleni Hospital
30/6/06	Female, KwaJobe, questionnaire piloting

14/7/06	Female, KwaJobe
24/7/06	Females and males, Red Hot Chillies Co-operative members, Mboma
27/7/06	Male, person who hires out his vehicle to fetch water, KwaHlamvu
27/7/06	Female, in relation to an *Umemulo* celebration, KwaHlamvu

Appendix 2: Data collection tools

Consent form

This visit/interview/discussion group is organised by Eleanor Hazell, MA student at UKZN Durban, as part of a research project investigating:

- How people get and use water
- How water helps people survive and make a living
- Differences between how females and males and other groups of people get and use water.

The research will help Eleanor complete her studies; findings will also be made available to the community and decision makers. Eleanor hopes it will lead to a better understanding of men and women's concerns regarding water.

Participation is voluntary and if you agree to take part you have the right to withdraw at any time.

Information you give will be treated confidentially. If you agree, we would like to take notes and record the interview/discussion group to enable Eleanor to go over the information again at home. The notes/recording will not be shared with anyone else, and names will be changed when the report is written.

Eleanor can be contacted on: 084 8333880 eleanorhazell@yahoo.co.uk
Eleanor's research supervisors are:
Mr Glen Robbins, research fellow at UKZN: robbinsg@ukzn.ac.za
Dr David Hemson, research director at HSRC: (031) 2425612

Do you consent to participate in the research? Yes/No

Is it ok to take notes and/or record the conversation?

Notes	Yes/No
Recording	Yes/No

Would you like to be informed when the research report is available?
Yes/No

(If yes take contact details)

Would you like to ask any questions?

The interview will take about 45 minutes.

Gender and water use in Mseleni

Household interview questions for fieldworkers

(English version)

Before starting the interview please ensure you go through the consent form, in Zulu or English as appropriate, so that the participant understands the purpose of the research, how the research will be used and has a chance to opt-out, and ask questions if they wish.

Name of Fieldworker	Date
Isigodi	Household Number

Please note what follows is a suggested framework for the interview, to enable us to find out the information we want to know. Feel free to phrase the questions differently in order to obtain this information.

Sections 1 and 2 provide background information about the household; questions are to be asked to one person per household, preferably a senior female.

Section 1: Household structure

The aim is to get background information about household structure and household members. **Household members** are: people who reside at the homestead at least 15 days of every month and/or contribute resources to the homestead.

1.1 Who is the head of the household?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1.2 Please give the first name or the initials for each member of the household, starting with the oldest										
1.3 What is the gender of ……? M/F										
1.4 How old is ……?										
1.5 Does……. normally reside at the homestead? Y/N										
1.6 What is the current main occupation of…….? Self-employed/casual worker; student; salaried worker; unemployed; retired; other										

Section 2: Wealth and household assets

The aim is to make a rough/rapid assessment of household wealth, identify assets and find out who owns them.

2.1 Does household income include the following:

Regular wages/salaries Y/N Income from self employment Y/N
Income from agriculture Y/N

Remittances Y/N State pension Y/N
Child support grant Y/N

Other

2.2 Compared to the other families in Mseleni what do you feel about your family?

We are poorer about the same
we are better off

2.3 How many freshly cooked meals were served to household members during the last 2 days?

2.4 How many times were the following foods served to household members during the last 2 days?

Chicken Beef Rice
Pap

2.5 Does the household have livestock? Cattle Goats Chickens	Y/N	How many?	Who owns them?	Who looks after?
2.6 Does the household have land? Backyard/garden Muddy place near river Dry land Irrigated land	How many ha?	Who owns?	Who looks after?	What is it used for?

Questions in sections 3, 4, 5 and 6 are to be asked to all interviewees, e.g. two people per household.

Identifying information:

Name	Age
Relationship to Head of Household	Sex

Section 3: Livelihood Strategies

The aim is to find out how the interviewee's activities contribute to household livelihood strategies

3.1 Are you involved in growing food? Y/N Where are you involved in growing food? What crops are grown? What tasks do you do? Who else in your household is involved? Who is responsible? In a typical week how much time do you spend growing food? Is there a time of year when you spend more time growing food? Are crops for consumption or sale? If for sale: What is the income?	Garden/backyard	Muddy place	Other

& who gets the income? Are the crops watered? If so: how is water for crops accessed? & how much* water is used?			

3.2 Are you involved in caring for/do you own animals? Y/N What animals do you care for? What tasks do you do? Who else is involved? Who owns the animals? In a typical week how much time do you spend caring for animals? How are the animals watered? How much* water do they drink? Are the animal(product)s for consumption, sale or neither? If for sale: What is the income? & who gets the income?	Cattle	Goats	Chickens

* Prompt by asking how many spac spac's per day/week

3.3 What activities are you involved in which generate income/exchange for goods/services?

Full/part time employment;	making things to sell;	small business;	domestic work
Who else is involved? Do you do these activities regularly? In a typical week how much time do you spend doing these activities? Do any of these activities use water? If so: how is water accessed? & how much* water is used? What income is generated by these activities? & who gets the income?			

3.4 Are you involved in any other activities which support the household?

If so: what?

Section 4: Access to water

The aim is to find out how people get water, who collects water and what costs are involved in accessing water.

4.1 What is the household's main source of water? Piped (tap) water; borehole/well; river/stream; spring; rainwater; tanker; other	Where is it?
4.2 What other water sources are used? In times of drought? In time of cut-off's? Is rainwater collected?	
4.3 What kind of toilet is available?	Where is it?
4.4 Who is involved in collecting water? Who is responsible for ensuring water is available?	
4.5 How far* is it to the usual water source? How is water transported? How is water stored? (Are different uses stored separately?)	
4.6 If …… is involved in collecting water: Could you talk me through a trip to collect water? How long does it typically take to collect water? How often do you help collect water? In a typical day/week how much time do you spend collecting water? What is the water you collect used for?	
4.7 Are there any costs involved in getting water: If own connection: How much did this cost? Maintenance costs? Water bill? If public connection: Contribution to upkeep? Other payment? If neighbours' source: Payment? Gift/in kind? Transport? Pay someone to collect? Who pays the(se) cost(s) of getting water?	
4.8 Do you have any concerns regarding getting water?	

* Where possible, we will walk with people to their nearest water source to measure distance.

Section 5: Water use

The aim is to find out the main household water uses: what kind of water is used, how much, who it used by and how decisions about water use are made.

5.1 Could you estimate* how much water (e.g. 25 litre spacspacs) you & your household use each day?					
	Self;	Household;	Water source;	Who's involved?	Responsible?
In Total					
Drinking/cooking					
Washing bodies					
Cleaning					
Caring for people (children, sick, elderly)					
Sanitation					
Growing food					
Animals					
Income generation					
Other					
5.2 Are there certain days of the week when more water is used? If so: When? & for what?					
5.3 Are there certain times of the year when more water is used? If so: When? & for what?					
5.4 Are there any other activities people in your household use water for? If so: What & who does it?					
5.5 Does your household have enough water?					
5.6 If you had more water is there anything else you would use it for?					
5.7 Who decides how water will be allocated?					
5.8 If there is not enough water, what are the top priorities? 1. 2. 3.					
5.9 Do you have any concerns regarding using water?					

* People might find it difficult to estimate quantities; if so you can make the question more visual by pointing to a spac spac and asking how many of these are used each day. You can also hold up the 1 litre water jug and 10 litre bucket and ask how many of these container sizes full of water are used.

Section 6: Institutional context

The aim is to find out how water sources & infrastructure are managed/maintained & what people know/think about the people/organisations which influence over how they get water.

6.1 How are communal water sources managed & maintained? (if applicable) Are you involved in managing/maintaining communal water sources? If so: how much time do you spend in an average month? Are you satisfied with how they are managed & maintained? (0: Not at all, 5: Very) Why? Do you contribute to the cost of maintenance?

	If so: what is the cost in an average month?
6.2	How are private water source(s) maintained? (if applicable) Are you satisfied with how it/they is/are maintained? (0: Not at all, 5: Very) Why? What is the cost in an average month?
6.3	Which people/organisations help you get water? Which people/organisations should be responsible for ensuring you get water? Are you satisfied with the support they provide? (0: Not at all, 5: Very) Why?
6.4	Have you heard of the govt's Free Basic Water Policy? If so: can you explain what it involves?

Notes to guide participant observation

The purpose of participant observation is to gain a deeper understanding of people's daily life and the situation they are living in.

We will be spending some time with people in the households we visit, walking to fetch water, and observing how water is used within the household. Please take your research journal with you and write down things which seem to you that they might be important.

Remember the research questions,

1. What is the background to/context of the case study area?
2. How are households in the case study area differentiated in terms of household structure, access to water and livelihood strategies?
3. What are the productive, domestic, health-related and other uses of water in Mseleni?
4. How do people, differentiated by gender, access water for these activities?
5. How much water do people, differentiated by gender, use for these activities?
6. How is water allocated and by whom, for activities within the household?
7. How do people, differentiated by gender, use water to enhance their livelihoods?

There is potentially a lot of information to record, here are some notes to guide you:

Collecting water:
What time(s) of day does this happen at?
How often is water collected?
Who goes?
On the journey to collect water count the number of steps to the water source.
What ground are you travelling over?
How long does it take to walk there? (time the journey)
How long is spent queuing, filling up containers?
How longer does the journey back take?
How many times does your participant stop to rest/adjust containers and how long do these rest stops last?

Water storage:
How is water stored?
Where is water stored?
Are there separate containers for different things?
Is water from different sources stored in different containers?
What is the capacity of the containers where water is stored?
How often are the containers emptied and filled up?

Personal water:
Where do people get water for drinking & washing from?

How much water do they use?

Water for washing:
How often is washing done?
On what day(s) of the week?
Who does washing?
Where is the washing done?
What water sources are used?
How much water is used for how many clothes?
What is done with the waste water?
How long does washing take?

Water for cooking:
Where water for cooking come from?
How is water for cooking stored?
Who does the cooking?
How many people are cooked for?
How long does cooking take?
What is done with the waste water?

Water for caring for people:
Are there any people in the household who are taken care of by others (e.g. children, sick people, the elderly)?
Who is responsibility for this?
Is extra water needed to take care of people (medicines, special food, washing etc)?
f so how much extra water is needed?

Water for cleaning:
Who does the cleaning?
How often does it happen?
How much water is used?
What is done with the waste water?

Wastewater:
Is water which has been used once reused or thrown away?

Water for sanitation:

Water for food growing:
Where do people grow food?
What crops do they grow?
Do they water the crops?
What water do they use? (Just rainwater or other?)
Who is involved in growing food?
What tasks do they do?
How long do people spend growing food?

Water for livestock:
Are they livestock?
If so how many?
Who owns the livestock?
Who looks after the livestock?
How are the livestock watered?

Water for income generation:
What activities do people do to earn an income?
Can people only do these activities when other tasks are completed?
Do people use water as an input for any income generating activities (the immediate answer might be no, but ask people to think about this carefully…)?
Has/does access to water make a difference to the kind of activities people can do?
What kind of water is used for income generating activities?
Where does the water come from?
How much water do they use?

Buying water/gifts in kind:
Does money exchange hands when people collect water?
If so how much and who pays?
Is a vehicle used/hired to collect water?
If so how often does this happen?
How much water is collected using a vehicle?
How much is paid and who pays?
Is water obtained from a neighbour?
If so do people pay their neighbours for water?
If so how much and who pays?
Do people give their neighbours gifts in kind for water?

Average water use:
Is this a typical or unusual day?
Does it being school holidays make a difference?
How would things be different if we were here at the weekend?
On what days is the most water used?
In what season is the most water used?

Facilitators notes to guide participatory visual methods and focus group discussion

1. **Introduce the research project** (see consent form) and give people a chance to ask questions

2. **Objectives of the session, methods, ground rules**

There will be a number of different activities this afternoon.
As a group, we will have some discussions about access to water and water use in your community; we will also have some activities where you will be asked to work in separate groups of females and males and create some maps and charts. The overall aim of this afternoon's session is to:

- Understand how females and males access water
- Understand how female and males use water
- Understand females and males concerns regarding accessing and using water.
- Understand how using water helps people survive and make a living.
- See if there are any differences between females and males, or between people of different ages, rich people and poor people regarding how they get water and use water and their water concerns.

Our discussion and activities and discussion will last around 2 ½ hours
If it is ok with everyone, we will be recording what is said during discussion sessions. The recording is just for my use, to help me remember what was said, it will not be played to anyone and what is said today remains confidential. Names will be changed when the research report is written.
Please give everyone the chance to speak/contribute, let's respect one another's opinions/contributions and speak one at a time.
I would also like to please request that we all switch our cellphones off or to silent for the duration of this session.

3. **Activity one: community water map (female/male separate groups)** 30 mins

Aim is for people to map their community and in particular the water situation in their community.

1. Give each group a large sheet of paper and several marker pens
2. Ask group to draw a map of their community and show on their map how people in the community get water
3. Start with the community boundaries
4. **Include the following in the map: Water sources e.g. public taps, boreholes, rivers, streams, wells and other sources; infrastructure and services e.g. main pipelines, roads, houses, shops, markets, clinics, schools etc.**
5. **Ask participants to indicate areas that have good and poor water access and where richer and poorer households live.**
6. Label the map
7. Ask each group to present their map back to others.

Questions to ask while facilitating & reporting back:

- Where are the water resources and infrastructure located?

- Where do people live in relation to water resources and infrastructure?
- How do people access water?
- What alternative water sources are there if water services are interrupted?
- Where are richer and poorer households located?
- What are the time and money costs involved in getting water?
- What is similar/different about the way people in your community get water?

4. **Discussion one: Water access and concerns (one group)** time 30 mins

Aim is to find out people's main water concerns and whether men and women and people of different ages have similar or different concerns.

Questions to facilitate discussion:

1. What are your main water concerns?
2. Which of these concerns are the most important and why?
3. Who is involved in fetching water?
4. Why are these people involved in fetching water?
5. What are your concerns regarding fetching water?
6. Who is responsible for making sure water is available?
7. Why are these people responsible for making sure water is available?
8. Do men and women have similar or different water concerns?
9. Which concerns affect women most?
10. Which concerns affect men most?
11. Are richer and poorer people affected differently?
12. How are children affected?
13. Are people of different ages affected differently?
14. Which people/organisations within the community can you go to for help regarding your water concerns?
15. Which people/organisations outside of the community can you go to for help regarding your water concerns?
16. Which people/organisations are the most effective regarding helping you with your water concerns?

5. **Activity two: Water and livelihoods chart (female/male separate groups)** time 45 mins

Aim is to find out how water helps people to make a living; what activities people do, which activities use water, how much water use, who does them and how water is accessed.

Making a living is all the things people do to survive, it includes:

Earning money (wages, selling things)
Growing food (to eat or sell)
Keeping livestock
Staying healthy
Bringing up children
Having somewhere to live

1. Give groups paper, pens and ruler.
2. Ask them to start by brainstorming a list of all the things people in the community do to make a living
3. Decide which of these activities use(s) water
4. Make a chart like the one below with 4 columns
5. Write/draw activities which use water in left hand column
6. Discuss who does the activity: e.g. men, women, young/old people, rich/poor, everyone, write/draw this in the second column
7. Discuss how much water each activity uses (spacs, drums, other containers etc) write this in the third column
8. Discuss the different water sources available e.g. own tap, communal tap, neighbours taps, rainwater tank, family well, borehole, river.
9. Which water source(s) are used for each activity? Write/draw this in final column.
10. Bring groups back together and ask a spokesperson from each group to share their chart with everyone.

Example

Activities	**Who does it?**	**How much water?**	**Which water source(s)**
Drinking			
Cooking			
Washing, cleaning			
Caring for children			
Caring for sick people			
Growing things (home, community garden)			
Watering animals			
Building houses			
Earning $ (wages, selling things)			
Making Amahewu			

Questions to ask while facilitating

- Which of these activities are the most important?
- Which of these activities use the most water?
- Who does the activities? E.g. men, women, old, young, rich, poor, everyone…
- Why?
- Do different types/groups of people do the activities for different reasons? e.g. to make money, to care for family…
- Which water source(s) are used & why?
- Which water sources are used if tap water is not available?

- Which water sources would you prefer to use?

6. Discussion two: Water use (one group) time 30 mins

This discussion follows on from the previous activity. The aim is to find out which activities people feel are most important and why, whether men and women and people of different ages prioritise different activities and things people *would like* to use water for if more was available.

Questions to facilitate discussion:

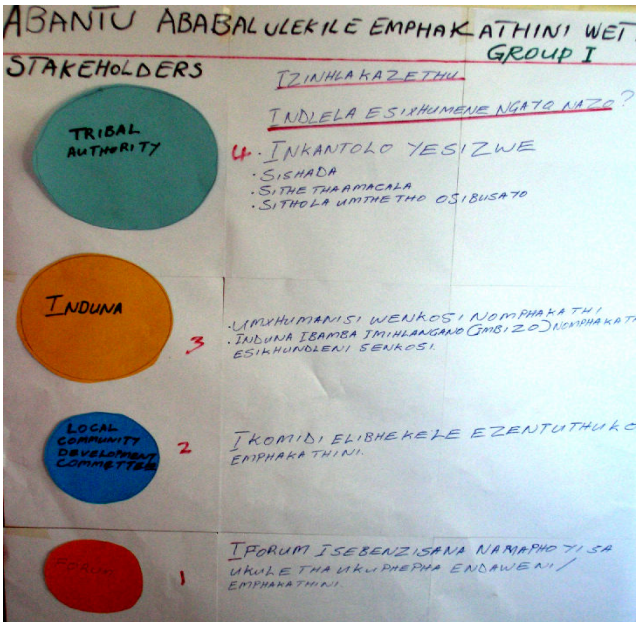
1. Do people use water for any other activities (not listed in the chart)
2. Which activities which use water are the most important?
3. Why are these the most important activities?
4. Do females and males have different priorities for using water?
5. If so why do females and males have different priorities?
6. Do people of different ages have different priorities for using water?
7. If so why do people of different ages have different priorities for using water?
8. What activities do people use water for to generate income?
9. What kind of people use water to generate income? E.g. men, women, people of different ages, rich, poor…
10. Do people have enough water for their needs?
11. If no why do people not have enough water for their needs?
12. If you do not have enough water for your needs, what activities would you like to use water for, if more was available?

Appendix 3: Maps and charts created during PRA

Figure A1: Women's map of institutions which are important in Mseleni

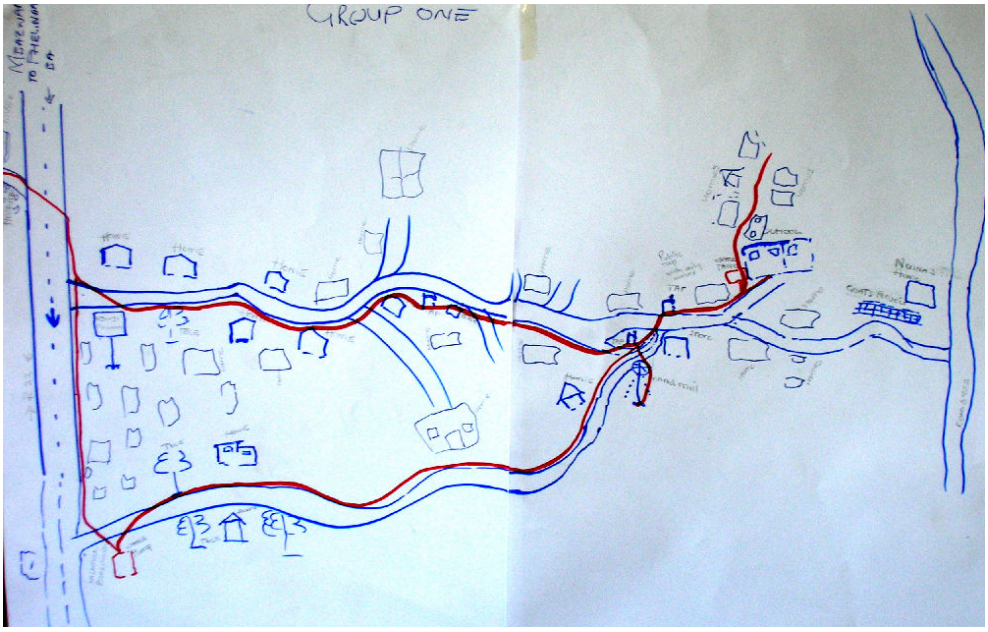
Created Bangizwe 7/5/06, **photo Eleanor Hazell**

Figure A2: Men's map of institutions which are important in Mseleni



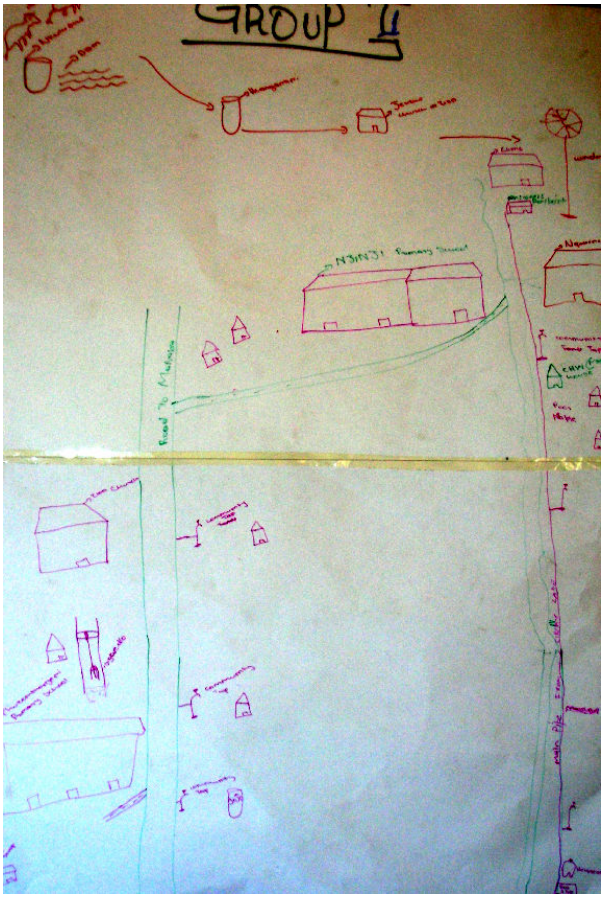
Created Bangizwe 7/5/06, **photo Eleanor Hazell**

Figure A3: Men's map of Bangizwe



Created Bangizwe 7/5/06, **photo Eleanor Hazell**

Figure A4: Women's map of Bangizwe



Created Bangizwe 7/5/06, **photo Eleanor Hazell**

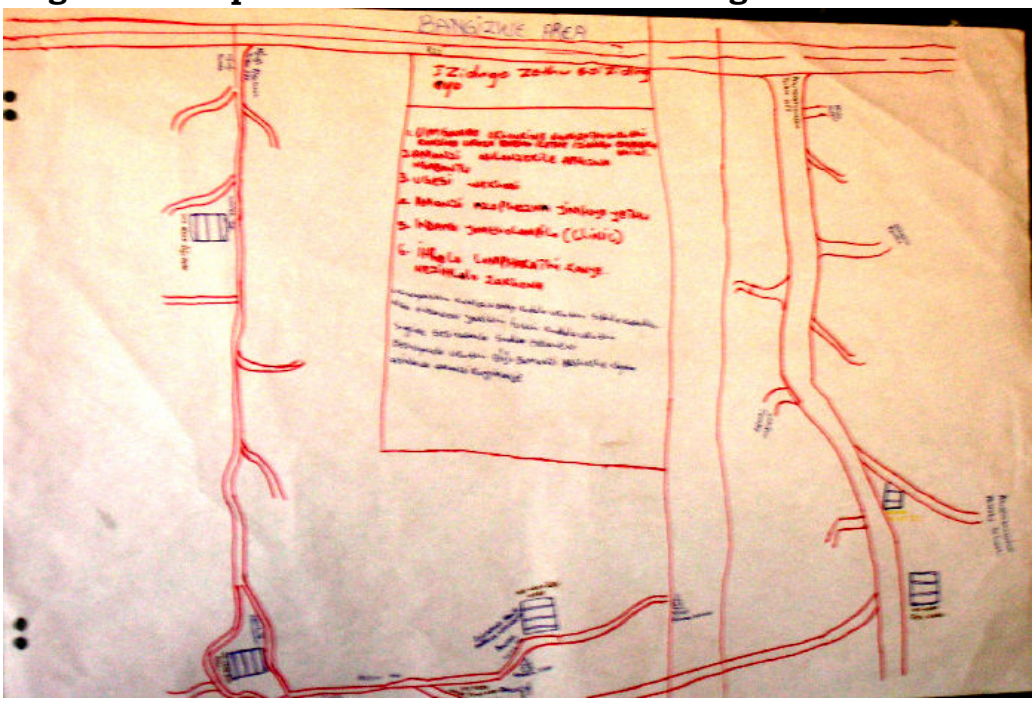
Figure A5: Men's water and livelihoods chart

Created Bangizwe 7/5/06, **photo Eleanor Hazell**

Figure A6: Women's water and livelihoods chart

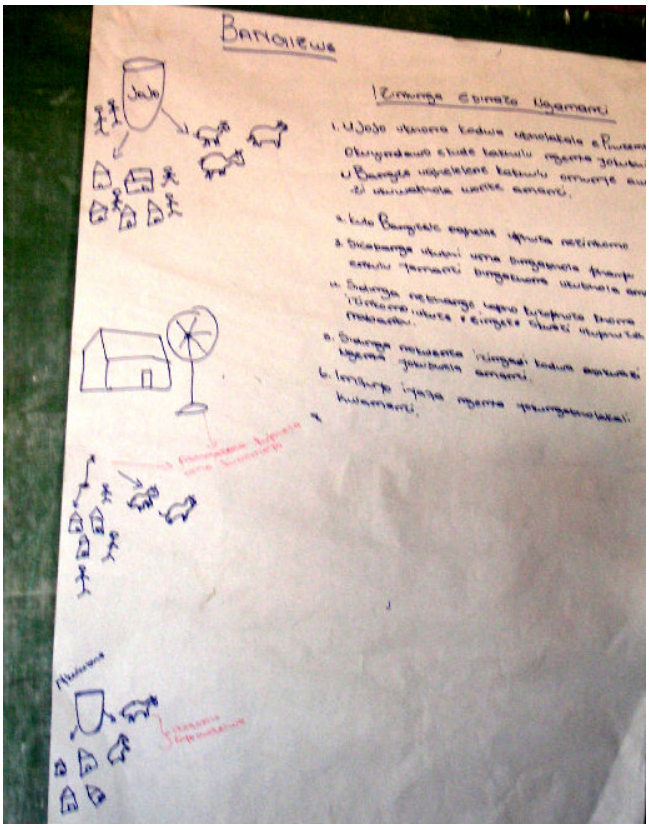
Created Bangizwe 7/5/06, **photo Eleanor Hazell**

Figure A7:Map of the water situation in Bangizwe



Created 21/6/06, **photo Eleanor Hazell**

Figure A8: Map of the water situation in Bangizwe

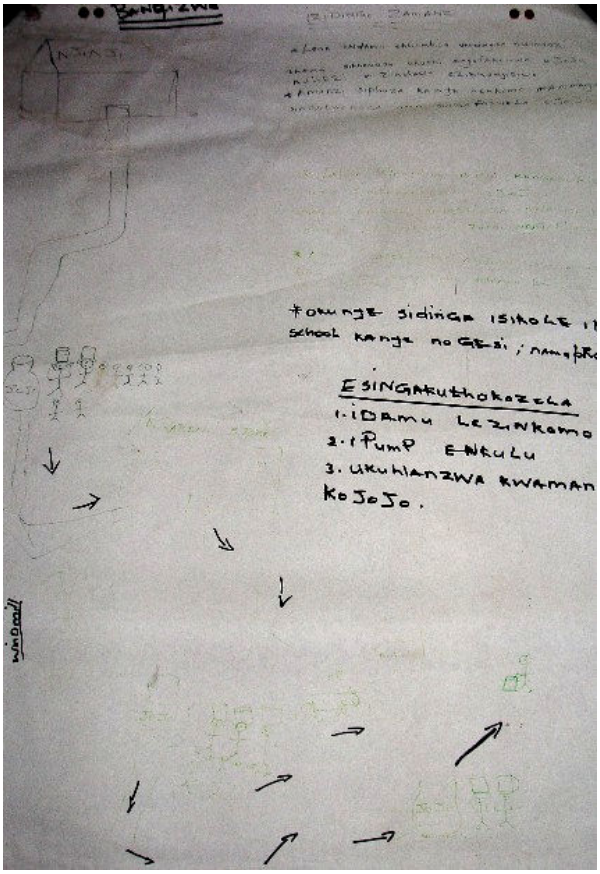


Created 21/6/06,
photo Eleanor Hazell

Figure A9: Map of the water situation in Bangizwe

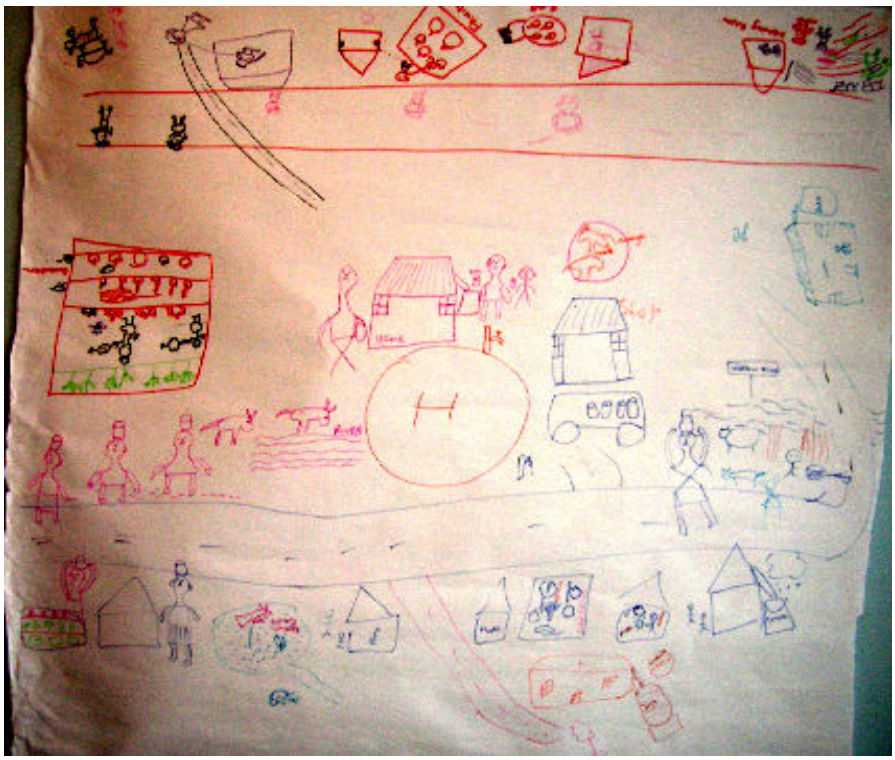
Created 21/6/06,
photo Eleanor Hazell

Figure A10: Map of the water situation in Bangizwe



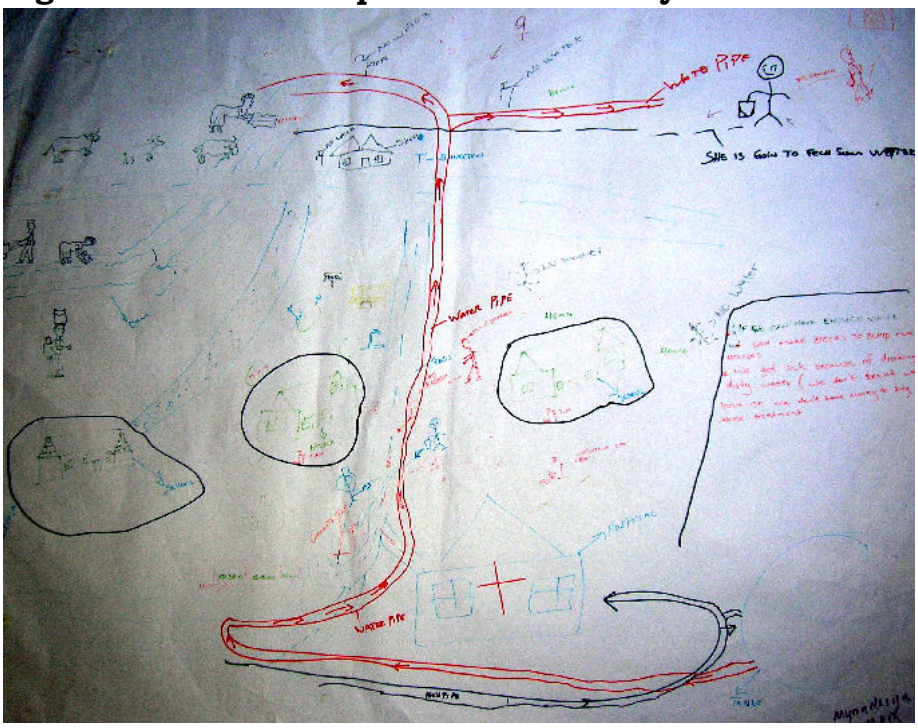
Created 21/6/06,
photo Eleanor Hazell

Figure A11: Women's map of the community



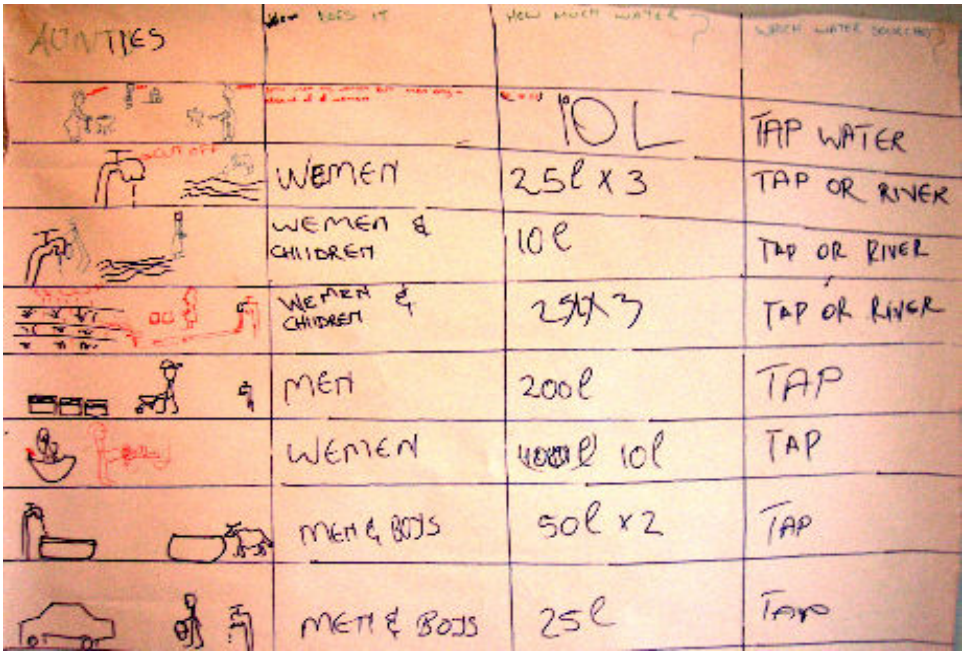
Created KwaJobe 15/7/06, **photo Eleanor Hazell**

Figure A12: Men's map of the community



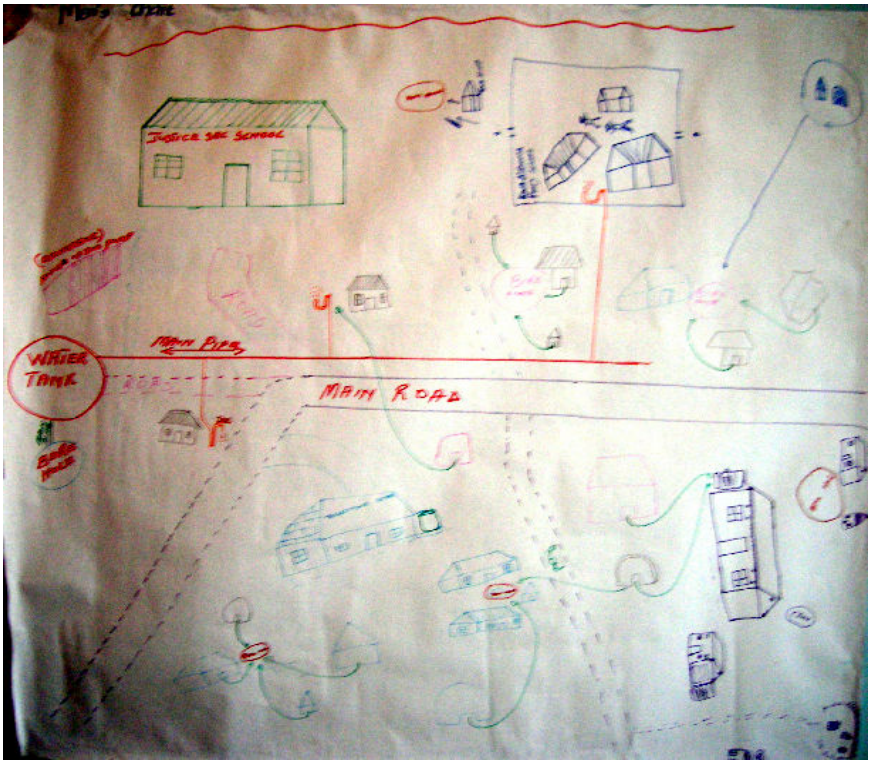
Created KwaJobe 15/7/06, **photo Eleanor Hazell**

Figure A13: Women's water and livelihoods chart



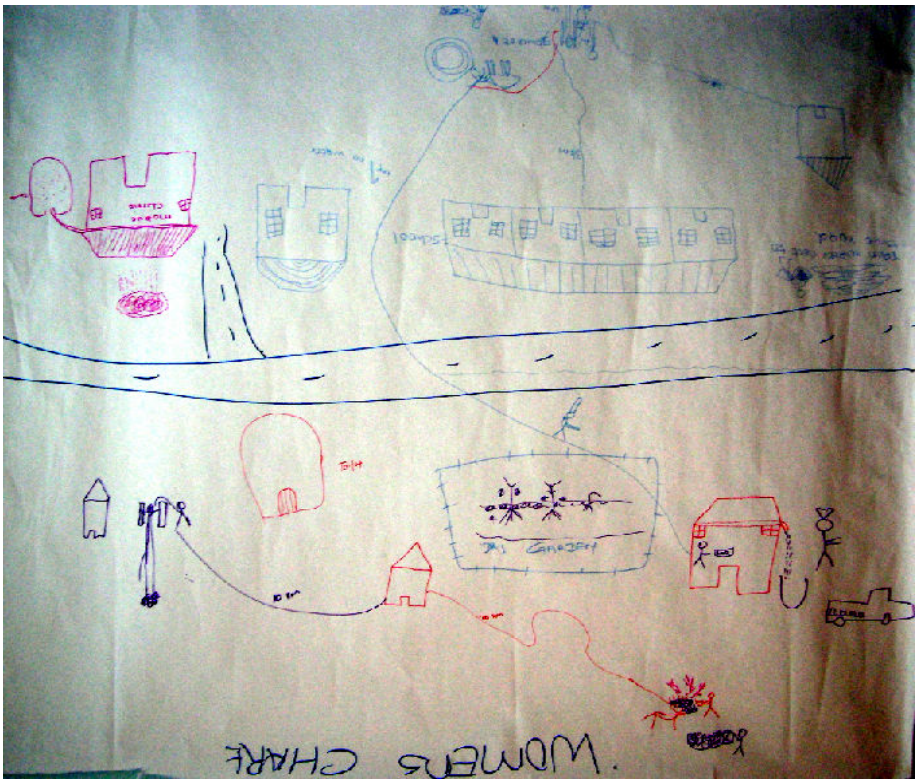
Created KwaJobe 15/7/06, **photo Eleanor Hazell**

Figure A14: Men's community map



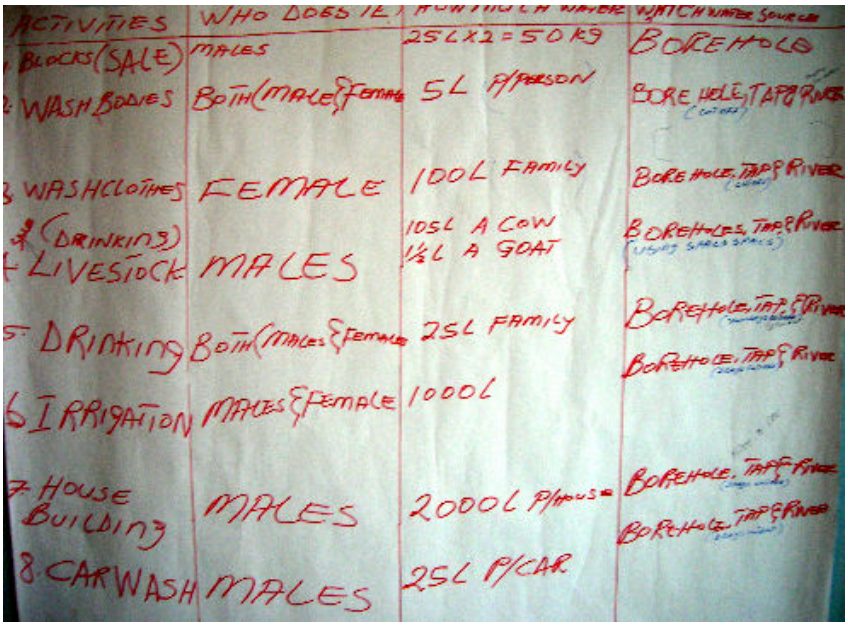
Created Mboma 23/7/06, **photo Eleanor Hazell**

Figure A15: Women's community map



Created Mboma 23/7/06, **photo Eleanor Hazell**

Figure A16: Men's water and livelihoods chart



Created Mboma 23/7/06, **photo Eleanor Hazell**

Figure A17: Women's water and livelihoods chart
Created Mboma 23/7/06, **photo Eleanor Hazell**