

THE IMPACT OF A LACK OF WATER AND SANITATION ON
WOMEN IN NONGOMA, KWAZULU-NATAL

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Submitted in Partial Fulfilment of the Academic Requirements for

Master of Development Studies

School of Built Environment and Development Studies

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Durban

South Africa

July 2017

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Abstract

Water is a primary source of all life and is important to all human beings. It is an intricate and necessary resource in the continuation and well-being of all humans. According to Van Houweling (2012) water is an integral part of sustainable rural livelihoods and households because of its important function in the maintenance and uses in the household.

Water is a highly important resource in almost every sector and especially in pastoral communities like in KwaZulu-Natal. Agricultural activities and rural households have a heavy reliance on water but water is fast becoming a scarce resource (Bakre and Dorasamy, 2015).

IFAD (2012) recognises the linkages between poverty, water and gender issues, and places great importance on women's empowerment to reduce poverty and food insecurity. Women's secured access to water and land is central to achieving the Millennium Development goals and other important bars to economic, poverty and development freedoms. Women in Nongoma face difficulties in water and sanitation access and backlogs creates burdens that prohibit them achieving their goals.

When basic needs such as water are not met, people become exposed to illness, infection and disease. The most controversial of these symptoms is that it creates a vortex where people are drawn further into poverty and powerlessness. The main aims of this study were to assess the effects of a lack of water and sanitation on livelihoods and how this impacts poverty. The study was concerned with participation levels by women with regards to water issues. The study location was Nongoma, KwaZulu-Natal, and the study examined how women in rural areas (who are typically responsible for household water collection, usage and storage) cope with a lack of access to water and sanitation and how this impacts on poverty. The study applied the capabilities approach and the gender and development approach and utilised a purposive sampling strategy to interview women between the ages of 18-44, through face to face interviews. The study also aimed to unpack the perspectives of women with regards to water and the impact a lack of water has on their livelihoods. The study also focused on whether women participated in the processes of accelerating water services to their area.

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Date:

.....

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.....

Dedication

I dedicate this dissertation to my friend, partner, confidante and father to our son, Simphiwe Malusi Zungu (09/06/1974 - 04/07/2016). You are gone but never will be forgotten.

We miss you.

Acknowledgements

Firstly, I would like to thank God, my saviour for His love and being a pillar of my strength.

Thank you to the municipality, community and traditional leadership of Nongoma, for their commitment and correspondence during the research process.

Thank you to Dr Shauna Mottiar for her supervision, patience, support and encouragement throughout the research process.

I would like to sincerely thank my parents (Stanford and Zandile Mtshali), sisters (Zama, Pha, Fikile and Sli), my son (Cebolenkosi), niece (Njabulo) and nephews (Thulasizwe, Ndumiso and Nkosiwabusa), your support and prayers have not gone unnoticed.

Thank you again to my friends and family for their support, encouragement and prayers.

Acronyms

NDP	National Development Plan
RDP	Reconstruction and Development Plan
SALGA	South African Local Government Association
AU	African Union
SADC	Southern African Development Community
MDG	Millennium Development Goals
SDG	Sustainable Development Goals
CADAW	Convention on the Elimination of Discrimination Against Women
WASH	Water, Sanitation and Hygiene

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CHAPTER ONE: INTRODUCTION

1.1 Motivation and Background

Water is a primary source of all life and is important to all human beings. It is an intricate and necessary resource in the continuation and well-being of all humans. According to Van Houweling (2012) water is an integral part of sustainable rural livelihoods and households because of its important function in the maintenance and uses in the household.

Evidence from SANBI (2013:1) states that ninety percent of South Africa is sub-arid, semi-arid or sub-humid, ten percent is considered hyper arid, and only fourteen percent of the country is partially arable with only one fifth of this land being highly arable. Water and climate change, therefore, are factors that need to be understood in determining potential agriculture and water activities that are suitable across the country, especially in small holding and homesteader settlements, as water and agriculture are a main source of livelihoods in many homestead areas (SANBI, 2013).

Montmasson-Claire and Zwane (2016:2) project that by the year 2050, there will be a significant increase in the temperature (5-8%) over the interior of South Africa, showing a risk of warmer conditions due to changing weather patterns. Montmasson-Claire and Zwane depict that some of the risk South Africa will be faced with will entail drier conditions, higher temperatures, increased evaporation rates, and the emergence of these risks calls for urgent and ambitious action to ensure resilience of South Africa and South African Agriculture (Montmasson-Claire and Zwane, 2016).

Water is a highly important resource in almost every sector and especially in pastoral communities like in KwaZulu-Natal. Agricultural activities and rural household have a heavy reliance on water but water is fast becoming a scarce resource (Bakre and Dorasamy, 2015). According to Bio-watch (2015: 2), highly inefficient agricultural irrigation uses as much as 60% of fresh water sources. Bio-watch reports that Northern KwaZulu-Natal had experienced severe drought since 2014, prompting the cabinet to declare the district an emergency disaster area in January 2016. By March 2016, the Jozini Dam had dropped to 47% of its capacity, compared to 61% at the same time the previous year. Hluhluwe Dam had dropped to 18%, but still, half of the total water available in these catchments is used for irrigation and not

small-holder displaced farming communities who watched as commercial agriculture, had green irrigated cane while their taps ran dry (Bio-watch, 2016:2-4).

A study by Karumbidza (2006) in northern KwaZulu-Natal has shown that large scale wood and timber plantations are almost always accompanied by large scale forced removal of small-scale farming communities by government for expansion of wood plantations. These developments promise to establish livelihoods and eradicate poverty as part of social responsibility initiatives but these are rarely accomplished. Karumbidza (2006:25) labels the timber industry as 'chief water thieves' where rural communities in KwaZulu-Natal are faced with loss of surface water with severe impacts on people, which is causing springs, streams and ponds to disappear. Despite evidence of harm, climate change and water challenges, the South African government continues to ignore these indicators with the continuous promotion of industrial agriculture and plantations which consume a substantial amount of the already depleting water reserves of the country (Bio-watch, 2016). Muller et al. (2009) argue that although South Africa uses relatively high proportions of its available water, studies have shown that there is enough water to meet all the country's needs until 2025 and beyond. The present problems and future challenges to water are not mainly related to water but to the limited financial resources, government inabilities to govern and industrial capabilities rather than the limitation of the resource itself.

Issues related to water are also gendered, in many South African communities. Unlike men, women have the primary responsibility of household water supply, sanitation and health, and are challenged with cultural and socio-economic factors limiting their abilities to take full advantage of their opportunities (Hart and Aliber, 2012). Water is important in households for drinking, food production, preparation, personal care and for domestic animals. Women have therefore, accumulated considerable knowledge about water resources, its location and its management. However, women are almost always excluded in water management discourses and the management of water (UNWater, 2006).

IFAD (2012) recognises the linkages between poverty, water and gender issues, and places great importance on women's empowerment to reduce poverty and food insecurity. Women's secured access to water and land is central to achieving the Millennium Development goals and other important bars to economic, poverty and development freedoms. Women in

Nongoma face difficulties in water and sanitation access and backlogs create burdens on women in Nongoma and prohibit them from achieving their goals.

The South African government has attempted to close the existing backlogs and gaps of water and sanitation provision in the country by developing legislation and policy that addresses the issues that are associated with the slow progress of distribution of water supply and sanitation services. The Reconstruction and Development programme (RDP), which was one of the initial policies initiated by the post-colonial government in efforts to redress the imbalance in the South African society. The policy introduced six principles of integration and sustainability, peace and security and meeting basic needs, just to name a few (Manomano and Kang'ethe, 2015:1). The National Development Plan (NDP) was later introduced to try and mediate some of the shortfalls of the RDP, some of the main plans of the NDP was to get people actively involved in their own progression and development and faster economic growth and employment, which also had its challenges. The South African economy has slowed and poverty and inequality are becoming pervasive, due to unemployment, making it difficult for people to progress, by themselves out of poverty (National Planning Commission, 2013). Much of government's efforts to close these gaps have proven unsuccessful. Current policy does not serve the poor because it is driven by neoliberal models of supply management that create inequalities in communities (Nastar and Ramasar, 2012).

Government has been concerned with the investments made towards development, which have reaped less desirable outcomes. Inadequate services, unemployment and poverty had been major contributors towards service delivery protests and a feeling of disempowerment in many South African societies (World Bank, 2011 and Nastar and Ramasar, 2012). The South African Local Government Association-SALGA (2015:9-10) claims that community protest action is a 'revolt of the poor' and during 2009 to 2013 the IRIS database claims that 4493 protests were fuelled by service delivery. Mottair and Bond (2012: 327) discuss the array of protest action that transpired in Durban, KwaZulu-Natal between 2009 and 2012, the authors find that the social unrest that transpired during this time were 'rife and varied' and arose from an array of grievances related to housing, electricity, highly priced service delivery and frustrations with local government officials. Challenges in actual provision of services and unsustainable ill-equipped infrastructure by local municipalities proved to significantly counter the progress and vision of the South African government in allocating water and sanitation services to all South Africans (Department of National Treasury, 2011 and World

Bank, 2011). According to SALGA (2015), repair and maintenance of ageing sanitation infrastructure and existing backlogs in sanitation infrastructure was mostly due to municipalities not spending the full capital awarded to sanitation services or the maintenance of these services. Municipalities, because of their lack of skill and know-how in dealing with sanitation issues, often fail with regards to sanitation and infrastructure maintenance. SALGA (2015) claims that the unserved population accumulated to 11% of the national population of South Africa, but the predominance of these populations was dispersed in the rural settlements of KwaZulu-Natal, North West and the Eastern Cape and the areas with high levels of infrastructural maintenance needs were located within Limpopo, KwaZulu-Natal, Free State, Mpumalanga, Northern Cape and the Eastern Cape (SALGA, 2015: 31).

It is in these rural areas such as Nongoma where women carry the main burden of accessing water for the household. This study sought to understand their experiences and challenges. It also sought to understand how lack of water impacts on their livelihoods. According to the Nongoma Local Municipality (2012:7-8), 98% of the population of the area is rural with females in the area having an overrepresentation accounting to 63.23%. Education levels are staggeringly low with 36.2% of the population being functionally illiterate and 32.8% having no schooling at all, making it very difficult to create productive work opportunities, leading to escalating poverty vulnerabilities (Nongoma IDP, 2012). Ensuring full incorporation by women is essential for the equity, prosperity and shared inclusive growth of the South African economy (Department of Women, 2015). By understanding women's participation in water issues, which is another focus of this study, we can understand the difficulties that they are faced with and their vulnerabilities. This will contribute to discourses that are progressive in the development of women and the economy.

1.2 Study Aims

When basic needs such as water are not met, people become exposed to illness, infection and disease. The most controversial of these symptoms is that it creates a vortex where people are drawn further into poverty and powerlessness. The main aims of this study were to assess the effects of a lack of water and sanitation on livelihoods and how this impacts women.. The study is also concerned with participation levels by women with regards to water issues. The study location was Nongoma, KwaZulu-Natal. The study examined how women in rural areas (who are typically responsible for household water collection, usage and storage) cope

with a lack of access to water and sanitation and how this impacts on poverty. The study applied the capabilities approach and the gender and development approach and utilised a purposive sampling strategy to interview women between the ages of 18-44, through face to face interviews. The study also aimed to unpack the perspectives of women with regards to water and the impact a lack of water has on their livelihoods, and whether they participate in water issues in Nongoma.

1.3 Study Objectives and Research Questions

This study was conceptualised to deepen the understanding of the relation between water and women and consider how participation in water discourses can impact on livelihoods. The objectives of the study were:

- To assess the availability and accessibility of water and sanitation in Nongoma
- To explore how the lack of water and sanitation affects women's livelihoods
- To assess women's participation in the provision of water and sanitation processes
- To evaluate the dynamics of poverty in relation to water and sanitation in the area and its effect on women
- To assess existing alternative coping strategies undertaken by women when accessing water and sanitation

The study posed the following questions:

- To what level are water and sanitation accessible and available to women in Nongoma?
- How does lack of water and sanitation influence livelihoods?
- Do women play a role in the processes of water and sanitation?
- How does poverty manifest itself in the community in relation to the supply of water and sanitation services?
- What are the coping strategies, if any, of accessing water and sanitation by women?

1.4 Scope of Study

The study is based on a sample of 15 households in the Nongoma area, four households from the Gomondo area, four households from the KwaDenge area, four households from the SGageni area and three households from the Manzimkhulu area were interviewed. All respondents were between the ages of 18 - 44 and were permanent residents of Nongoma in

the province of KwaZulu-Natal. The study attempted to understand the impact of a lack of water on women specifically and how this has affected their livelihoods. It also attempted to illustrate their perspectives with regards to participation in water dialogues. The focus was on perceptions of the women and how they interpret water scarcity and sanitation in their community.

1.5 Limitations

The study was only limited to women's views of water and sanitation and might have overseen the factors that can be contributed by male counterparts. Although the study was based in the Nongoma area, the report only consisted of a 15-household sample, which is too small to be generalised to the entire area or province. Another main limitation of the study was that permission to enter the household and certain areas in the study area had to be given by men, even though they were not a part of the interview process. This was overcome by constant communication with the heads of the families which were usually men and consultation for permission by traditional leadership when entering the area.

1.6 Definitions

This study uses a number of terms, which are understood as follows:

Gender- Socially constructed roles and relationships, personality traits, attitudes, behaviours, values, relative power and influences that society ascribes to the sexes on a deferential basis. An acquired identity which is learned (Esplen and Jolly, 2006:3).

Sex- The biological characteristics that categorise someone either as male or female (Reeves and Baden, 2000:30).

Patriarchy- A social organisation marked by male supremacy, in which women are completely dependent on men (such as being forbidden to inherit property or vote) and descent is reckoned on through the male line. A patriarchy is a society that is literally ruled by men, particularly fathers as opposed to a matriarchy - a society ruled by women, particularly mothers (Denfeld, 2009: no page numbers).

Livelihood- A livelihood comprises of people, their capabilities and their needs of living, including food, assets and income (Chambers and Conway, 1991:1).

1.7 Chapter Outline

Chapter One introduces the study and outlines the aims and objectives. Chapter Two presents (1) the literature review focused on water and sanitation and the role and impact on women, and (2) the theoretical framework, namely the Capabilities Approach and The Gender and Development Approach. Chapter Three is the research methodology which presents the sampling technique, data collection and data analysis processes and ethical issues which were used during the fieldwork. Chapter Four presents the results of the study and Chapter Five provides a discussion of the findings as well as recommendations and the conclusion of the dissertation.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Water: A Necessity

'Dignity is the recognition of the inherent worth and value of every human being. Humanity's birth right was silenced by apartheid's capitalist and patriarchal paradigm, which devalued, fragmented and destroyed human beings. The earth, air and water that sustain life became commodities to exploit profit' (South African Human Rights Commission, 2014: 7).

According to the World Health Organisation (2014), over 2 million people have gained access to improved water services and improved sanitation facilities since 1994 in South Africa. One hundred and sixteen countries have met the Millennium Development Goals' target set out by the United Nations and almost half of the world's populations, about four billion people, enjoy a good level of water access. With all the progress towards access to water and good sanitation, 700 million people still lack access to improved sources of drinking water and nearly half of these are in Sub-Saharan Africa (World Health Organisation, 2014).

Among the world's regions, South Asia and Sub-Saharan Africa continue to have the lowest levels of coverage to access to water and sanitation services, although efforts have been accelerated, progress is still slow. There are also stark differences across regions between urban and rural and between rich and poor (WHO, 2014 and Nastar and Ramasar, 2012). To put it into a South African perspective, Nastar and Ramasar (2012:16-17) performed a Gauteng – based survey in 2006 and found that an average of 19 households (133 people) in old Alexandra shared the same tap and toilet as compared to only 7 people per house in the East Bank and even less in the Sandton area, where less than 5 people in a house used the same tap and toilet, and usually each house has more than one tap or toilet.

According to a case study conducted by Raab (2008) in Ugu municipality, KwaZulu-Natal, the municipality had to maintain a delicate balance between extending water services to all and the need to conserve and protect the resource. It was found that the water supply was essentially derived from river run-off, with a small amount coming from ground water sources and unprotected springs. The water supply was unable to cover all Ugu Municipality

residents even though there was adequate supply from the four major river sources in the area (Raab, 2008). According to the author, the inability to provide water was because of backlogs that the municipality inherited after the apartheid era and a lack of financial support from government to the municipality. Broken or unmanaged water infrastructures were also inhibitors to the inability to secure water delivery to the rural outskirts in the area.

Hemson and Dube (2004) highlight some of the issues following the cholera outbreak in KwaZulu-Natal in 2001. Cholera is caused by an absence of basic sanitation and can be eradicated and controlled by elementary public health measures such as provision of sanitation, clean drinking water and encouragement of good hygiene. By August 2001 there were more than 100 000 cases of cholera reported in the EMpangeni and Richards Bay area. In an era of democracy and a government that prides itself in liberation against oppression, it was alarming to see reports of water and sanitation negligence, especially to the most vulnerable groups of rural areas in the country.

Poor sanitation is a large contributor towards illness, disease and death in many countries. This denies people dignity and a clean and safe living environment. With many people still practicing the culture of open defecation, it is common that illness and disease become rife. This is because of a lack of proper sanitation, water education and inadequate awareness and technical knowledge that governments have deprived people (Ayele, 2005). Lewin *et al.* (2007:755) show how disease and illness manifest themselves in a system that does not have proper water and sanitation amenities, usually black and rural communities. According to the Swiss Red Cross (2014) Water, Sanitation And Hygiene (WASH) programs aim to reduce poverty and vulnerability in communities by improving the health status of the population. This can also be done through initiatives that include women as custodians of water, families and communities. The WASH principles advocate for prevention rather than cure, they consider relief and development differently in planning and implementation. They consider that development can be achieved and reduce the need for emergency relief, e.g. construction of flood proof toilets can reduce the risk of faecal contamination when the water level rises during an emergency (Swiss Red Cross, 2014).

Chola *et al.* (2015:1) find that diarrhoea is one of the leading causes of morbidity in South Africa and in South African children, a

ccounting for approximately 20 percent of under five deaths. The authors show that diarrhoea is closely linked to socio-economic status and has the greatest impact on impoverished communities, families and mostly children. In South Africa, access to water and sanitation remain highly tied to the status quo, regions and race. The inability of the government to assist and transform the issues related to water and sanitation, especially to the rural poor, further expands inequalities between rich and poor, black and white, urban and rural (Bakker and Hemson, 2000, WHO, 2014, South African Human Rights Commission, 2014 and Nastar and Ramasar, 2012).The disparities owe much to the effect of apartheid and its segregation laws, where white supremacy gave advantage to the white population who were considered first class citizens, while the rest of the non-white population where given below standard, dehumanizing services (Cottle, 2004 and Earle, Goldin and Kgomotso , 2005).

The growing scarcity of water, especially with the current condition of drought in South Africa, and competition for water is a challenge for poverty alleviation. As South Africa is a semi-arid country and ranking the 30th driest country in the world, it is very likely that food production will be compromised, meaning that the rural poor will be unable to yield the expected production for consumption and distribution (Cole, Bailey and New, 2017). The rural poor are made vulnerable to the effects of poverty because of high food prices and an inability to produce because of water shortages. Hedden and Cilliers (2014:1) borrow from the National Development Plan 2030 which clearly states that food, water and fuel are interconnected and need to be dealt with interchangeably. To solve issues of poverty, robust interventions need to be made to assist in the water crisis. The rural poor being most exposed to a lack of access to water, will be most likely to feel the effects of a South Africa with diminishing water resources. The demand for water is increasing and government needs to be aware of the effects of water scarcity on the rural poor, to combat poverty and build a more stable and progressive society (Barker, Koppen and Shah, 2000 and Hedden and Cilliers, 2014).

A study conducted by Phillip-Howard et al. (2016) showed that poor and mismanaged menstrual hygiene affects the dignity, health and well-being of school going girls especially in low and middle-income countries, and requires a range of water, sanitation and hygiene interventions. In the South African context, there have been concerns regarding women's need for privacy and a sense of dignity when seeking places for defecation, or when they are

undergoing their menstrual cycles. Kelland (2016) conducted a study in the Eastern Cape in South Africa, and found that stigma and discrimination was rife in the area when it came to menstruation and sexuality. The author finds that menstruation was still found to be taboo and women were not willing to talk about these issues, especially having these conversations with men, there was a secrecy or 'concealing' of the issues surrounding menstruation. Menstruation was deemed shameful especially in young girls still attending school, who didn't have proper toilets, running water or even sanitary bins and services in their schools, often having to use make-shift sanitary material for pads or use underwear that did not keep sanitary material in place. Women, especially in rural areas, had to walk long distances just to dispose of their sanitary wear. They wonder away from home and put themselves at risk of harassment, sexual violence and rape (Water Aid, 2012). There are many biases, injustices and discrimination that women face when experiencing the natural cycle of the human biological system (Bakker and Hemson, 2012).

Article 14 (2) of the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) obliges States to eliminate discrimination against women in rural areas and ensure that women have the 'right to enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communication. It recognises needs of women, to have access to water and dignity. Access to socio-economic rights take on special significance in light of traditional gender roles that make women and girls responsible for social reproduction, in addition to improving the quality of their lived experiences' (Human Rights Commission, 2014: 27).

According to Gertholtz and Macleod (2014) women in South Africa are yet to see the constitutional promises of a society based on democratic values, social justice, fundamental human rights and improvements in the quality of life of all citizens. Many South African women face realities of a lack of access to water with the added burden of household chores and other tasks traditionally relegated to women. Water Aid (2015:3) reported that female members of households were more likely, than male members, to be responsible for the collection of water. People living in South Africa should have equal rights and access to water, no human should feel enslaved by their geographical location or by the virtue of their sex. Devenish (1999) states that the constitutional right to access to sufficient water should be conferred to everyone, according to the South African constitution in section 27(1) (B). According to the author, international and national instruments and policy does not recognise

that water should be sufficient and adequate, but water alone as being 'provided' is not enough, a sufficient and accessible right to water should also be exercised. Women, as recognised by CEDAW, have the right (including in rural areas) to enjoy adequate, accessible and clean water for appropriate living conditions in relation to sanitation and water supply. In terms of policies on water supply and adequacy, rural women should be made priorities and stakeholders. Women especially in rural areas are custodians of water sustainability and an important asset in water management dialogues (Kehler, 2001).

2.2 Water and Women

Sex refers to the biological characteristics which identify a person as being male or female.

There are certain biological processes that females experience which men do not.

Gender refers to the socially constructed roles which attribute different roles for men and women. Gender is the interaction and reaction between men and women, and determines expectations and permitted behaviors that are socially acceptable between men and women. Thus, roles, responsibilities, opportunities and power structures are associated with different gender roles (Connell, 1985).

Gender roles are socially constructed ways in which males and females are organized in society. The society, defines the two roles by the physical attributes and society has created defined spheres to which women and men should act in. McKenzie (2012) explains these roles as men being providers and by this, holding power, and women traditionally having been submissive and seen as nurturers. The regeneration of this kind of thinking, has led to men being inherently dominant and women inherently vulnerable. The slightest change in the way women conduct themselves, in trying to take back power, is often interpreted as emasculating men in taking away what is socially viewed as men's God given power. McKenzie also finds that there are differences between developing and developed countries when it comes to sex and gender, he argues that women in third world countries find it much harder to overcome gender based barriers, because of low standards in livelihoods and economic activity and less access to education.

Norton (2009) explains that these roles are not natural and neither are they God given. But they are defined by our societies. The author refers to gender as being economic, social, and

cultural behaviors which attribute opportunities and attributions associated with being male or female.

Owing to the defects in our societies which allow the culture of male dominance over women, women have been accustomed to being inferior to men and therefore act as minors both in the private and public spheres (McKenzie, 2011). The patriarchal relations between men and women, have led to women having less decision-making power than men, even in the private sectors (Martin and Antoni, 2013). Also, in interpersonal relationships men have all the deciding powers and women are always meant to be subordinate (Gennrich,2013). In predominantly racist South Africa, white males held almost absolute power, with white women, by default of being white, also holding some powers. In all systems, it is usually found that women are subordinate and this resonance of a power structure is also seen in South Africa today and in the work place and households throughout societies (Booyesen, 2013).

Jayachandran (2014) unpacks some of the issues associated with the inequalities between men and women in developing and developed worlds. The author, finds that although gender inequality can be explained as a process of development or lack thereof, societys' specific issues are also at play. He finds that some of the poorest countries today have immense favoritism towards males. These differences are seen in the 'insufficient' explanations of why families especially in China and India prefer having male children than females. The author also argues, that in all societies rich or poor, men earn more than women fundamentally, but disparities in education, healthcare and bargaining power are evident in developing countries.

According to Kongolo and Bamgose (2013), access to basic needs such as education, housing, welfare, fuel and water are influenced by unequal gender, race and class relations. The inequality of power between men and women unavoidably leads to the unequal sharing of resources such as information, time and income as well as resources. Canales (2012) argues that, men continuously held the right to water and water management as they had the power, wealth and social status to do so. This kind of thinking, perpetuated gender inequality in the water sector and other sectors of the economy. Water holds power and it was much contested for, therefore its ownership, control and distribution put women in a vulnerable position with regards to access and control.

By the mid-1970s it had become clear to scholars that development and modernization affected men and women differently (Ray, 2007 and Drolet, 2010). Ray (2007) argues that women play a central role in provision, management and safeguarding of water and therefore should be given more accessibility in water management. The author shows that there is a complex relationship between women's lives and access to water, that is not particularly well understood despite the burden of providing water to the household falling disproportionately on women. There is an intricate intertwining of value between women and water that needs to be uncovered and understood, there are complex issues associated with women and water.

The Swiss Agency for Development and Cooperation (2013) unpacks some of the issues and constraints that affect mainstreaming gender equality. They argue that by understanding gender perspectives, it makes it easier for governments and citizens to understand gender roles and relationships, and how these affect and are affected by water and sanitation interventions. By understanding these, governments can ensure greater sustainability and resource efficiency. According to the United Nations (2005) involvement in policies of equality, has shown that by including and respecting views and inputs of both women and men generally result in efficiency and progress, in projects and in government policy.

In trying to understand and unpack the issues and consequences of failing to include women in planning of projects, Green and Baden (1994) explore a project that failed in Mali because of a lack of transition and implementation of gender mainstreaming in the project. The community-managed Macina Wells project failed before it even started, because of a lack of planners to incorporate women and understand gender roles and inequality in water management. Management of the wells were only attributed to the male leadership, without consulting or planning with women about the new resources. Women were only allocated cleaning roles and collection of water from the wells. Green and Baden argue that if women had been incorporated in the planning and dissemination of the project, firstly they would have felt a sense of belonging and acceptance as meaningful stakeholders in the project and because women are the main users of water, better water usage and sustainability of water and the project could have been achieved. Thus, the project failed and people went back to their old ways of collecting water.

On the contrary, a study by the International Fund for Agriculture and Development (2012: 13) from Tanzania -The Participatory Irrigation Development Program (1997- 2007)

encouraged farmers to take responsibility for irrigation development. The schemes reflected the farmers' vested interest and not the interest of the planners. The water supply schemes were built for many reasons and uses including irrigation. The scheme was also shaped to address women's concerns about water availability and access in the designated areas. Shallow water tube wells were constructed to provide water for both horticultural crop, rice and domestic use. The scheme, was strategically aimed at reducing the time women spent on water collection by making more time for other activities that could increase their involvement and gains in livelihoods and economic activity. Program managers took great care in the involvement of women at every step, at times women even surpassing the ratio of men to women in the program. In a region where men held most power to land and water, women could negotiate for sharing land and water rights, and could produce vegetables both for food and income, and could save time from water collection. The program concluded that households that were involved in the scheme had increased food security and yields than even the previously most impoverished households (International Fund for Agricultural Development (IFAD), 2012).

Women are the primary users of water in domestic consumption, subsistence agriculture, health and sanitation. By understanding gender roles, we assist planning and planners in producing water interventions and policies which are based on knowledge of how and why people make the choices they make in water-use, to meet their needs (Swiss Agency for Development and Cooperation, 2013). This has been shown, in both cases of Mali and Tanzania in how the involvement of important stakeholders in this case the custodians of water, which are women- can make or break a program. Proper planning and dialogue is important in the success of programs and, most importantly in the improvement of lives of both men and especially women.

In South Africa, gender mainstreaming of women into issues of water is guided by the Millennium Development Goals Program (and recently the Sustainable Development Goals), where all world leaders gathered and agreed on eight set goals that were targeted to lead the world out of poverty, hunger, disease, exclusion, and gender equality. Millennium Goal #3 is the most important one in this study because of its target at promoting gender equality and women empowerment. Buvinic et al (2008) argue that to change and challenge social norms we need to use financial incentives to change behaviors of families towards women and female children, if the incentives are adequate and sustained. The authors support the notion

of fairness and that gender inequalities with respect to capabilities and opportunities, are a challenge. This means that governments will not be able to promote the notion of equal opportunities or capabilities, between males and females if patriarchy is not challenged. The South African Government has adhered to the requirements stipulated in the Millennium Development Goals commitment in 2000. According to the South African government, the Millennium Development Goals do not constitute separate plans and goals than what the government had already initiated for the country post 1994, enshrined in the Bill of Rights of South Africa, chapter 2 of our constitution, which clearly states in section 27 (1) that everyone has the right to have access to: (a) healthcare services, including reproductive healthcare, and (b) sufficient food and water (South African Human Rights Commission, 2011). Thus, to insure implementation of the goals and embedding/incorporating them into our already existing policies, government must instill these goals into the National Development Plan of South Africa, the Provincial Growth and Development Plan and the Integrated Development Plans of Municipalities. The 2013 Millennium Development Goals report (MDGR) was designed to include and support participation of civil society's organization in all levels and spheres of government.

According to Statistics South Africa (2011) goal 3 was further institutionalized because of the laws from the Constitution such as (Act no. 108 of 1996) which provided respect for equality. This law lays the foundation for the equality of all citizens in South Africa, and equality between men and women when it comes to gender roles. South Africa has also reached a milestone in different indices when it comes to gender matters, bringing her ranking into fourth place out of 87 countries in Africa in 2012. The same year ranking second after Seychelles on the Southern African Developing Community (SADC) gender and development index. However, while the country has had positive ratings, these indicators do not consider the differences between racial groups and location. These ratings also did not consider how well legislation is implemented and enforced. High indices of gender based violence, sexual offences, lack of gender parity in the work place are some of the negative impacts that impair South Africa's progress in indices ratings and in improvements of gender and gender mainstreaming. (Statistics South Africa, 2011 and United Nations Development Program, 2011).

Sachs (2012) argues that the Millennium Development Goals (MDG) have been effective in the global mobilization method of achieving social priorities worldwide. Although the MDGs

were instrumental in trying to alleviate poverty, some of its critiques are that it did not incorporate sustainable ways for both first and third world countries in achieving development, the MDG's regrettably also had a shortfall in achieving some of its priorities especially in low income countries (Sachs, 2012). The shortfalls were a set of operational failures that implicated many stakeholders in both poor and rich countries. The Sustainable Development goals (SDGs) were then launched in 2015 as a predecessor of the MDGs. The SDGs were developed to counter the shortfalls of the MDGs, and not only aimed at ending poverty but have 19 'focus areas' ranging from poverty eradication, food security, energy and health, to economic growth, industrialization and sustainable consumption (United Nations General Assembly, 2015). South Africa, in coordination with the SDG's, is adhering to the progressive paradigm shift towards progressive global agendas (Hajer et al, 2015).

Gender mainstreaming forms part of the objectives of the SADC Protocol on Gender and Development. The SADC protocol provisions for all member countries and alliances to institutionalize the empowerment of women, eliminate discrimination and to achieve gender equality and equity through the development and implementation of gender responsiveness in legislation, policies, programs and projects (SADC Protocol on Gender and Development, 2015, Morna and Dube, 2014 and Manalula, 2011). Member states of the SADC region who signed the protocol, agreed to mainstreaming gender issues into programs and action for sustainable development. The Protocol was adopted in 2008 and was aligned with the MDGs by using set targets and time frames. The SADC Gender Protocol encompasses ten main genres of specification which allow the systematic involvement of governments to uphold this protocol. (SADC Gender Protocol Alliance, 2015 and Munalula, 2011).

According to Munalula (2011) a substantial number of documents have been generated by both the SADC and African Union (AU) which have directly or indirectly provided for gender equality, yet little substantive change has taken place in the lives of Southern African women. Munalula questions if the documents are intended to promote substantive change or whether patriarchy is still a major contributor to inequality in both public and private spheres and is yet to be effectively challenged.

2.3 Gender, Governance and Water Resource Management

Hamdy and Quaglianello (2003) and the United Nations Development Programme (2006) elaborate that water is key in meeting most of the MDGs, and that good water management requires not only developing new technologies and increasing supply, but also managing available resources effectively, efficiently and equitably. According to the United Nations development Programme (UNDP), international communities have recognized and accepted that good governance plays a major role in the improvement of people's livelihoods especially in developing countries. Weak water management, evaluation and monitoring, impacts negatively on poor communities, both men and women. The burdens of water collection lay disproportionately on women, and therefore they are more likely to feel the negative impacts of the ineffectiveness and inefficiency of weak governance and planning. Improved water governance can lead to improved water efficiency and development.

The quest for development has led to a consensus that participation by both men and women, not as objects of development but as active participants is essential for sustained interventions. This has encouraged gender sensitive approaches in water and sanitation programs globally. There has been better understanding and awareness of gender issues involved in water management, and a range of initiatives have been introduced to try and improve the situation. Many countries, have recognized that by involving women in all aspects of water use such as government guidelines, project design, programs and policies, greatly impacts the outcomes and concerns of the programs. However, too many programs and projects, focus on the practical rather than strategic needs of women. (Hamdy and Quaglianello, 2003).

'Flexibility to address different situations is a key requirement for successful management. However, the limits of self-regulation should be recognized. Water is too valuable a commodity for its management to be handed over to its user and there remains a vital role for external monitoring and enforcement' (Malzbender, Goldin, Turton and Earle, 2005).

The above quote is borrowed by authors of the Department of Water Affairs and Forestry (DWAF) White Paper on National Water Policy for South Africa in 2005. More policies have been introduced after this paper, but this quote shows how the South African government was slow in the introduction of policies in the water sector that made the poor, especially women, the center of participation. The policy talked about improvements and flexibility in

management of water policies, but it was unable to grasp the importance of the inclusion of the rural poor. The policy assumed that people would not be able to regulate themselves in water management. The authors further determined that it is not the lack of knowledge of the poor about the environment and unsustainable usage of water, but it is the unreliable political or governance structures that were making the situation of water governance unsatisfactory. Governments assumed that it was its people that could not regulate the usage of water, but it is government that was unable to provide and manage its water systems.

According to Bond and Dugard (2008) issues of rural water supply were conceptualized in a 'highly simplistic' manner being reduced to the challenge of 'time spent' by women collecting water. Government portrayed the issues of water and water supply as being in the process of being 'resolved' in the rural areas (Bond and Dugard, 2008). These beliefs have made our communities calm and hoping, since half of the population living in rural communities are living without water provision and that these issues are being resolved-which is not always true. Bond and Dugard reviewed debates around rights and water and argue that instead of water being made available as a 'right', water is commodified and highly contested. This means that the poor are disadvantaged in that they cannot afford to pay for water, nor are they able to access the 'right' to water. The implementation of the Free Basic Water policy which was implemented through a short survey of shack dwellers in Durban, KwaZulu-Natal (and not nationally at first), did not take into consideration individuals and their different water uses within a household. After the 200-litre free basic water was allocated per household, prices escalated, meaning that after using the sometimes or always inadequate 'free' water, water was billed to extreme costs making it difficult for the poor end user to continue paying. From 2004 to 2005 South Africa experienced probably the world's highest water and sanitation related protest. Approximately 5900 protests recorded by the South African police services, in protest to water and sanitation and the destruction of unwanted water meters (Bond and Dugard, 2008:3).

According to Dugard (2011) the South African government has shifted away from rights-based approaches, to more top-down, autocratic and technocratic approaches, while at the same time hiding in a rights-friendly rhetoric. Which is often shown in hyper-sensitivity by governments if policies or practice are challenged, resulting in gate-keeping of information, systematic failure to consult with communities and chronic defensiveness. Bond (2013: 134-135) explains this in the exploration of the court case of Mazibuko versus City of

Johannesburg (also known as the Phiri court case) where the poorest of the poor residents of Phiri township in Johannesburg took on the Municipality of Johannesburg in trying to resolve the issues of inadequate or sometimes no water to households and improper shallow ablution facilities that had to be cleaned out by women, which had been designed to falter at certain intervals, to decrease water demand. In the first round of the court case the residents of Phiri, were victorious with the judgment being that ‘prepayment water systems in the Phiri township were unconstitutional and unlawful’. The High Court Judge Tsoka, ordered city officials to provide the applicants and residents of Phiri with ‘free basic water supply of fifty litres per day per person’ (Bond, 2013). The Judge, further reprimanded city officials for racism and being unconstitutional in discriminating black poor areas with expensive unsustainable water systems. In the second round of the case in the Supreme Court however, the judgement was overturned when the court ordered that water supplied to each person per day in the area, be at 42 litres per day and that the prepaid water systems not be removed but policy around them be changed (Bond, 2013). This ruling which was final brought about a lot of dissatisfaction amongst rights activists including Dugard (2011) and Cousens (2015). Cousens argues dissatisfaction with the ruling because ‘women already bore the brunt of water related problems’ and bringing water infrastructure to the people and not real and complete services, would not bring change to the people but continue exacerbating people’s hardships. Borrowing from Muller, Galvin (2008) illustrated how water initiatives can negatively impact communities and individuals. In a community that they had visited with newly installed water supply schemes in Lutsheko, Eastern Cape- South Africa they found various challenges. The project was well run by the village water committee and improved the lives of 3000 people. But when the authors went down to see the borehole, on the banks of a dried-out river bed, they found a young woman, with a three-week old baby on her back, scooping water out of a hole she had dug in the river bed. She told the authors that she could not afford to use the taps.

Galvin (2011) argues that government has been misleading in the process of water supply. She argues that national and local government have been unable to provide programs that address rural water needs appropriately. She further notes the inability of government structures to include poor communities in water supply processes and dialogue. Like Dugard and Bond, Galvin finds that infrastructure alone does not result in poverty alleviation but proper and strategic interventions in the supply of water to the most vulnerable, are needed (Galvin, 2011).

‘The right to safe drinking water and sanitation is derived from the right to an adequate standard of living and related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity. This means that for the UN, the right to water and sanitation is contained in existing human rights treaties and is legally binding. The right to water and sanitation is a human right, equal to all other human rights, which implies that it is justifiable and enforceable’ (Human Rights Commission, 2014:26).

The right to safe drinking water and sanitation is a right that is in the South African Constitution and should be upheld by government institutions and its organs. South Africans have legal rights to hold government accountable for not providing their obligations to the citizens. Governments need to prioritize water as a basic human right, and have judicial implementation in place to make sure that these rights are not impeded on (Human Rights Commission, 2014).

According to Bender and Gibson (2010), local government has the responsibility of providing every resident with basic water and sanitation. Not being able to continue and follow up on its promise to rights and responsibility to every South African resident is a failure on government’s part. Dugard (2008) critiques government on its autocracy and its neoliberal water privatization tactics and the inability to fulfill its entitlement to provide for its residents. Government has promised to provide water to all citizens regardless of location and race but, according to Dugard, government has been bias towards water commodification by municipalities, and subsequently, there is a clash between water as being rights based that has to be provided freely for the disadvantaged, marginalized and impoverished and water as an economic commodity.

In 1992 after diligent discourse and discussion, the International Conference on Water and the Environment held in Ireland introduced four new aspects known as the Dublin principles. The principles were designed as a global reference with a holistic, comprehensive and multidisciplinary approach when talking about water problems and water legislature. The principles were formed as international consensus on issues of water (Ray, 2007). The principles related to four themes which were the environment, economics, social needs and the role of women as very important in sustainability. The Dublin principles, made it paramount that the role of women in water management be recognized. Since 1992, policy

makers had made conscious efforts to incorporate gender issues in water development projects including declaring 2005 to 2015 the International Water for Life decade (International Fund for Agricultural Development, 2012).

South Africa, has a national policy drafted by government on the status of women and their involvement in the management and policies of water and other sectors across the board. As women are the custodians of water, government made it a priority that policy makers make it viable and productive that women be included in water solutions and decision making about all aspects of government (Morna, 2000). According to Kornegay (2000), the National Gender Framework was more issue driven, than sector specific. The Framework worked on dissecting the issues associated with gender dynamics and tried to find gender specific solutions across the board for all stakeholders and government spheres. Kornegay, asserts that the Framework promotes a co-operative approach among sectors to achieving gender equalities and draws from the international Gender Related Development Index (GDI), which focuses on expansion of 'capabilities' and the Gender Empowerment Measure (GEM), which focuses on the use of 'capabilities', the latter being the one which is central to the National Gender Policy Framework and its indicators which are (i) women's enhanced access to resources for economic development, (ii) women's earning power and their involvement in economy, (iii) the reduction of women's vulnerability to social injustice such as poverty, HIV/ AIDS and violence, (iv) the extent to which women participate in political decision making, (v) a change in attitudes to women, and enhanced recognition of their value to society and, (vi) women's access to professional opportunity (Kornagay, 2000).

The Dublin principles and National Gender Framework, created opportunities for women to be included in water projects and supply. Both national and international paradigms have seen it as vital that women be incorporated in the fast changing and interactive world of water, economics, private and public spheres, and in policy making. The above transformative policies have one common goal, which is the progressive and forward thinking of the inclusion of women and access to all interventions in water and other sectors, public, private and societal. According to Biswas (2004) the need for water is universal, water is a problem for the whole world, but the problems of water are neither homogenous or constant nor consistent throughout the world. The problems of water are not generic. Biswas further illustrates therefore that the IWRM (which conducted the Dublin principles), did not find solutions of how these principles were to be implemented and by whom. Making the

concept of water intergration a problematic stance for the whole world and especially for developing countries.

Access to sufficient water is a constitutional law and right, in interpreting this right consideration of international and national law must be given. Access to water according to national and international law must be both economical and physically accessible, with effective infrastructure and maintenance in place. Meaning that water should be accessible and available to all people - disabled, children, and elderly and should be most imperatively be economically attainable (South African Human Rights Commission, 2001).

The importance of affordability was recognized by South African and international standards. High prices in water (like in the Phiri Case) created unviable spending choices for the poor and marginalized. Water, is central to human life and therefore makes it an intricate factor of human life, especially for the poor. The importance of water, makes it difficult for the vulnerable to pay for this good, especially if using a substantial proportion of their already limited and stretched income. This then belies policy-maker's assumptions that people, even the poor, are 'willing to pay' and 'have access' to water (Solanes and Gonzales-Villarreal, 1999).

According to the Department of Public Service and Administration (DPSA, 2006) access to basic needs such as education, housing, welfare, fuel and water has been influenced by gender inequality, class and race relations. The inequality between women and men has unavoidably led to the unequal sharing of resources, with women's access to these resources still not satisfactory. Lack of infrastructure still acts as barriers for women to gain access to basic resources.

A case study conducted by Kanyongolo et al (2011) in Malawi on Human rights, gender and water, found that the right to water stipulated that it should be in a safe physical reach of all sections of society. The right to water was the obligation of the state to ensure access to sufficient, safe and regular water. Although, since these rights and regulations were put in place, this has not been the situation. The research conducted found out that women had to walk long distances to fetch water, and although Malawi was endowed with fresh water resources and an extensive network of rivers and lakes, , the country was still experiencing water stress and ultimately impacted the 22 percent of the population that was poor, severely.

The research was done in two cities of Mpemba and Nkolokothi and it was found that in Nkolokati, most women opted for alternative sources of water such as unprotected wells and streams, as they couldn't afford to attain water from the kiosks provided by governments due to their high prices. They opted to go to rivers and streams which were unprotected, noticeably filthy and stagnant (Kanyongolo et al , 2011).

According to Kanyongolo et al. (2011), the right to water requires that water should be within the safe physical reach of all sections of society and physical security should not be threatened when accessing water facilities and services. Which means that all people should and must be able to access water which should be available for all communities. The right to water placed an obligation on states to ensure access to sufficient numbers of water outlets to avoid prohibitive waiting times. Borrowing from the World Health Organization, the author finds that water is not accessible, if people have to walk long distances or spend a long time accessing it. It was found that in both cities women had to travel for long distances, more than 1000 meters a day and spent more than 30 minutes at boreholes and wells waiting for water. It was also established that women had to access water in contaminated and unprotected water which was sometimes infested with snakes.

This study showed that in Malawi there were policies in place that protected people by law to have access to clean protected, safe water. Establishing or implementing these processes were not quantifiable and consistent and, in both cities women had issues of accessing clean, safe and affordable water.

According to Jagals (2012) there have been interventions by the South African Government in trying to reverse the backlogs of water service supply. The issue with the South African government was that, although there were steady progress in trying to improve the conditions of water supply, government had not been able to periodically assess or continually monitor the subsequent impact of water supply initiatives. This was mainly due to the fact the water supply initiatives were involved in trying to quantify the establishment of the rollout of water supply initiatives, government were more concerned with, reaching targets of water allocation - considering the number of stand pipes supplied, than the proper supply of quality service. According to the author, multinationals like World Health Organization and the World Bank, suggest that the instruments in trying to measure the progress and quality of

water supply, do not readily exist, therefore, making it difficult for comprehensive assessment especially in developing countries.

Poor water governance has an impact on health. An example of this is the outbreak of the cholera virus which affected several hundred thousand people in 2001, in KwaZulu-Natal (Bond and Dugard, 2008). The outbreak was due to the disconnection of free water in the area after officials recognized that the area was receiving free water (Bond and Dugard, 2008). The case shows how irresponsibly government implemented policy and decision making especially in rural and vulnerable areas can be. The restriction of water to these communities had far reaching problems and the aftermaths were felt on many other departments like the health department. TB, HIV/AIDS, cholera and infections that people in the rural area are susceptible to, are exacerbated by a lack of water and creates burdens on families. According to Makaudze et al (2012) HIV/ AIDS, water and sanitation do not have direct impacts on each other but, each can negatively affect the other. Sanitation and hygiene is critical for the health and wellbeing of people living with HIV/AIDS. Access to clean and safe drinking water is essential and can greatly affect those living with HIV/AIDS and those taking care of them. People living with HIV/ AIDS sometimes succumb to opportunistic infections and become bed ridden, this then creates strain for those who collect water and who are care givers, which are mostly women. People living with the virus should take care of their health to protect themselves from opportunist infection. According to Galvin (2011), the inability of government to recognize water as a basic need and necessity to rural communities has created further burdens to women. As women already have the responsibility of caretaking, not having water creates vulnerabilities in that they cannot take care of their sickly, provide food for their families and pay for water for their families.

Lewin et al (2007) advocate that access to proper sanitation produces direct health gains to healthcare departments. By preventing diseases governments can improve economic and social gains and the author further alludes that the cost estimates in the reduction in diarrheal illness would result in an applaudable amount in work and school days that can improve development and economic gains.

2.4 Water and Livelihoods

2.4.1 Livelihoods

According to LaFlamme (2010) sustainability has been widely used in many discourses to try and achieve goals in development, policy making and governments. LaFlamme admits that, sustainability is almost never achieved in many aspects because of its exclusion of other aspects when it comes to poverty resolution. That is why a livelihoods perspective is useful and has been broadly used and defined as people, land, capabilities and means of making a living. Capabilities recognises the right of the vulnerable, to achieve aspirations just like those of more affluent groups.

A widely used and more progressive definition of livelihoods, comes from a more broadly used classification in literature, as described by Chambers and Conway (1991), a livelihood comprises of people, their capabilities and their means of living including access to food, income and assets. Livelihoods need to be environmentally sustainable when they maintain and enhance local and global assets in which livelihoods depend, and socially sustainable in which a livelihood that has undergone stress and shock can regain their resilience and be preserved for future generations. Livelihoods need to take a holistic view and a people centred approach (Merry et al, 2005). Livelihoods according to the authors are an interdependence of strategies and people which allows everyone to be able to live a socially acceptable life.

According to a paper by the UNDP (2010) livelihoods can be comprised of assets, with these assets being tangible such as land, trees, livestock, harvests. However they can also be intangible such as education, claims to food, access to materials and access to information .

2.4.2 Livelihood strategies

Livelihood strategies are the way households withstand economic shocks and how they depend on the options available to them in terms of their capabilities, assets and activities (Alinooi et al, 2010). Assets as described by the UNDP (2010) and depicted in the table below, are human, social, natural (which include water), physical and financial used by households to overcome stress and constraints. Livelihood strategies are the abilities of the household to use the capital available to them to be sustainable and resilient to certain and ever changing conditions. These sources of capital can be used interdependently and

interchangeably to override conditions that may occur in the household, opportunities and strategies available to the household, to both men and women, to improve their circumstances (Farrington et al, 2002).

Table 1: Livelihood Assets

Human capital	Skills, knowledge, health and ability to work.
Social capital	Social resources including informal networks, membership of formalised groups and relationships of trust that facilitate cooperation and economic opportunity.
Natural capital	Natural resources such as water, land, soil, forest, fisheries.
Physical capital	Including basic infrastructure- water and sanitation, roads, schools, ICT, and producer goods including tools, livestock and equipment.
Financial capital	Savings, credit, income from employment, trade and remittances.

Source: UNDP (2010)

McAndrew (1998:1) notes that ‘household livelihood strategies are interdependent in two ways- one refers to relationships that exist which ensures subsistence and security, and the other refers to relationships of mutual assistance that exist within households to accomplish these pursuits’. The first relationship refers to the productivity of the household which can include interchangeably their human, physical and natural capital and the second refers to social cohesion and how the household works within the unit and with the overall community. This shows how dependence plays a role in household and livelihood assets and how assets come together to accomplish progress and resilience within the household.

According to the UNDP (2010) the interdependence of households is an important characteristic in which each livelihood cannot exist in isolation. A household may depend on other households to trade or exchange goods and resources. According to the UNDP the negative or positive impacts on livelihoods has implications, the progressiveness or

regression of a household depends on the interaction and interdependence of different livelihoods.

2.4.3 Water

Water is increasingly becoming a scarce resource and access to water is now recognised as a prerequisite for poverty reduction (Llamas and Rogers, 2005). Jonah, Maitho and Omware (2015) state that water beyond the household, sustains ecological systems and provides input into production systems, that -in return- maintain livelihoods. Water has the ability to permeate all systems and is an important feature to keep systems moving, including households. A lack of water at both, household level and production, results in failures in economic systems and people's freedoms curtailed by health, poverty and vulnerability (Jonah et al, 2015). Water is both an economic good and a social good creating a link in household livelihoods and in the wider sphere of the household which is the political, policy, economic and environment spheres (Nicol, A, 2000).

According to Muller et al. (2009), it is not always possible for direct beneficiaries from disadvantaged communities to avail themselves of water allocation opportunities, therefore making it even more important to ensure that water is shared in an equitable way in order for all livelihoods and economic development to be sustainable. No institute or sphere of society should be left out in the much-needed aid and services regarding water allocation.

2.5 Theoretical Framework

2.5.1 Amartya Sen's Capabilities Approach

Given that this study aims to assess the effects of water and sanitation on livelihoods, poverty and participation by women, it will apply the capabilities approach and the gender and development approach.

Modernization and development theories assumed that through technology and economic development all aspects of society would be able to gain in the rewards of a capitalist society. According to Shareia (2015) these theories have sought to deal with poverty through identified tools and approaches that improved standards of living. Modernisation and development theories were about understanding how processes in society take place and how first world countries contributed to the construction of modernisation theories in the third

world (Harris, 2013). Modernisation and development theories then implies a process of 'improved' technologies for those countries that were 'less developed'. A critique from Mutunhu (2011) against these theories was that modernisation in Africa almost always took a Eurocentric view in thinking and ideas. Modernisation theories always took commodities and capitalism as the 'answer' to development, it also did not cater to non-capitalistic modes of production (Taylor, 1979).

Amartya Sen's capabilities approach considers how different spheres of life affect people differently. It theorizes about basic social justice and how each person should be taken as an end (Nussbaum, 2011). This means that all individuals are different and every person needs to be given their own specific importance. The capabilities approach is concerned with the opportunities available to each person and what a person is able to do. The capabilities approach sees life as a set of 'doings and beings', which can also be called 'functionings' (Sen, 1990:43). Amartya Sen therefore stresses the abilities of what a person is 'able to do' (Sen, 1993:30). This is important in trying to understand the access and opportunities that women have in the context of water and sanitation (including participation) and what they are therefore capable of.

The approach's concerns are entrenched in understanding social injustices and inequality, especially capability failures that are a result of discrimination and marginalization. According to the capabilities approach it is an injustice to deny opportunities to people who are already disadvantaged (Clark, 2005 and Nussbaum, 2011). In this case, we cannot expect, for example, a woman or girl without water and proper sanitation to perform the same way at school or at home than those who have access to water and sanitation. We cannot again expect women to evolve in job markets or access health and education if we do not create the proper platforms for them. Black people in South Africa were previously marginalized and discriminated against and black women, due to the multitude of discriminations still present in our societies, are still subject to further marginalization and injustices. Sen's capabilities' approach focuses on improving the quality of life by trying to increase opportunities and functionings that people have. In this study, the theory on Sen's capabilities approach will help us understand how people in Nongoma, especially women, have access and availability to water and whether they have opportunities to improve their quality of life through access and availability of water and sanitation. According to Clark (2005) this theory has much in common with the basic needs approach which emphasizes economic growth and expansion of

goods and services for necessary human development. The approach helps us move beyond the accumulation of goods as a means of happiness but stresses the importance of a good quality of life. We can try and understand this as what the people of Nongoma have and how they use water to survive and what their coping strategies for a lack of water are.

In different societies, there are still stark differences in rights and opportunities that men and women possess such as access to land, opportunities to participate and influencing the decision-making process. By using the capabilities approach we can assess the implication of policy or programs that institutionalize men and women's inequalities, and try to bring these issues into discourse. By challenging these issues, we allow for better integration of men and women in the design, implementation, monitoring and evaluation of policies and programs and therefore understand how a lack of water and sanitation affects social behaviours and poverty when thinking about water and sanitation.

According to Canales (2012) men are able to manage their formal rights to water as they have the social status and usually the financial resources to do so. This perpetuates inequalities between men and women in the water sector. Water holds much power both economically and socially, and because of its power it is most contested in many different arenas, therefore making women more vulnerable in water issues.

The capabilities approach therefore is instrumental in trying to understand the different roles of men and women and how these roles can be better understood and put into context. This includes issues such as water availability and accessibility, and how these affect the different genders. The capabilities approach framework will assist this research process in trying to understand the impacts of water and sanitation on women, by highlighting some of the circumstances that women face such as of a lack of access to water and how this affects their livelihoods and poverty.

Water is a primary source of livelihood for many household activities and should be made a critical factor in the processes of the household and in the discourse of male and female inequalities and power struggles. Water plays a vital role in economic growth and there should be a holistic view of how water affects our societies and women especially. This research emphasises the different gender roles and how these inequalities of gender roles create social injustices. The study will attempt to understand issues associated with societies

and water and how these dynamics affect women. Women, who are key contributors to the livelihoods of the household and the sustainability of water, rarely receive recognition for their positive and proactive reactions to accessing water. This research hopes to shed some light on the challenges faced by women in the access of water and how they maintain coping strategies when accessing water.

2.5.2 Gender and Development Approach

The 1970s gave rise to more female conscious frameworks that noted the differences in development needs of men and women. Three approaches were developed with the Gender and Development approach being a successor to the Women and Development and Women, Environment and Development Frameworks (UNDP, 2006).

The Gender and Development approach does not assume what women need but tries to understand the disparities between women and men and attempts to work towards creating equal coalition between them. The approach considers the involvement of women in development projects. It also acknowledges power imbalances between males and females. It further stresses women's practical gender needs. Water as a finite and vulnerable resource is unmistakably very important in the progress of economic activity. Women are vital players in the management, provisioning and safeguarding of water and they should be included and recognized as important role-players in development, planning and policymaking of water issues (Ray, 2007 and Drolet, 2010). This framework will help consider how ignoring gender creates poverty, and helps in understanding the importance of women when thinking about water and how neglecting women creates poverty because of inequalities in the household and beyond. The study emphasis women's perspectives about their participation in the development in the community.

CHAPTER THREE: METHODOLOGY

‘Not everything that can be counted counts and not everything that counts can be counted.’
Albert Einstein’ (Bricki and Green, 2007:2).

3.1 Research Approach

A qualitative research approach, was used in this study in considering water scarcity and its effects on women. Qualitative research is used, when trying to understand social aspects through generating words rather than generating numbers, and experiencing learning and outcomes with the respondents. Carrying out research in this way allows for not only ideas, but an interplay between researcher and data thus drawing on researcher’s experiences and those of respondents during analysis of data (Strauss and Corbin,1990). Qualitative research tries to understand feelings and perceptions of people, by using in-depth open ended data collection strategies (Bricki and Green, 2007).

3.2 Ethnographic Inquiry

The researcher lived in the area for the duration of a month (September 2016) during the data collection process and fieldwork. The duration of the stay assisted the researcher in that she could immerse herself into the community and experienced first-hand the issues associated with waterlessness and how these affected people in the area. An ethnographic study design is the studying of people and culture, through observation, photography and interviews (Whitehead, 2004). This type of research design is aimed at understanding people and cultures and involves the observations of perceptions of people and their lifestyle. Ethnographic study design allows the researcher to explore the lifestyle, interactions, behaviours and perceptions of the respondents and results are noted as they are expressed from the participants themselves. Information was further gathered through in-depth interviews as well as observation. This allowed the researcher to have first-hand, in-depth information that has not been filtered.

According to Whitehead (2004) perspectives from anthropologists- where ethnography first surfaced- was the difference between ethnographic approaches of qualitative versus the quantitative perspectives and that of classical, non-classical and core ethnographic studies. Classical ethnographic methods include secondary data analysis, fieldwork, observing

activities and recording field notes. In classic ethnography, there are also other categories including basic classical ethnography which, besides studying human residential communities and populations, also explores social settings such as organisations, institutions, meetings and any other setting of human interaction.

The essence of ethnography, ensures participation and a close association with participants in the setting. The central aim of ethnography is of the view that social sciences is used as a tool for understanding people's actions and their experiences in the world and how these experiences reflect on the choices and action and activities they make (Brewer, 2000).

Sangasubana (2011), distinguishes some disadvantages of ethnographic study in that it sometimes becomes time consuming and intensive because of the time that is taken in understanding and immersing yourself (as the researcher) in the lives of the community of study, it can also lack the structure and control found in laboratory settings, to ensure objectivity.

3.3 Sampling Strategy

The type of sampling strategy that was used to conduct the research was non-probability sampling or purposive sampling, which focused on sampling techniques where units or groups were chosen from the researcher's preference of that group (Battaglia, 2011). The researcher needed a sample group that would be representative of the whole population of Nongoma and therefore, started by selecting the number of households that would be interviewed in the Izigodi (Induna jurisdiction in rural areas, usually controlled by tribal authority). Four households from Gomondo (isigodi), four from KwaDenge (isigodi), four from Esigageni (isigodi) and three from Manzimkhulu (isigodi) were selected bringing the total sample to Fifteen interviews. The group that was sampled were women in households who were in the 18 to 44 age range because they were most likely to be taking care of the household, be of working age and were young adults. Door to door house visits were done in each of the Izigodi, asking if there were women of the age above 18 years in the household, if there were women of the age the researcher was purposely looking for, an interview was conducted, but if there were no women in the household the researcher moved on to the next household. From the previous interviewee, the researcher asked if there were any more women of same age in the area, and the interviewees would point to the right direction

resulting in a snowball effect of interviews but of age and gender preference. In-depth interviews of women were conducted, of how water and sanitation or a lack thereof, had affected lives and the choices they make in the light of this. Women were asked, what men's roles were in water collection in the household. This was done to include women's perspectives of how they interpreted men's roles within the household and how / if men assisted in domestic roles within the household. Men were therefore not interviewed. Purposive sampling focuses on characterisations of that population that the researcher finds of interest, which will enable the researcher to answer the research question (Bareiro and Albandoz, 2001). The interviewees were spatially distributed in the Nongoma area in order not to limit the researcher to only one area. The sampling strategy was homogenous sampling because it reduces variation, simplifies analysis and facilitates group interviewing. Homogenous sampling is a purposive sampling technique that aims to achieve and share the same characteristics like age and gender (Leard, 2012). Women in the households are caregivers and caretakers who are tasked with collecting water for the household; hence women were chosen for this study in order to understand how water and sanitation affect rural women and to glean an understanding of water access / use from their perspectives.

3.4 Data Collection

Data was collected through house to house interviews using an interview schedule. Interviews were conducted in the afternoon because during the initiation of the interview process, the researcher found that households were usually empty during the morning or only the elderly were home. The researcher soon found out that this was because possible research respondents were usually out collecting water or doing household chores during the morning.

Field notes and photographs also assisted with the data collection and compilation process. Each interview was conducted in isiZulu (as the language of preference of respondents) by the researcher and then later transcribed by the researcher. By understanding the language and accessing the situation personally allowed the researcher to understand and gain further information of the situations present in the area.

Data was also collected through limited action research where the researcher accompanied respondents to their water collection sites and helped to collect water. Action research is useful in the research process as it levels out power dynamics between the researcher and

respondents and allows the researcher to become actively involved in the process.(Stringer, 2004). The researcher was accompanied to various water sources by respondents. Trust and acceptance was attained by the respondents through these multiple visits which also gave a good sense of water access in general and daily chores regarding water collection.

3.5 Data Analysis

Data was analysed through transcription and coding. Field notes were also taken to further record findings of the research. Borrowing from Marshall and Roosman, Vosloo (2014:355) data analysis is understood ‘as the process of bringing order, structure and meaning to the mass of collected data’. The content of interviews was analysed and coded according to themes. Predetermined themes emerge from the literature review and other themes emerged from the study. Data had accumulated and had to be redefined from analysis and put into relative themes. Data was entered into Microsoft Excel and descriptive statistics was used to present the quantitative data. Findings from different methods were triangulated with the literature review and research notes, to create a fuller picture from the field and to validate findings.

3.6 Ethics

Voluntary participation requires that people be willing and not forced to participate in the research (Trochim, 2006). Participants in the research study were not required to participate . Before the interview began, the consent form was read to the participants, explaining the process of the research and why they were needed for the research process. The participants were also assured anonymity and confidentiality (Resnick, 2015). Permission to conduct the study was further attained from the UKZN Ethics Committee and the Nongoma municipality, prior to the commencement of fieldwork.

3.7 Limitations from the field

In research the researcher always tries to be objective and refrain from being bias in the research process. Limitations however are always present in the research study. Some of the challenges in this study were that some respondents were evasive in answering fully and openly. They also continued to ask how and in what way the research could benefit them, they seemed to think that the research was from the municipality or from government, even after making them aware of the study, and why it was done and that the study was for academic purposes. Cost and time limitations were another challenge.

Distance, time and ascertaining volume in terms of water collection were another challenge because respondents used estimates to try and evaluate how much water they gathered, how far they walked for water daily / weekly, and how long it took them. The researcher attempted to mitigate this by cross referencing accounts with observation to correlate or affirm what the respondents had answered.

Another challenge was that respondents in most cases had to get permission from the elderly in the household which was either, a parent, brother or uncle – this sometimes caused complications and delays.

CHAPTER FOUR: RESULTS

4.1 Introduction

The data used in the study was collected from four study areas in Nongoma of KwaZulu-Natal, South Africa. Four households from the Gomondo area, four households from the KwaDenge area, four households from the Sgageni area and three households from the Manzimkhulu area were interviewed. For analysis, the data and information collected from the questionnaires was coded and recorded onto Microsoft Excel. Field notes, pictures and observation were also used. The methodology applied in the study aimed to achieve the following objectives:

To assess the availability and accessibility of water and sanitation in Nongoma

To explore how the lack of water and sanitation affects women's livelihoods
To assess women's participation in the provision of water and sanitation processes

To evaluate the dynamics of poverty in relation to water and sanitation in the area and its effect on women

To assess existing alternative coping strategies undertaken by women when accessing water and sanitation

4.2 Characteristics of the study area

The study area is characterised by rural households dispersed irregularly throughout the Nongoma Area with a small economic hub situated in the middle. Study areas were chosen to try and include the different situations prevalent of the area and try to identify the varying conditions that would have persisted. Below is Plate 1, which illustrates the exact locations of the households visited.



Plate 1: Nongoma area and study areas

Source: Google Earth

4.2.1 Location differentiation

Below are aerial photographs sourced from google earth of the Nongoma area and red dots depict the actual households that were visited during the month of September 2016.



Plate 2: Households in Egomondo

Source: Google Earth



Plate 3: Dam in EGomnondo
Source: Sizakele Mtshali



Plate 4: Dam near households in the EGomondo area.
Source: Sizakele Mtshali

Plate 3 shows a dam that was in the Gomondo area. The dam shows the dire conditions that are clearly apparent in the Nongoma area. Households in this area had no water even with the proximity to the dam. Plate 4 shows a close-up version of the condition of the dams and the state of emergency that exists in Nongoma with regards water availability.



Plate 5: Households in KwaDenge

Source: Google Earth



Plate 6: Community hand pipe in KwaDenge

Source: Sizakele Mtshali

Plate 5 above shows the actual households that were visited in the KwaDenge area and Plate 6 shows a group of women that were present at the Isigayo (water/ hand pump) water source. It was found that the source serviced the whole KwaDenge Area. The women were pointing to the direction where they used to source their water from the river, but the river has since dried up.



Plate 7: Households in Sgageni

Source: Google Earth





Plate 8: River and Livestock in Sgangeni

Source: Sizakele Mtshali

Above (Plate 8: livestock and river in Sgangeni) shows a river that was used by both humans and animals in the Sgangeni area. The picture above shows some debris of what could have been a flash flood that happened in the area. It was also mentioned during the interviews that the water was smelly and needed cleaning. The pictures also show the condition of livestock that was available in the Sgangeni area and the animal that was observed drinking and leaving the river. The river was dried up and was observably dirty and murky.



Plate 9: Households in Manzimakhulu

Source: Google Earth

Households from the four study areas had similar household structures and conditions, the Manzimkhulu area was closest to the city but did not show any differentiation from the other

areas that had been visited. There were no water or sanitation services. Even being close to the city, the area or households (with the red dots) said that they accessed their water from a spring that was nearby. The spring had no taps and there was no other water infrastructure.

4.2.2 Composition of households

The average number of family members within each household was 8 members, with the highest household size being 12 and the lowest household size being 4. As depicted by Figure 1 below, within the households, 41% of the members were male and 59% of the members were female. The number of women were shown to be higher than men within the households, which shows that they were more likely to collect water than males, just by household composition. There were though, a substantial number of household members that were male, who could potentially assist in the collection and accessing of water in the area.

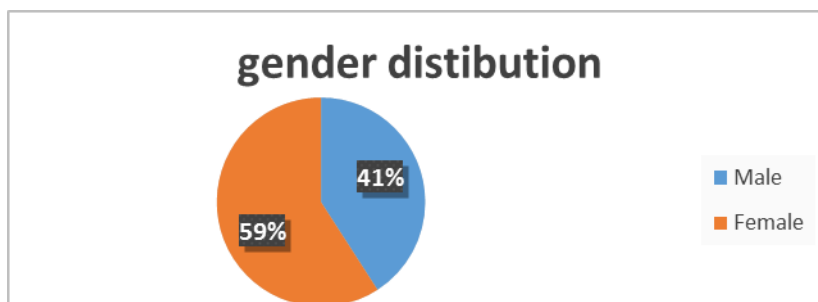


Figure 1: Gender Distribution within Households.

Respondents from the Nongoma area, KwaZulu-Natal, were all female and permanent residents of the four areas studied in the Nongoma area. Table 2, below shows the distribution in ages between the age brackets in the different areas observed. Respondents were between the ages of eighteen to forty-four, 33% of respondents were between the ages of twenty-five – twenty-nine.

Table 2: Age distribution of respondents

Age group	Number of respondents(n=15)	Percentage of respondents %
<20≥18	3	20
20-24	2	13
25-29	5	33

30-34	3	20
35-39	1	7
40-44	1	7

4.3 Water access

Most households in the sample received their water from ground water springs, which from further investigation with respondents was always the most reliable source of water collection even though it was not the safest. As depicted in Figure 2 below, households used hand pumps (Isigayo), water purchasing and direct abstraction from rivers, community taps and illegal community connections, ‘we get our water from iziphethu (water spring) from the ground with buckets’ (Participant 5, Interview EGomondo, 6 September 2016), ‘there are no taps or water delivery here, we get water from across the road, the pipe is on the side of the road from somewhere. It’s just a pipe that does not have a tap, it runs day and night’ (Participant 3, Interview ESigageni, 9 September 2016). It was also reported during data collection that households purchased water from water tanks at R400- R600 per jojo tank refill, which could be refilled twice a month, ‘I buy water from water tanks/ water cans, it’s about R400 to fill 500 litre jojo tank’ (Participant 2, Interview KwaDenge, 10 September 2016).

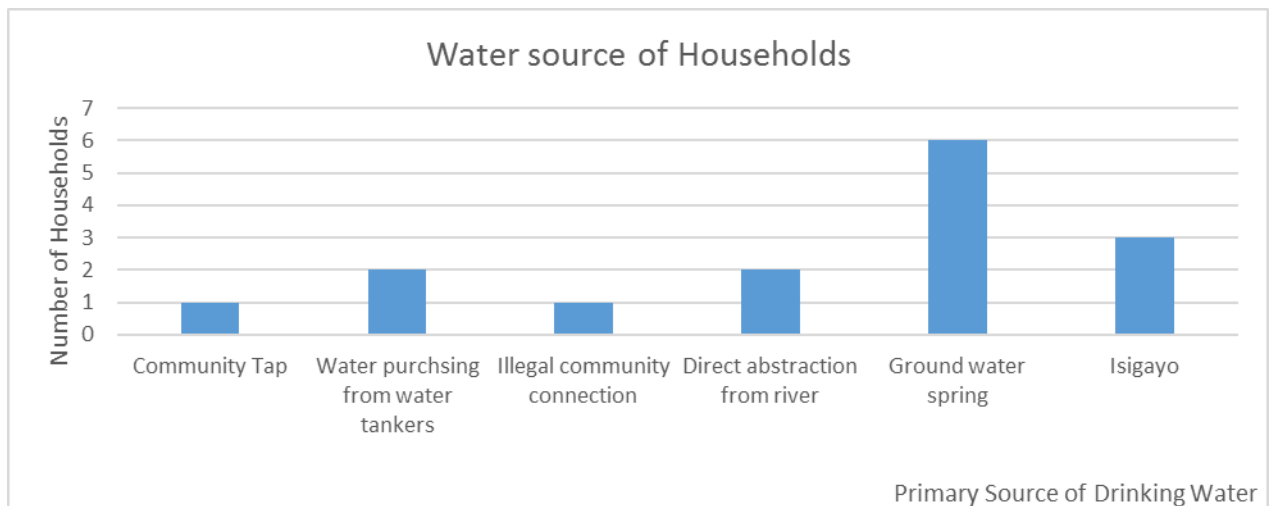


Figure 2: Availability and accessibility of water and sanitation in Nongoma

Most households used 25 to 40 litres of water per day for drinking water (see Table 3). The households that used more water bought water from the water tanks or had more members within the household. It was also reported that most of the households had taps inside or

around their yard connected to the water system although, when asked when last the tap worked or running water came out of the tap, answers ranged from a year ago to two years ago, ‘yes we have taps but it’s useless because there is no water, the last time we had water was almost a year ago’ (Participant 8, Interview Manzimkhulu, 07 September 2016). Three households had no formal connection at all.

Table 3: Amount of drinking water

Drinking water (lt/day)	Number of Households
20	3
25	5
40	5
50	2

Gender distribution within households was uneven, having more women than men within the households collecting water for household use (see Figure 3 below). But what was interesting to note is that throughout the households observed, no household had only men collecting water, and even in the households where men collected water, women were more likely to consistently, collect water than their male counterparts. Men only collected water if, and when they wanted to, ‘Men don’t collect water, only females’ (Participant 4, Interview Manzimkhulu, 07 September 2016), ‘yes because it’s our duty (women) to collect water, we have to collect water’ (Participant 9, Interview Gomondo, 6 September 2016).

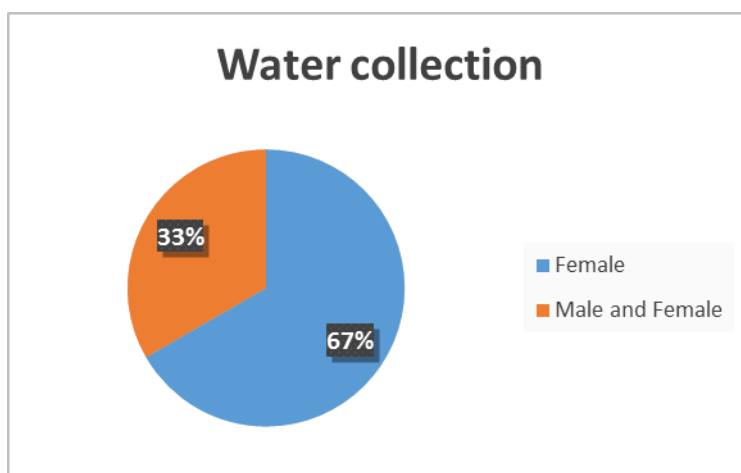


Figure 3: Water collection

Most respondents reported that the greatest challenge they faced when accessing water, was the time it took to collect the water and safety issues when collecting water. Most households reported that it was a tiresome and time consuming process that took more than two hours a day. They mentioned that they had to wake up early at around two or three o’ clock, in the morning, to arrive at the water holes to wait in line for water collection, ‘water collection is time consuming, you must wake up in the early morning to collect water. No-one is employed, how can we work and collect water at the same time’ (Participant 15, Interview Esigageni, 9 September 2016). The women also indicated episodes of violence that had occurred when accessing the water, ‘water allocation is stressful, it is overcrowded, sometimes water gets finished and then trouble starts because people will forcefully want your water, we must go in groups to collect water, there is a lot of violence over water’ (Participant 15, Interview Esigageni, 9 September 2016). The two households that bought their water from tankers expressed concerns about high costs they had to pay for water and the time delays of up to two to three weeks of waiting for water tanks to refill their tanks. Time allocated to water collection was an important factor, and when asked how could respondents use this time differently if given a chance, 35% of respondents said they would use the time for home care and other duties besides water collection. Eighteen percent indicated that they would be able to grow food gardens, 6% said they would save money and use it on much more needed items in the household and because only one of the respondents was still attending high school, time away from water collection would be dedicated to homework and studies. Time allocated to water collection is depicted in the Figure 4 below.

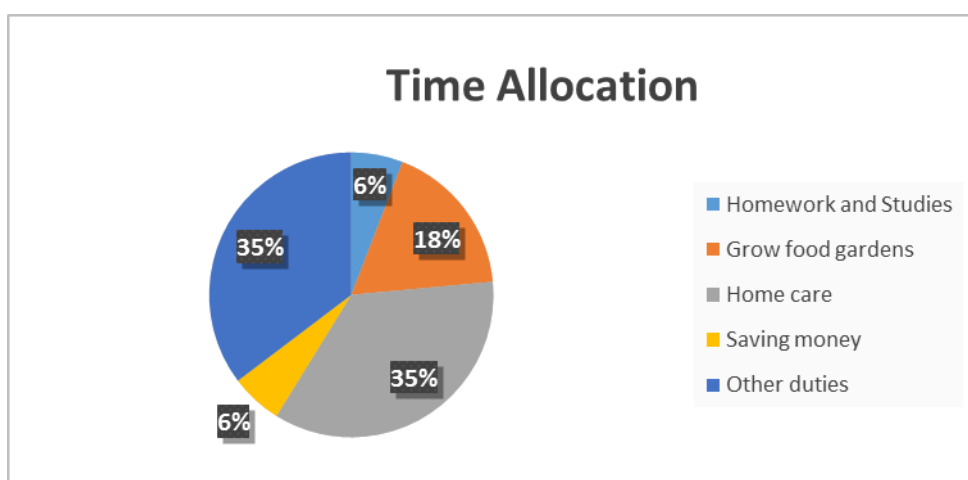


Figure 4: Time allocation

The women also responded that they had never been approached, attended or had any information or education about water usage and water allocation. There had been no government initiatives or programs that they were aware of that had dialogues and discussions about water. When asked if they were willing to participate in water allocation discussions, most respondents said yes, only one respondent said no because she felt it was wrong that water was being sold in their area.

Nine households responded that men could play a bigger role in water allocation in that they could share the responsibility of accessing water, giving the women more time to attend to other activities of interest to them. Three households said that men could assist in that they could motivate for better service delivery as men's voices could easily be heard. The other three households just did not know how men could assist, 'yes men can assist us by collecting water' (Participant 15, Interview Esigageni, 9 September 2016), 'men could assist to lessen the load' (Participant 12, Interview Manzimkhulu, 7 September 2016), 'yes men could assist in advocating for us to get better water services' (Participant 10, Interview KwaDenge, 10 September 2016).

When asked why they thought that women play a major role in water collection, four households responded that it was because of androcentric thinking, which is when women feel or are subjected to a male-centeredness or domination, which assumes superiority by men over women- a social denomination (Marina, 2009: 14). Nine households said that it was women's responsibility since women were the primary users and two households responded that patriarchy was why women were assigned the task of water collection in households.

Women felt that for them to be heard, they needed men to advocate on their behalf on issues of water and sanitation. The deduction here is, women are willing to participate in the water access dialogues and seek a change in men's perception regarding water collection practices for a more distributed work load in household and water collection chores. This came through despite the fact that nine households believed they had a 'duty' to fulfil domestic water collection effectively, women in the area bore the responsibility of collecting and providing household water while it was taboo for men to undertake these duties.

4.4 Sanitation

When asked about sanitation most women replied that they washed their hands on a regular basis, three to four times a day, with the available water reserves that they had, which was just enough for them to remain clean. On average, the sampled women bathed twice a day using about only 5-6 litres of water a day to shower. They also mentioned that the amount of water they used to shower was barely enough and the water used to shower was re-used on other parts of the household for cleaning, like wiping floors. On average, other family members only took two showers a day, if water was available, with the same amount of water- about 5 litres a day.

All women in the sample used sanitary pads for when they had their menstrual cycle. They used pit latrines, dumping sites/ holes in proximity to the home and dumping bins in the town of Nongoma, to dispose of their sanitary cushions and diapers they used for their babies. All women expressed their dissatisfaction in the ways they disposed of their pads and said that it was unsanitary and raised concerns for children that played in and around the dump site, 'it was not right because children play where sanitary towels are disposed, wind blows it out of the hole and onto the yard and it produces a smell and we are also aware of the sickness and dirt that this rubbish brings because sometimes most of it is not ours, it is carried onto the yard by the dogs'(Participant 3, Interview ESigageni, 9 September 2016). Participants also expressed concerns about the environment, saying that the way they disposed of sanitary pads was unhygienic. Some women said that they had been seen throwing away the sanitary pads and had been teased or discriminated against when throwing away the pads, most women wished that they had proper ways of disposing of the waste products, 'it's smelly, its degrading and I'm sure there are some sicknesses that we get from all the dirt around the house, people started insulting me because I threw pads in the hole and dogs pulled them out' (Participant 5, Interview EGomondo, 6 September 2016), 'not having water is not a life, you cannot be clean, people start talking about you'(Participant 7, Interview ESigageni, 9 September 2016) .

When asked about the role of women in provision of hygiene and health in the family, eleven households expressed that they use water to try and keep the household hygienic and four households explained how they were not coping in trying to take care of the sickly and accessing water. They expressed that they had found it difficult to take care of sick family members, providing clean and safe water and a hygienic environment with the limited water

that was available to them at the same time. ‘Inaccessible clean water is a crisis, I can’t take care of my granny, I can’t take care of the kids, I can’t bathe them like I like to keep them clean, how can I give someone pills with dirty water or make them food with dirty water, you making them worse!’(Participant 15, Interview ESigageni, 9 September 2016). There is limited access to healthcare and clinics, with an average of one mobile clinic visit per month in all four of the study areas as shown in the Figure below.

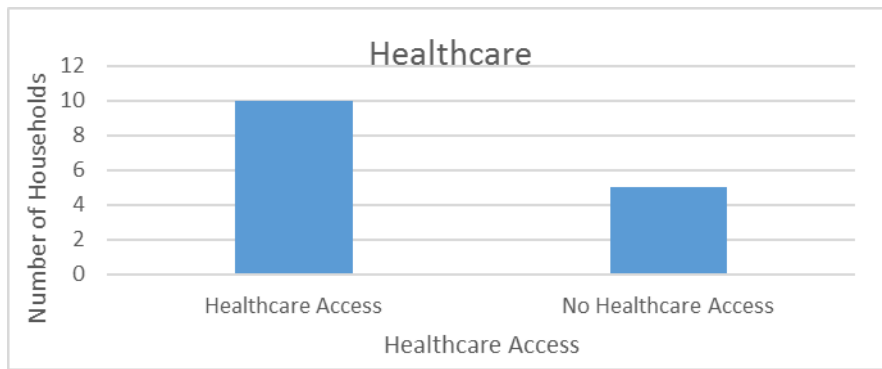


Figure 5: Access to Health Care

Five of the households had no access to healthcare facilities and ten households had access to a health care facility. The type of healthcare facility they mentioned was either a mobile clinic that came once a month or the clinic which was in town and depending on the different localities of the households, the clinic was either ten to twenty kilometres away.

4.5 Livelihoods

Only one respondent out of the fifteen, said that she had been employed in the roadworks company cutting grass along the main roads. Two of the respondents admitted to having child grants, thirteen of the respondents lived off their children’s or dependants’ grants (child support grant). In most of the families nobody was working. All respondents acknowledged that the children’s grants were the main means to an end for their households and only one respondent said that she had lived off selling or being a street vendor. Overall the main source of income for most of the families was the child support grant offered by the South African government.

Although land is not the only attribute when it comes to assets and livelihoods, it must be noted that in this study it was an important factor to discuss, by indicating access and barriers to entry of assets. Figure 6 below tries to understand how respondents view the idea of assets and the value these assets bring to them. Column 1 in Figure 6, shows the responses when

respondents were asked if they had access to land rights. Eight respondents said that they had access to land rights as women, six responded no, they did not have land rights and one responded that she did not know if she had access to land rights, which might be because she was still under parent supervision and a scholar so she did not know the extent to which rights were available to her when it comes to access to assets and land. But when asked if they felt that those who had land were predominantly men from column 2, eleven women responded that ‘yes’ men were predominantly custodians of land rights and land. And column 3 shows that more women thought that men have this power because they predominantly own land, nine responded that ‘yes’ men had power because they owned land and six said ‘no’ they did not think men held much power because they owned land. The three bars show the contradictions in the sample society, in what women think they deserve and what is really apparent in the community. Initially, most women had said that they did not have access to land rights, but with further investigation and a slight change in the question- it was apparent that although the women thought that they had land rights but what was happening in the area is that men held greater power when it came to land access and to water access. This showed a significant barrier of entry to access when it came to actual ownership and what the women thought they had access to an example: ‘Interviewer: Do you have access to Land? Respondent: Yes. Interviewer: Is water access restricted to those who have land rights. Respondent: Yes. Interviewer: Are those who have land rights predominantly men? Respondent: Men, Yes!’ (Participant 11, Interview ESigageni, 9 September 2016).

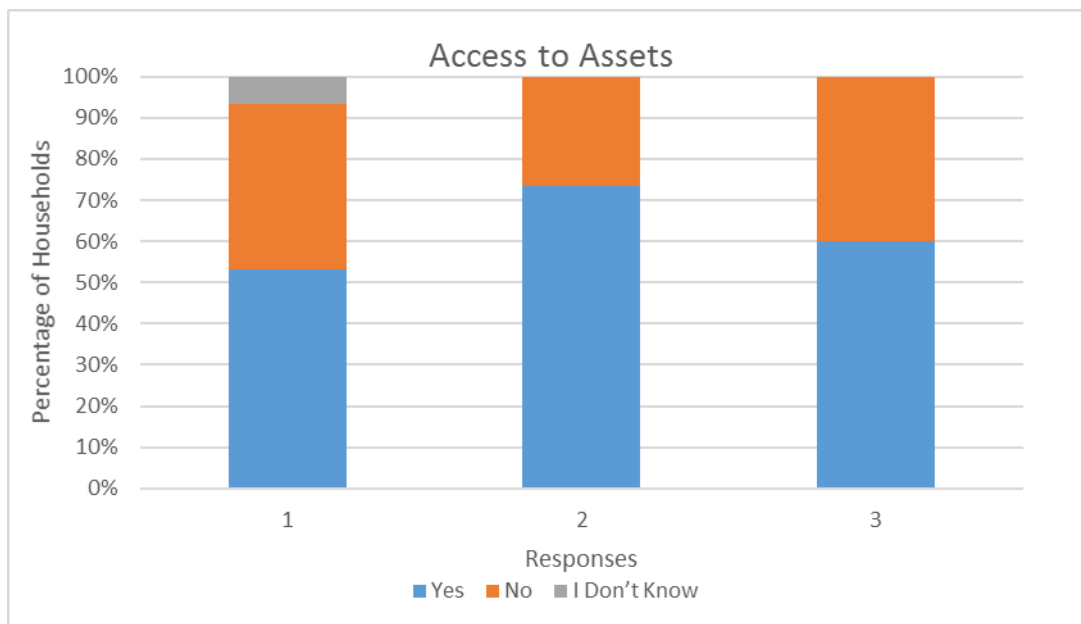


Figure 1: Assets (1- Do you have access to land? 2- Is water access restricted to those who have land rights? 3- Are those who have land rights predominantly men?)

When asked how access and availability to sufficient water and sanitation could change the women's lives, six women responded that they would be able to have food gardens to feed their families, three households said that they could have food gardens and further earn some income from selling produce from the food garden. Two households said that they could save money and use it to purchase things other than water and four households said they could spend less time on water collection and use it on other more important things in the household, 'we could stop buying expensive water and use the money for electricity and food (Participant 6, Interview KwaDenge, 10 September 2016).

4.6 Women's participation in the provision of water and sanitation processes

Ten women responded that they had no programs in their community that related to assistance with water and sanitation related issues, only four women responded that they had programs in their community that related to water and sanitation allocation but that they were not involved, and one said she did not know.

While driving around the community, an area filled with water pipes was spotted (Plate 10). When the women were asked if they knew anything about the allocation of pipes, they said they had no idea what the pipes were for and why were they there because they have not been used. The community members said the pipes had been laying in the area for more than two years. The pipes show that there has been intervention by government and municipalities toward water allocation but the time taken and maintenance of these pipes was missing. The women said they had no information about the pipes, they were never addressed about the allocation or why those pipes were there. The pipes were just left in the field unguarded, weathered and unmaintained.



Plate 10: Water pipes

Source: Sizakele Mtshali

When the women were asked how they think water and sanitation issues could be resolved, seven women responded that water tanker delivery with greater assistance from municipalities would greatly dissipate some of the issues associated with water allocation, ‘we could get assisted by municipality and counsellor by making them more aware of the issues of water and sanitation’ (Participant 12, Interview Manzimkhulu, 7 September 2016) , ‘There are some dams that still have water, government should put pressure on municipality to make the water allocation equally and evenly distributed’ (Participant 5, Interview

EGomondo, 6 September 2016). Two women said water issues would be resolved if they had water and sanitation in the house. One household said if it could rain, one answered a change in counsellor would help the situation and four women responded that they do not know how the situation can be resolved 'I don't know how the situation can be resolved' (Participant 8, Interview Manzimkhulu, 7 September 2016).

Eight women said that advocacy for women by women could greatly assist the issues of water and sanitation that are prevalent in their communities. They said that women could better promote issues that would resolve many issues in their community. Four women responded that by having women in community discourse about water could bring about job creation for women in the community and in government. A substantial amount of the women said that including women in water discourses would remove some of the burdens of water collection and equitable distribution of water, 'government could make sure that officials go around accessing if all people have received water and distribute water equally' (Participant 3, Interview ESigageni, 9 September 2016), 'fundraising and getting money for water projects' (Participant 9, Interview EGomondo, 6 September 2016). Two women said there should be an increase in water tanker delivery and one woman said she did not know how women could assist to resolve issues of water and sanitation in their community. Many of the participants (eleven) felt that government could assist in solving the situation of water and sanitation delivery in several ways, namely: providing water tankers, proper water allocation, putting pressure on municipalities to provide water and sanitation services and funding, investing and proper monitoring of interventions by government. Four of the participants said they do not know how government could assist.

4.7 Time allocation to water collection

The maximum time taken for all households to reach their water sources was less than two hours. Figure 7 illustrates that two households bought water from the water tankers into their jojo tanks, nine households said that they walked 30 minutes to their water source, three households walked an hour and only one household walked for two hours.

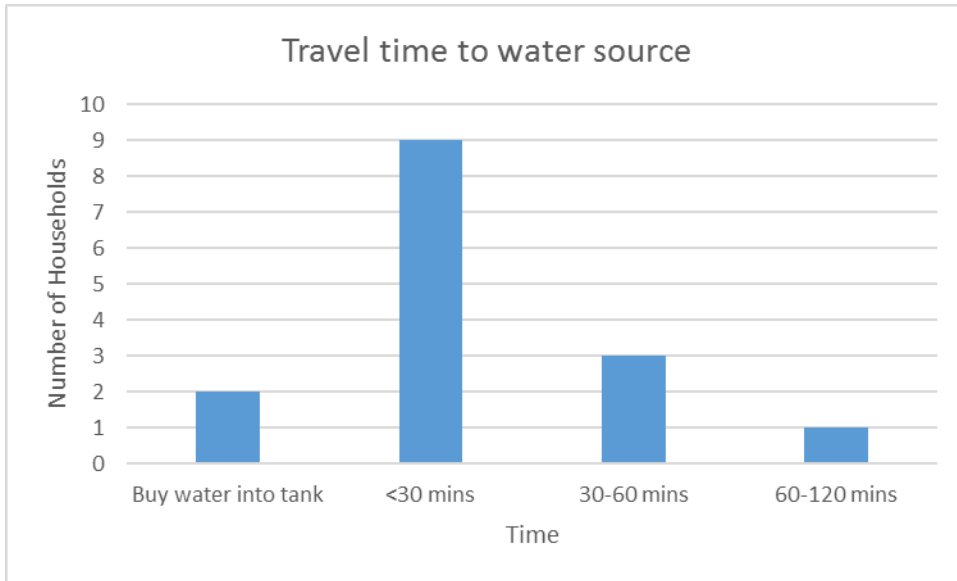


Figure 2: Time travel to water source



Plate 11: Water tanks filling up and women walking to collect water.

Source: Sizakele Mtshali

At Gomondo, at the dam site there was a lining up of water tankers to collect water for distribution. In the same area was a woman walking towards the dam, the woman was sighted at about 20 minutes of driving away from the dam, she was walking towards the water source, ‘ we have to walk long distances to get water, its time consuming and tiresome’ (Participant 5, Interview EGomondo, 6 September 2016), ‘ water is always not available and community taps are faulty, we have to get water from rivers and the dirty dam water, we become tired from the walking’ (Participant 1, Interview EGomondo, 6 September 2016).

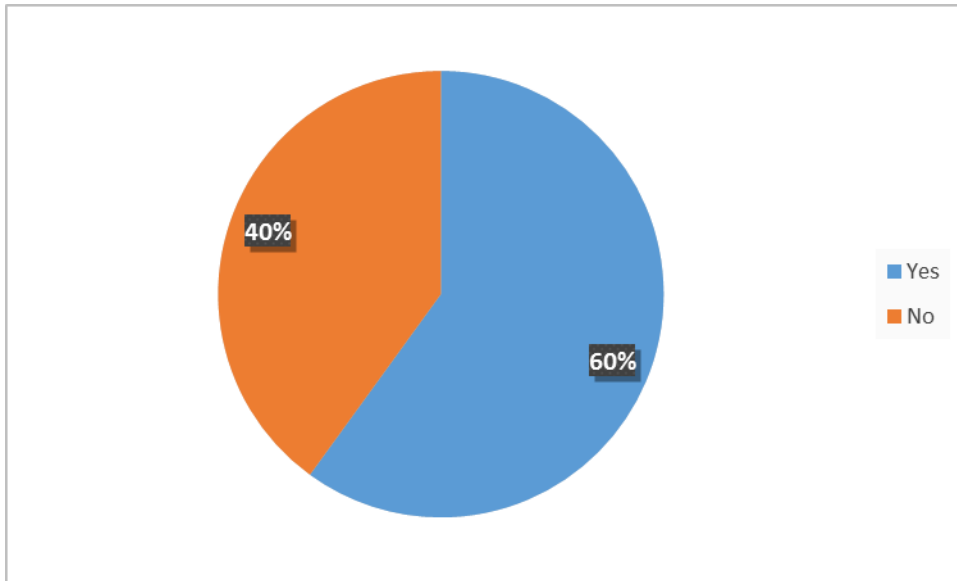


Figure 8: Time allocation

Time allocated to water collection (depicted in the Figure above) is an important factor when it comes to water allocation. In the sample size of fifteen, one participant was above the age of eighteen but was still undergoing high school, one was employed and the rest of the respondents were unemployed. Sixty percent of respondents said that they had missed school/ work / other important activities because of accessing water and forty percent had not. Further investigation as to why they had missed schoolwork/ other functions, they answered that it was not the distance that created problems with water allocation but it was waiting in long queues at the water sources that was the problem. Because most women had to wake up early in the morning at around 2 am to 3 am, it became increasingly difficult to focus on agricultural, economic or educational activities.

Although, ten households admitted to having land for food gardens in their households and when asked how they utilise their food garden only five households out of the ten said they used the food garden for planting food for the household. The other five households said that the food gardens were no longer utilised. The remaining five respondents said they had no access to land for food gardening. When asked how could having a food garden and having water for the food garden assist, all respondents said they would be able to provide food for their families because they would have irrigation to properly grow the food gardens.

4.8 Existing alternative coping strategies undertaken by women when accessing water and sanitation

When asked if the households had alternative ways of accessing water all the households said yes and it was rivers, springs and Isigayo's (hand pumps). And a way of improving these traditional sources was for governments or municipalities to protect and maintain these water sources, so that all people living in the community could access it, ' By having more hand pumps, we could collect more water and have water sources more distributed'(Respondent 1, Interview EGomondo, 6 September 2016), ' we need to protect those sources even from the water sources from the rock, those sources need to be improved to service more of the community' (Respondent 3, Interview ESigageni, 9 September 2016), 'we used to go to other areas to look for water until we discovered our own spring, which is closer to home, government needs then to improve on these to make them more safer' (Respondent 5, Interview EGomondo, 6 September 2016).

4.9 Conclusion

Although there was differentiation in household compositions and age differentiation in the sampled respondents, most of the information retrieved was similar for all the households. The results showed most of the responsibility of water collection and allocation laid disproportionately towards women even though there were substantial amounts of men in the household, above the ages of eighteen years that could assist with water collection.

During the interview process the researcher also encountered the fact that women were not always certain of the answers they gave and needed much probing into how and why things are done a certain way in their areas. This could have been because they were not interested about water issues in their communities or it was the first time that these women were put in the position to take cognisance of what was happening around them with regards to water. This also has bearing on the issue of women's participation in water allocation as custodians of water.

Overall the results are that not much effort is being made by governments, municipalities and other organisations to try and resolve the issues that are prevalent in the Nongoma Area with regards to water and sanitation. It was also apparent that women were not recognised for their contributions with regards water collection and provision in the household. There was a resonance of insignificance of women's views in the areas visited which was also apparent

with the responses that saw patriarchy and male dominance, with regards to water and land rights.

Government grants also played the main role as a source of income in many households and although there was not much food gardening and agriculture happening in the area, a substantial number of respondents argued that if conditions were favourable they would engage in food production and agriculture, for both home consumption and to build livelihoods.

CHAPTER FIVE: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

This study set out to assess the availability and accessibility of water and sanitation in Nongoma, to explore how the lack of water and sanitation affects women's livelihoods. It also, aimed to assess women's participation in the provision of water and sanitation processes, to evaluate the dynamics of poverty in relation to water and sanitation in the area and its effect on women and to assess existing alternative coping strategies undertaken by women when accessing water and sanitation. These objectives were tested and analysed using the Capabilities Framework and the Gender and Development Framework. 'The capabilities approach to a person's advantage is concerned with evaluating it in terms of his or her actual ability to achieve various valuable functions as a part of living' (Sen, 2003:30). Peoples ability to perform well and ability to achieve more is based on the abilities and opportunities available to them. According to Sen (2003), living is a combination of doings and beings - being adequately nourished, being in good health and more progressively, achieving self-respect and being socially integrated. The Capabilities Approach and Gender and Development Approach was used to analyse impacts on poverty and reflect on women's perspectives on participation access to water and sanitation in a patriarchal society. The Capabilities Approach reflects on the ways in which human lives can be ruined or enriched by capabilities. To challenge patriarchy, the Gender and Development Approach, was used to suggest a more people centred approach that recognises the importance of local knowledge (Parpant, 2000).

5.1 The Accessibility of water and sanitation in Nongoma

According to UNICEF (2014) water and sanitation is a right for every individual, without discrimination, and needs to be sufficient, safe, acceptable, accessible and affordable for all people, in both rural and urban areas.

WHO and UNICEF (2011) state that water safety is affected by contamination of groundwater, pollution from industry and wastewater, poor sanitation, weak infrastructure and unreliable municipal services. Pollution from domestic and industrial sources, geogenic contamination and poor sanitation and hygiene, all threaten the safety of drinking water

sources. Too many people still rely on drinking water which is unsafe, far, and sourced from unreliable (untested) water sources (WHO and UNICEF, 2011).

According to WHO and UNICEF (2011:34) on the average, one in two protected (tested) dug wells are contaminated (by microbial pathogens or polluted), and one in three protected springs and boreholes are contaminated. Groundwater management is important in the supply of water to rural communities in South Africa (Adams et al., 2001). A study by Abia et al. (2017) of a rural community in Stinkwater, in the northern parts of the Gauteng province, evaluated, the abundance of *Escherichia coli* and the prevalence of pathogenic *E. coli* virulence genes in water from wells, boreholes and rivers in the peri-urban community. Abia et al. (2017), states that currently there are no clear policies and legislature that governs the use and quality of groundwater in South Africa. All the wells sampled in the study recorded *E. coli* counts above the WHO and South African recommended limits for drinking water. According to the study of Stinkwater, poor hygienic conditions associated with water extraction process and the close proximity of wells to pit latrines, where faeces seep through weakly constructed pit latrines into rivers and ground water sources, were factors that could account for the high *E. coli* of all sites in the area. Overall, 99.3% of sampled sites were positive for at least one virulence gene studied, both intestinal and extra-intestinal pathogenic *E. coli* genes were detected which was a public health concern (Abia et al, 2017). On investigation from the respondents in Nongoma KwaZulu-Natal, none of the water they accessed from ground water springs and rivers was tested or protected.

From the results of sampled households, it was found that most of the households, received their water from ground water springs, rivers and from purchasing from water tanks. Participants collecting water from ground water springs stated that it was not safe, for drinking or collection. Participants who purchased water on the other hand had less to say about safety but argued that it was costly and water should be available for free, 'water is expensive and should be delivered free of charge' (Participant 2, interview KwaDenge, 10 September 2016). The selling of water to participants is unsustainable and unreasonable, water is an economic commodity but is also a social need therefore, being sold to an already struggling community exploits the poor. This is pointed out by Dugard and Bond (2008), in their interpretation of the South African Constitution . The authors find that the South African Constitution guarantees access to sufficient water with legislature, regulation and policy designed to protect people's rights to water, but frameworks have been unable to promote

and advocate for pro-poor direct access to water. According to Bond and Dugard water provision ‘without reference to affordability in the context of widespread unemployment and poverty- is meaningless’ (Bond and Dugard, 2008:6).

UNICEF (2000:67) defines safe drinking water ‘as measured to the proportion of the population with adequate amounts of safe drinking water located within a convenient distance from the users dwelling’. Evidence from Nongoma, KwaZulu-Natal showed that accessing water was a daily challenge for the women who were tasked with it. There was competition for water with women having to wait long hours and waking up in the early hours of the morning to access a very minimal amount of water.

Mosdell and Leatt (2005:8), argue that the free basic water policy instituted in the Reconstruction and Development Program (RDP), defines an adequate water supply as 25 litres of water per person per day, and should not be carried by the user for more than 200 metres, water should be available for 98% of the time or supply not being interrupted for more than one week and should also be accepted with minimum standards to health, contamination and acceptable quality. In this study, both drinking water and water for domestic or other uses was sourced and stored in the same place. The amounts of water used per person within households per day, was also below that of the national standards as stipulated in the Government White Paper. Results showed that 25 - 40 litres of water were used per household per day and not per person, with households constituting of an average of up to eight members. Study participants are therefore, being denied their rights to adequate and accessible water provision.

5.2 The impact of a lack of water and sanitation on livelihoods in Nongoma

The Clinton Foundation (2015), states that there is a lag in pace when it comes to inclusion of girls and women in economic, leadership and security participation. Barriers including legal restrictions and limited access to resources, undermine women’s economic opportunities (Clinton Foundation, 2015). A lack of access to opportunities, impede on the policies by the South African Government of Black Economic Empowerment and access to financial sectors, especially for the poor (Okurut, 2006). Okurust, asserts that access to financial assets or bank credits is closely linked to being male, being poor (or not) and location. King (2011), unfolds the discourses that exist between livelihoods and geography.

The author argues that livelihoods and opportunities available to households are almost always related to location and communities. The five main categories of capital assets (natural, physical, human, financial and social) are important and identified as constituents for livelihood production, but because of geographic areas, this can cause constraints to livelihoods. In South Africa, racial segregational laws made it difficult, even in post-apartheid South Africa, to separate livelihoods and which assets are available to people to improve their opportunities without talking about geographic areas (King, 2011). To understand livelihoods, we must also be able to understand the factors that enhance or restrict households to be productive entities. External factors or external environments are important factors to monitor, in understanding the changing environments and inform governments, policy makers about the pressures or opportunities that are available to households, and especially to inform households about which strategies and opportunities are available to them (Tonkin, 2008).

5.2.1 Access to water

According to the Department of Water Affairs and Forestry (2002) water services are intimately linked to poverty. Lack of access to water and sanitation services constrains opportunities to escape poverty and vulnerability and vice versa, poverty also constrains access to water by confining investment into infrastructure. The United Nations (2012), alludes that in many pastoral communities, men are mainly concerned with managing livestock and water points, which often cause problems for women because these points are mostly poorly managed and women are forced to collect water at points used also by livestock and which are almost always unclean and contaminated by livestock. A study by Koolwal and Van der Walle (2010), tested if reducing women's time in water collection will inherently augment their participation in market based income earning activities. The authors could not prove that decreasing water collection time periods encouraged women to participate in economic activity but they did find that substantial gaps in boys and girls enrolments into schools was greatly reduced, meaning more children had more time to attend school and develop in education instead of engaging in water collection activities. Although the study did not go into depth of economic or level of education obtained it was attained that a considerable amount of time was taken when collecting water. The participants, reported that the greatest challenge that was affecting them in the area was time and safety. A large proportion of the participants (70%) said that they could use their time saved from water

collection by investing their time on other duties and homecare, eighteen percent of the participants said that they could use the time to grow food gardens. People must be educated about the assets and opportunities available to them, information and education are important assets and if women were educated about their contribution to society, they could change their aspirations of awarding their time to more rewarding activities than homecare. In terms of this study it was clear that the women interviewed had not been given adequate opportunity to see themselves as more than fulfilling a domestic role with to regards water collection. Homecare is important but it should not be the only aspiration for a group of youths that are still within the working age or job searching age, this could change the conditions of their communities greatly. Koolwal and Van der Walle (2010), Sharaunga and Mudhara (2016) argue that women are the custodians and primary food producers in most pastoral areas, therefore enhancing their water use security would increase agricultural and economic engagement. The authors find an interdependence between providing water for irrigation and women's dependence and improvements on agricultural and educational outcomes.

5.2.2 Access to land

Weidman (2004) and Rugege (2004) argue that unequal access to land in South Africa has been underpinned by colonial rule and domination. According to the authors, the Land Acts of 1913, 1936 and the Group Areas Act were instrumental in creating boundaries for black South Africans and confining them to what was known as 'Bantustans and homesteads', only leaving thirteen percent of land available to the entire black population. Weidman elucidates that women's inferior and isolation status, in South Africa, contributes to the fact that women have difficulty accessing and engaging in redistribution programs and information. According to Weidman, women's in-ability to articulate their demand and needs for land has caused them to be vulnerable and exploited in our societies. The Odendaal's Rust community in the Free State is an illustration of how women have been disadvantaged when it comes to the restitution of land. Women and Men in the Odendaal Rust community contributed money from their pension pay-outs to buy 1200 hectares of land at more than a million South African Rands. Although both men and women had contributed equally towards the attainment of this land for agricultural processes, women were disproportionately awarded smaller portions of the land than the men with women also losing a portion of what remained of their grants. (Weidman, 2004).

In Nongoma, none of the women interviewed owned land. Only five of the women actually accessed the land for agricultural purposes (food garden) but none of the women had actual land that they owned or had in their name. Land is important in rural households to plough and get food but also as surety to banks and money lenders to secure finance for other entities that the household would like to engage in (Whitehead and Tsikata, 2003). The women also mentioned that land was closely related to water and, people who had land could also access water. The Commission for Gender Equality (2009) explains that female access to land has continued to be inaccessible to women. Land is limited to gender and social position in communities, although women makeup much of the population, rights to land for women continues to be restricted. (Commission for Gender Equality, 2009). The Capabilities Approach is a people centred approach and instead of stressing economics and organisation, it puts emphasis on people and the opportunities available for human well-being (Clark,2005). For people, then to acknowledge their opportunities their functionings also need to be applied for people to realise the abilities and opportunities. Without proper inputs like water, land and socio-economic opportunities people cannot realise their optimal well-being. According to Clark (2005) a combination of relevant inputs is important to realise one's functioning's and well-being, 'a person cannot function optimally without 'water or salt' if they want to keep living' (Clark, 2005:1361). In Nongoma, for people to realise their optimal functionings and well-being they need inputs like water and land to realise their full potential. The inability of people to access water sanitation, land or any other input or assets creates vulnerabilities and an inability to fulfil their full potential.

5.3 The level of participation by women in issues of water

Central to democracy and liberalisation of all citizens of South Africa, that was achieved in 1994, was the equality and empowerment of women (Department of Women, 2015). Orr and van Meelis (2014) point out that women make a large contribution towards South African economies, communities and families, and yet they still experience the deepest levels of poverty, oppression and exploitation. Women continue to have lower incomes, high unemployment rates, lower educational levels and less access to assets than men. (Department of Trade and Industry, 2011). In this study, it was found that women did not participate in any programs in society that related to water and otherwise, even though they did confirm that there were programs running in the communities. Most women felt that they

had to be represented by men and never saw the importance of themselves engaging in the discussion about access to water affecting them daily.

5.3.1 Patriarchy

According to the United Nations (2005), the fourth world conference on women was held in Beijing, and drew light on the on-going discussion of inequality between men and women in decision-making. The conference reaffirmed that women's exclusion from politics, undermined democratic transformation and decision-making power by women. Girls and women in South Africa are accorded lower social status than men, to an extent that they even see themselves below and subordinate to men in patriarchal societies (Van Huffel, 2011). Patriarchy played a major role in all the households sampled in Nongoma, KwaZulu-Natal. As defined by Mathew (2011), patriarchal societies are structured by unequal power relations of domination and subordination, where women are controlled by men. Mathew further defines between androcentric societies and patriarchy and accepts that they are closely related with a few exceptions. Patriarchy, as defined by Mathew, is the male world, with male world order, making men central in all dominations and marginalizing women, and androcentrism being male centeredness or male centered thinking. To elucidate further, this happened in the study in Nongoma where women were asked why they thought they were burdened with collection of water. All respondents claimed something that was directly or indirectly related to patriarchy and androcentrism. All households said that men's and women's roles were societally dictated, nine households responded that it was a women responsibility to collect water, four households saying that men could not collect water because it was a women's job and two households admitting that males in their households simply refused to collect water.

The centeredness of males when it comes to our societies is a main factor of gender inequality. Women and men need to be given the same platforms and awarded the same opportunities for them to reach their potential. Coetzee (2001) in her study of patriarchy through South African education, unfolds this ideology as firstly policies that have just scratched the surface of gender disparities if not re-generated them in another form. The author finds that both in Eurocentric and Afrocentric worlds, the dominance of the fathers is prevalent, deeply rooted and supreme. Education therefore is exercised and exists under patriarchy. Coetzee (2001) finds that patriarchy is manifested in South African society and is the only ideology in society, that cuts through race, social echelons, age, geographical loci,

religious denomination and institutions. Coetzee (2001: 301) refers to patriarchy as a 'perpetuated inequality, which identifies women as part of the most neglected and marginalized group in society, women being discriminated against in almost all aspects of society and men systematically mobilizing every possible means to attain their goal of supremacy'. Coetzee further illustrates patriarchy as 'hierarchical and men of different classes, races or ethnic groups having different places in patriarchal system but still united in their shared relationship of dominance over women and dependent on each other to maintain this domination' (Coetzee, 2001: 301). The women and development approach therefore, lobbies to equalize rights and opportunities awarded to both men and women. Nussbaum (2001) asserts that women are treated much less equally than men, they are less literate than men, they are less healthy than men and are less likely to engage in professional fields than men. According to Nussbaum (2001:2) unequal political and social circumstances give women unequal human capabilities. Women as care-givers, reproducers, agents of family care giving are often treated as tools for an end of others, but never treated as people who can and are willing to be part of a process and acknowledge their own well-being. Moser et al. (1999) state that, States should be concerned in gender focused interventions, to treat gender as a social development concern and treating women as ends to their well-being.

5.3.2 Barriers to empowerment of women

Dunker (1999) debunks some of the barriers that women face when it comes to access to water and sanitation. The author explains that sometimes it is not necessarily water and sanitation projects that empower women, but the opportunities that are created for the women to realize their potential and become empowered should they want to. The author further explains that the biggest obstacles that face women in becoming empowered are not always tangible but the realization by the women about their own potential and their own attitude and lack of confidence in their abilities. The inabilities of women can be attributed to men and their attitudes and traditionalist approaches on how women should be treated. The gender and development approach therefore tries to resolve some of the imbalances between men and women, through inclusion of women in issues that directly affect them, assists in women's self-realization and a change in attitude about themselves and their surroundings. Throughout the research there was a resonance by all participants, that they were unable to do or advocate for their own participation for water and sanitation dialogues. Although women were primary users of water, when asked how they could solve or assist in water or sanitation issues in their

communities, it took much probing to get a response and it seemed that they were evasive to be put in a position to consider how they could make a change if participating in water and sanitation allocation issues. Most women responded that water could be serviced into their homes and delivered more regularly but none wanted to participate in the actual dialogues and lobbying for water and women's rights. Most women saw it as a third parties' responsibility to access water without their participating.

5.3.3 Mismanagement of government services and infrastructure

A case study by Mulzbender et al (2005), of two communities in the colonial Venda homelands, were put under inquiry in the ways they dealt with water service delivery. Residents of the Tshikombani village supposedly were beneficiaries of government water supply, but supply remained insufficient. According to the author, residents took it upon themselves to install self-serviced and self-financed water supply systems that were regulated by the traditional authority in the community. The proximity to the mountain stream allowed for the residents to receive clean, fresh water and regular supply, and did not require any electric pumps because the stream was situated above the village and used gravity to be transported. The only issue here was that the connection was illegal, conferring to South African law, and caused low water flows downstream. In the municipal area of Tzaneen, most of their villages were connected to the municipal water system but because water connectivity was only limited to consumption purposes, villages had to find other sources to supply for their livestock and agricultural purposes. The villagers therefore, resolved to illegal connection to the main pipelines which caused undocumented losses in water and revenue for the municipality (Mulzbender et al, 2005).

In both communities, management and control of water was lacking and therefore caused paramount deficits to the municipalities at large. The case study shows that government oversight to resources and lack of maintenance of services, can regress government efforts to service delivery. The study shows how government can cause communities to take matters into their own hands and cause problems in regulation and revenues for government. In the Nongoma area, it was found that there was almost no government intervention when it comes to the supply of water. Sources of water that were available to the community were mismanaged, degraded and not functioning at all. In most cases, the community taps had no water for more than two years, some households could afford to purchased water from water

tanks but the rest of the households had to share water sources with animals in unmanaged water sources. Households used water from unprotected streams, springs and illegal connections, 'we use water from the road. it's just a pipe that does not have a tap, it just runs day and night' (Participant 3, interview Esigageni, 9 September 2016). Meissner (2016) argues that a paradigm and theories shift in water governance is much needed in the South African government. Government needs to consider a holistic way of thinking when it comes to water services and monitoring and try and find ways that consider all stakeholders implicated in water resources, especially the poor. Water governance can promote both economic gains and rural livelihoods progression to reduce poverty and ensure funds are allocated accordingly, where they are most needed (Sullivan et al, 2010).

5.4 The Dynamics of Poverty in Relation to Water and Sanitation

Attention to the poor and to gender is central in bringing about improvements in livelihoods and economies (Kristjanson et al, 2014). Mitra (2006) juxtaposes poverty and disability, and presents poverty as a sort of disability less of the physical and more of the mind, acknowledging that the capabilities approach is a fundamental tool in understanding and improving people's functionality and opportunities.

Daojiu (2014), argues that if poverty is not properly addressed and solved, development will always be insufficient and unsustainable. Daojiu, alludes that it is important to 'probe' further the issues that affect poverty and vulnerability, to be able to deal with poverty accordingly and recognize the origins and cause of poverty, using the capabilities approach as a basis of development. According to O'Laughlin et al (2013), the poor remain vulnerable to poverty because of land dispossession, being unable to secure land and finance. In Nongoma, the study found that only one person in 15 respondents was working in informal employment. During the study, women felt that they could attain land but when it came to actual attainment and ownership, none of the women had access to land. Through observation, there was a sense of confusion between knowing what they could attain and actual attainment. Hammell (2015), discusses the perceptions of what people have and a quality of life. People's perceptions of what they have and what is available to them is based on their perceptions and the consequences of environmental barriers and inequality of opportunities, challenging inequalities to the environment constrain on peoples' opportunities (Hammell, 2015). The women in Nongoma, claimed that land and water access was still strongly linked with male

advocacy. Throughout the households, it was visible and made known that people in the community were unhappy about their situations. They felt helpless, disadvantaged and excluded. A considerable amount of households could not venture into food gardens for social, economic or consumption reasons because they had no access to land or water.

5.4.1 Social Security

In all households studied, social security played a major role in improving the standards of living in the household. Through observation and through participants responses, social security was the main source of income and a threshold between absolute poverty and mere survival. While households were grateful for social security, it still did not solve the issues of poverty or increase access to water. According to Triegaart (2005), social security transfers are a safety net for many South African families, especially for the many in the rural areas and unskilled youth. Although there are no grants that support unemployed and unskilled workers, people can still survive on social grants. In the Nongoma area, there are high amounts of unskilled labour and unemployment and to make matters worse there are low rates of education. In the households observed, 33% were people of working age (25-29 years of age) and all of them were unemployed, all they had to survive was the government payouts for children's grants.

5.4.2 Women and Violence

In Nongoma throughout all the households that were visited, there was a great concern about the violence that erupts when accessing water. The participants, throughout the villages made it clear that violence was a constant scare in the village because of water disputes. The participants even expressed that they had to be accompanied or go in groups when accessing water and often had to carry weapons like bush knives and knobkieries to protect themselves. It was alarming to find that people lived in fear and anxiety just to access water. Shinn (2015) alludes that capabilities are freedoms, to engage in valued social activities and roles- what people can do given both their capacity and environmental opportunity. This is the freedom and ability to access water without trial, prejudice or violence. The ability to realise one's freedoms and opportunities without being afraid of external activities like violence, especially women who need to be ends to their own well-being.

Violence is futile and irresponsible; government can assist people by avoiding problems of violence by being more engaged in issues of Nongoma to access water. Humphrey (2016) explores that in South Africa women face the brunt of water collection and service related problems. The author acknowledges that the insufficiency of water and services has created an expansion in sexual exploitation and vulnerability of women and violence in homes. Goldblatt and McLean (2011) acknowledge that the concept of capabilities recognizes that merely bringing taps closer to the household is not enough, but ensuring that water is affordable and accessible and located in areas where all people in the community, including the disabled and children can access the water freely.

5.5 Coping Strategies

Good Governance Learning Networks (2014), defines resilience as a community that can bounce back after shocks and stresses by demonstrating strategies that are employed by communities to overcome their circumstances through adopting and transforming. Resilience in Nongoma was seen by the community being able to adopt to waterless conditions and find other means of survival in the community. The stresses of waterlessness created a situation where the community had to find other means of survival when it comes to water and sanitation. This is seen in the community of Nongoma, by them looking for alternative water sources both which are traditional and conventional to overcome the stresses of waterlessness. The community used boreholes, hand pumps (isgwedlo), dug springs, river and ground water to try and override the situation they were facing of waterlessness. The women indicated that they used different water sources for drinking and another for livestock and household chores, as to try and have different and safer sources for ingestion and irrigation and livestock.

Mosavel et al. (2015) explains resilience as a concept that despite many negative factors people are faced with and their lived experiences, people can still withstand these difficulties of a destructive environment through developing 'resilience' to thrive in these conditions. Risks such as poverty and violence make people vulnerable to negative behaviours, but if people can become resistant in difficult conditions they can overcome these difficulties. As was seen in Nongoma where people took it upon themselves to find measures to live through their difficulties of waterlessness, no sanitation services and poverty.

5.6 Recommendations

Chambers and Conway (1991), predict that change is inevitable, and for the rapidly changing developing countries, change can also come with descending consequences, especially for the poor. As the authors predicted that population growth rates are growing, and growing at high rates for the rural poor, if governments do not intervene in the situation for contestation for resources, this can cause clashes between communities, private sectors and even between people and governments. Therefore, government needs to intervene in the situation of waterlessness in the rural areas, especially in Nongoma, to secure and preserve the scarce and finite resource and to preserve the resource for future generations. Also, to retain calm and justice to those living in the area and other rural areas in such conditions.

Greater intervention and women inclusion in governance and decision making in local, provincial and national government is also vital. Policy should focus not only on women inclusion but on women participation and interaction. Women should be active participants in development and sustainability, especially in issues where women are primary users and custodians of a resource and sphere in society.

There should also be more emphasis on maintenance and evaluation of government services for greater efficiency and productivity when it comes to government sectors and service delivery.

Formulation of women specific programs to complement gender equality and gender mainstreaming in industry, government and society would also serve a great purpose (Department of Trade and Industry, 2011). As would the sensitisation of men to women's needs and educating women about their rights, opportunities and encouraging them to join and advocate for their own emancipation. Women, especially in rural areas need to be reassured and encouraged to become more and want more. We need societies where people know that they can contribute significantly to their own liberation and the country's liberation, economically and socially and environmentally.

5.7 Conclusion

The main aims of this study were to assess the effects of a lack of water and sanitation on livelihoods, how this impacts on poverty and, participation levels by women with regards to water issues in Nongoma. The study examined particularly women in rural areas (who are

typically responsible for household water) and how they cope with a lack of access to water and sanitation. The study applied the capabilities approach and the gender and development approach to accomplish the aims of the study.

The challenges faced by people in Nongoma call for a fast paced and comprehensive solution by governments. Nussbaum (2000) acknowledges that women in developing countries are important to projects as people who suffer pervasively from acute capability failures and an urgency in which these problems are met. This project tried to understand women's views firstly from a feminist perspective and as a means of trying to open issues and conditions that are sometimes shied away from by government and societies. Female exclusion from participation should be made the centre of all discourses of government policy. Peoples' opportunities and capabilities should be made realisable to them through education and sensitisation of women's issues. As Nussbaum and Glover (1995) state women make up the majority of the world's population but are yet to claim their share of its opportunity.

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Appendix 1

Questionnaire

Project title:

The impact of a lack of water and sanitation on women in Nongoma, Kwa-Zulu Natal

Household code:

Household area:

Name of researcher:

Personal Information

1. How old are you?
2. Are you male or female?
3. Are you a permanent resident of Nongoma?
4. What is the total number of your family members?
5. How many are male?
6. How many are female?
7. What is the total no. of children below the ages of 18?
8. How many dependents do you have?

Is water and sanitation accessible and available to the areas?

Water

1. What is your primary source of drinking water?
2. How do you access you water? (Water in-house, well, river, etc.)
3. How many liters of drinking water capacity do you have?
4. What is your primary source of domestic water?
5. Do you have a tap inside or around the household from the water networks?
6. How often does your household have water from the network?
7. Does the water that you have satisfy your needs?
8. Who collects, stores and uses water?
9. How many times do men collect water and how much water is collected per day?
10. How many times do women collect water and how much is collected per day?
11. What are the challenges you face when accessing water?
12. What creative ways have been used to make sure that women have been involved in issues of water and sanitation delivery?
13. Have you ever been approached, attended or been interested in being an informant or stakeholder in issues, problems and possibilities of water and access of water?
14. How could access to water change your individual needs?
15. What role do men paly in water collection?
16. Do you think men could play a bigger role? Explain.
17. Why do you think women play the major role in water collection..etc?
18. Do you think a lack of water / sanitation is harder on women then on men? Why?

Sanitation

1. How often do you usually wash your hands?
2. How many times do you take a shower?
3. How much water do you use when taking a shower?
4. How often do your family members bath per day?
5. Do women in your household and yourself have appropriate menstruation material in your household?
6. How do you dispose of your sanitary material?
7. How does the disposal (or lack thereof) of solid waste assist or deteriorate your life?
8. Have you ever had challenges when disposing sanitary material?

9. What is your role in provision in family health?
10. What is your role in provision of family hygiene?
11. Do you have access to a health facility?
12. How could access to sanitation change your individual needs?

How does lack of water and sanitation influence their livelihoods?

1. Are you employed?
2. What is your main income source?
3. Do you receive a social grant?
4. How do you sustain a livelihood?
5. Do you have access to land rights?
6. Is water access restricted to those who have land rights?
7. Are those who have land rights predominantly men?
8. Do you think men predominantly have power because of water rights?
9. How does water and sanitation affect your livelihood?
10. If you had sufficient water and sanitation availability, how would this change your life and livelihood?
11. How does not having access to water and sanitation constrain your livelihood?

Do women play a role in the supply and delivery of water and sanitation?

1. Do you have programs in your community that assist with the water and water related issues?
2. How do you think water and sanitation issues could be resolved?
3. How are you dependent on water and sanitation?
4. As a woman, how do you think we could solve the water and sanitation issues in your community?
5. Do you think by involving women in water and sanitation related issues, can resolve the problem?
6. How would involving women assist the situation of water and sanitation?
7. How do you think government could assist in solving the situation?

How does poverty manifest itself in the community in relation to the supply of water and sanitation services?

1. How are you affected by water or water scarcity in your household?
2. How long do you have to walk to access water?
3. Have you ever had to skip school, work or other important functions in order to collect water?
4. What are your challenges when accessing water?
5. Do you get any assistance from municipality or other organizations in order to access your water?
6. If yes- what kind of assistance?
7. Do you have a food garden in your household?
8. How do you utilize your food Garden?
9. If yes, how could having water assist your food garden?
10. If No, do you think having enough water could assist you in having a food garden?
11. What can be the best mechanisms to solve the water issues in your household or community?
 8. What are the coping strategies, if any, of accessing water and sanitation?
 1. Do you have traditional ways of accessing water and sanitation?
 2. What are those traditional ways of accessing water and sanitation?
 3. How could these ways be improved in order to assist the water and sanitation issues in the area?
 9. Thank you for your patience and correspondence.

Appendix 2

English and IsiZulu consent forms

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

Information Sheet and Consent to Participate in Research

Date:

Good day interviewee

My name is Sizakele Sydness Mtshali, student number 214573789 from the University of Kwa-Zulu Natal, School of Built Environment and Development Studies, College of Humanities, Howard Campus.

You are being invited to consider participating in a study that involves: The assessment of water scarcity and sanitation and its impacts on women in Nongoma, Kwa-Zulu Natal. The aim and purpose of this research is to try and find how women have found mean to counter the effects of the inability of government to redress the inequalities between rich and poor. By using a bottom-up approach that can be able to try and find how people have found mechanisms in fighting poverty and found ways of living without adequate water and sanitation. We also will be looking at how these factors effect poverty. The study is expected to enroll 15 participants, 4 participants from each of the different four areas of Mandlakazi, Matheni, Nongoma and Usuthu. It will involve in-depth interviews in their households and taking of field notes and pictures will be involved . The duration of your participation if you choose to enroll and remain in the study is expected to be a Maximum of 2hours. The study is not funded.

The study is for academic purposes and is done for partial fulfilment of a MASTERS Degree in Development Studies, it will not be used as a tool to benefit the interviewee. The research will only be used for academic purposes. The benefits of this study is to understand the effects of water scarcity and sanitation and how these effect poverty and women in Nongoma.

The research does not contain any threats or risks that may involve medical or psychological interventions to the interviewee.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number_____).

In the event of any problems or concerns/questions you may contact the researcher at email address: siza.mtshal@gmail.com or Cell number: 0765506366 or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private BagX54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Participation in this research is voluntary and the interviewee may withdraw participation at any point. IN the event of refusal/withdrawal of participation the interviewee will not incur penalty or loss of treatment or other benefit to which they are normally entitled. The potential consequences to the participant for withdrawal from the study will not affect the interviewee but it may hinder the progress of completion of the research. If or when questions asked become too uncomfortable for the interviewee, the interview will be stopped and terminated.

There will be no financial benefit or cost that will be incurred by the interviewee if they participate in the study.

All Interviewees names and personal details will be changes in order to secure the interviewees privacy and anonymity. The research data will be stored in a locked safe that will not be accessible to anyone else but the researcher and supervisor in a secure location. The research data will then be disposed of or destroyed after five years.

CONSENT

I (-----) have been informed about the study entitled ‘assessment of water scarcity and sanitation and its impacts on women’ by Sizakele Sydness Mtshali.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at (provide details).

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private

Bag

X

54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

I hereby provide consent to:

Audio-record my interview / focus group discussion YES / NO

Video-record my interview / focus group discussion YES / NO

Use of my photographs for research purposes YES / NO

Signature of Participant

Date

Signature of Witness
(Where applicable)

Date

Signature of Translator
(Where applicable)

Date

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE
(HSSREC)

ISICELO SOKUGUNYAZWA UKWENZA UCWANINGO
LOKUSEBENZISANA NABANTU

ULWAZI NGEMVUMO

OKUZOSEBENZA NGEZIGABA

Bacwaningi: Kuyisidingo ukuthi konke kwenziwe ngobuchule noma ngokucophelela ngokomthetho, ukuthi konke okwenziwayo kube ulwazi olucacileyo ngokolimu olwaziwayo,

futhi kungabi bikho ulwazi olubalulekile oluzokweqiwa kulokhu okungenzani. Ulwazi oluhunyshiwe luzodingeka emva kokuthi ulwazi lokuqala selugunyaziwe.

Ngezizathu ezithile ulwazi lungamukelwa ngokukhuluma kudingeke ukuthi kube nobufakazi noma ngezizathu ezithile Ulwazi ngemvumo yomuntu ngayedwa lunqatshwe noma lususwe ikomide(HSSREC).

Ulwazi oluqokethwe ngokuzibophezela ukuba yingxenye yocwaningo

Usuku:

Isibingelelo: Ngiyakubingelela lunga lomphakathi

Igama lami ngingu Sizakele Sydness Mtshal, student number: 214573789, cell phone number: 076 5506 366

Uyamenywa ukuba ube ingxenye noma ukusebenzisana yocwaningo labantubesifazane nokobekelana kwamanzi nezenhlanzekho kaNongoma, Kwa-Zulu Natal.

Lesisifundo asinabo ubungozi futhi akukho lapho ozozizwa ungenakho ukukhululeka. Siyethemba lolucwaningo luzosisiza ukwazi kangcono ngabantu baseThekwini ukuthi benza njani uma befuna ukukhombisa amalungelo abo. Okunye okumele ukwazi ngalolucwaningo akukho muhlomulo ngokusebenzisana nathi ngalesisifundo.

Lesisifundo sibhekiwe ngokwenkambo yobulungiswa sagunyazwa ikomide lesikhungo sasenyuvesithi UKZN Humanities and Social Sciences Research Ethics (inombolo yokugunyaza_____).

Lesisifundo sibhekiwe ikomide elimele ubulungiswa sagunyazwa isikhungo sesenyuvesithi yakwaZulu Natali(inombolo egunyazayo_____)

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Uma kukhona izinkinga obhekana nazo noma kukhona imibuzo ungaxhumana nomcwaningi (kuleminingwane enikezelwe) ningaxhumana futhi nekomide elimele ubulungiswa lase UKZN Humanities & Social Sciences kuleminingwane elandelayo

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Ukusebenzisana nathi kulesisifundo awuphoqelekile, unalo ilungelo lokushintsha umqondo noma ngasiphi isikhathi uhoxe. Ngasesayidini lethu njengoba senza lolucwaningo asinawo umuhlombulo esizowunikezela kuwe kodwa singakunika uma sesiqedile ukwenza ucwaningo iphepha ukuze ulifunde noma ubeke umbono ngalo.

Umcwaningi akukho lapho ezothatha khona igama lakho futhi konke ozobe usitshela khona akukho lapho oyokubona khona ukuthi uweni. Konke ozokutshela umcwaningi kuzogcinwa kahle kukhiyelwe ekhabetheni. Esizobe sikugcine kwicomputha nakho kuvikelekile ngoba kuba nenombolo yemfihlo uma uyivula. Emuva kweminyaka emihlanu siyokushabalalisa lolulwazi osinike lona.

--

ISIVUMELWANO (gcwalisa njengoba kudingeka)

Mina-----ngazisiwe ngakho konke mayelana yocwaningo labantubesifazane nokobekelana kwamanzi nezenhlanzekho kaNongoma, Kwa- Zulu Natal.

Nginikeziwe ithuba lokuthi ngiphendule imibuzo bayelana nalolucwaningo noma isifundo futhi ngiphendule ngendlela engineliseka ngayo

Mina ngiyamemezela ukuthi ukuba kwami ingxenye yalolucwaningo angiphoqiwe futhi ngingayeka noma nini ngaphandle kokuphazamisa lesisifundo.

Uma ngabe ngiba nemibuzo noma yini ephathelene nalolucwaningo ngingaxhumana nomcwaningi

Uma ngabe ngiba nemibuzo noma ngifuna ukwazi kabanzi ngamalungelo ami ngokusebenzisana nani kulolucwaningo noma okumayelana nalolucwaningo noma ngabacwaningi ngingaxhumana nonobhalo wesikhungo esibhekene nobulungiswa bokwenza ucwaningo

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Okwengeziwe ngemvumo okudingekayo

Nginyanikezela ngmvumo ukuthi

Ukusebenzisa isiqophamazwi / ingxoxo yedlanzana labantu AKUKHO/YEBO/CHA

Ukusebenzisa ivido kucwaningo /ingxoxo yedlanzana labantu AKUKHO/YEBO/CHA

Ukusebenzisa izithombe zami ngenhloso yocwaningo AKUKHO / YEBO/CHA

Sayina ukuzibophezela

Usuku

Kusayina ufakazi uma ekhona

Usuku

Kusayina ochazayo uma ekhona

Usuku