
Access to clean water in the southern region
of Mozambique and its implications
for girls' right to education

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The author (sitting in the centre) interviewing women from a rural community in Pessene, Boane district, southern Mozambique.

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Dedication

I dedicate my dissertation to:

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Her siblings, my daughters, Nadia, Yara, Erika and Britt,

My husband Rogério,

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List of international instruments and national laws cited

International instruments

1. International Convention on Economic, Social and Cultural Rights
1. International Convention on Elimination of All Forms of Discrimination Against Women
2. African Charter on Human and Peoples' Rights
3. Convention on The Right of Child
4. Protocol to the African Charter on Human and Peoples' Rights
5. Universal Declaration on Human Rights

National laws

1. The Constitution of the Republic of Mozambique (1990)
2. The Water Law No 16/91 of 3rd August
3. The National Water Policy (1996)

Abbreviations and acronyms

WHO	World Health Organization
WFP	World Food Programme
FAO	Food and Agriculture Organization
ICESCR	International Convention on Economic, Social, and Cultural Rights
CEDAW	Convention on Elimination of All Forms of Discrimination Against Women
CRC	Convention on the Rights of Child
NGO	non-governmental organization
UN	United Nations

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MAP OF THE REPUBLIC OF MOZAMBIQUE



1 Introduction

Subject matter and problem area

The subject matter of this research is the international human right of access to water resources related to the international human right to education, with reference to rural areas of the southern part of Mozambique.

Mozambique is located on the south eastern coast of the African continent sharing borders with Tanzania and Malawi in the north, with Zambia and Zimbabwe in the western central part of the country and South Africa and Swaziland in the southern part. It is a long stretched country with approximately 3,000 kms of coastline on the Indian Ocean.

According to the Food and Agriculture Organization (FAO) and World Food Programme (WFP) annual report 2002, Mozambique has a total area of 789,800 square kms, with approximately 45 per cent of the country, or about 36 million hectares, considered suitable for agriculture. However, only 4 per cent of the total arable land is presently cultivated. The population, growing at a rate of about 2.4 per cent per annum according to official projections, was estimated at 18.08 million by mid-2002. Over 80 per cent of the labour force is engaged in agriculture and employment opportunities in the non-farm sector are very limited. However, the proportion of urban population out of the total number of inhabitants is growing, especially in and around Maputo, the capital city, which already holds about one million people.

Mozambique has been recording scarcity of water since the colonial period. The rainfall distribution is variable from north to south. While the average rainfall in the northern region of the country is higher than 2,000 mm, the annual average rainfall ranges between 1,000mm and 1,400mm in the coastal zones; and between 1,000mm and 2,000mm in the mountainous interior in the centre and the north of the country. The southern region is dry with an rainfall average of about 300mm to 1,000 mm of annual cumulative rainfall (Chitoma, 1999).

The main annual volume of surface water (water underground) potentially available in Mozambique results from rainfall inside the country and almost 54 per cent comes in from rivers that rise in neighbouring countries. The rainfall component occurs mainly in the river basins in the centre and north, while the main sources of water in the south are the international rivers (Chitoma, 1999). The southern region is semi-arid, with low rainfall and a very irregular water situation, alternating between long periods of drought and periodic floods.

The scenario described above has direct impact on the enjoyment of human rights of people living in the community. The purpose of this dissertation is to establish the linkage between lack of access to clean water and the right to education for the girl child. It seeks also to examine the state's obligation to implement the human rights instruments in order to enhance the realization of those rights by all citizens.

Human rights are defined as rights inherent to everyone by the virtue of being a human being. Human rights are inalienable, integral and indivisible, meaning that girls have the right to enjoy human rights as part of humanity. Still, evidence shows that in practice women lack recognition of their rights and needs. To improve women's status in any society it is crucial that they achieve personal development and have adequate access to resources.

Understanding that education is one of the most important resources for a better standard of living, access to water, particularly in rural areas in this study, is seen as an entry point for better achievements in education for all, especially for the girl child.

Background to the research

From the liberal feminist perspective, women are oppressed and they must find ways to achieve their liberation. Women are economically dependent on men. There is a need to change the paradigms, to move from the situation of 'women don't have...' to 'women have...' and change the situation of 'women cannot ...' to 'women

can ...'. This is to say that there is a need to understand how women can be liberated from subordination and economic dependence on men.

In most African countries, development relies on agriculture in which women play a very important role. According to the United Nations Development Programme (2000), 66 per cent of the economically active population in Mozambique is involved in agriculture, and 73 per cent of the inhabitants are in rural areas; half of that population depends on agriculture for subsistence. Out of the population involved in agriculture 91.3 per cent are women. Lack of access to land, adequate technology and alternatives for survival are the major problems for women.

For this reason the common discourse is that women must have access to, control over and ownership of land, to ensure that they can produce food for themselves and their families.

Women's access to land is an important step in women's access to resources but if she does not have knowledge, technology and financial resources to acquire fertilizers and adequate machinery such as tractors she will not be able to develop to larger scale agriculture.

Education is the most important resource to empower women and remove them from this economic dependence.

In relation to education the rates of women's access are very limited. Out of 10,5 million Mozambican citizens that in 1999 did not know how to read and write, about 6,7 million were women, against only 3,8 million men.

The intensity of illiteracy differs from one region to another in urban areas or in rural areas, with the major incidence in rural areas: 85 per cent of the 72 per cent of the illiterate population in the rural areas are women. The index of illiteracy is higher among older people. However, all regions have a common aspect: women have always been found to be less literate than men (Ministry of Education, Mozambique, 1999).

The scholarship rates, in percentage terms, in each age group are superior for men compared to women. On average, only 27,4 per cent of women go to school while the average for men is 32 per cent. From the 78 per cent of Mozambicans that did not finish any school level, 86 per cent are women and 14 per cent are men. Only 1 per cent of women finished secondary school. The level of enrolment in schools reveals that the proportion of females enrolled is lower than that of their fellow males. Many girls drop out of school every year and in a higher percentage compared to men.

Studies done before recognize that there are gender inequalities in access to education. And that inequality was explained by different reasons such as:

- Low level of enrolment of girl children in schools. Families prefer to send boys rather than girls to school;
- An average of 30 per cent of children fall behind and repeat at least one class or drop out.
- The situation is similar at the secondary level (grades 6, 7 and 8). At this level the percentage is much higher with 53,5 per cent of girls and 46,5 per cent of boys falling behind.

Higher education is the domain of men with only 25 per cent of students being women. There is gender inequality in education and the situation is aggravated by the exclusion of women from education in the rural areas, where only 10 per cent of peasant women know how to read and write compared to 53 per cent of women in urban areas who can read and write (World Food Programme/Mozambique government, 1999).

Educated women are more likely to access other resources such as employment or credit for businesses. Thus a girl's opportunity to go to school is more crucial for women's liberation than access to land without the support of knowledge and technology.

This study came to the conclusion that although the government adopted the principle of free primary education, girls' access to education is still low compared to boys. Domestic work among others was referred to as the main reason for the phenomenon.

However, access to water had never been looked at as a pertinent factor within the domestic work that consumes most of the girls' time.

The question that this research is trying to answer is: what are the reasons for girls being deprived of the right to education and, more exactly, is the lack of access to water one of these factors?

From my personal experience, fetching water is a form of housework that takes most of a girl's time and it is also physically painful and exhausting.

Below is a story based in a particular area where I grew up which sets the background to the study.

Inhambane, one of the provinces in the southern region of Mozambique (see the map at the beginning), is where many girls, including myself, had to face the hard reality of fetching water. I was living in Maxixe, a peri-urban area in southern Inhambane, where water was not fit to drink. One girl at the age of 11 used to go and collect water every day. She woke up about 3 o'clock in the morning and walked for more than three hours to reach the natural water hole at about 6 o'clock. Then she filled the 20 litre container with water and carried it on her head. A few steps after walking from the well, the container fell from her head so she had to go back and fill the bucket again so she could go home with the water. She had pain in her neck the whole day.

This girl fetched water every day until she got used to it. Later she joined the adult women's group fetching water at the edge of the sea. That was about 3 kms away from her parents' house and the time to get drinking water depended on the tide of the sea. It could be as early as 3 in the morning or, on bad days, as late as 7 in the evening. She had no time to prepare her lessons at home. She used to read and do her schoolwork late at night.

Boys were not allowed to come near the dug wells because often women would be naked, while washing their clothes or bathing.

On the other hand, fetching water was also a sort of socialization for girls. Women taught the girls about society's expectations for girls and boys – that the girls were expected to spend most of their time fetching water and doing all the housework.

In the culture of that region women and girls are the only ones who fetch water. No mother would send her sons to collect water.

I am a first born in a family of 12 children and I used to collect water before going to school and do the rest of the housework after school. My brothers did not do any domestic work, on the contrary, I had to fetch water to wash their clothes, and for their baths and drinking.

I was at secondary level and the school was on the other side of Inhambane Bay so I had to catch a ferryboat at 6 in the morning to be at school by 7.30.

Fetching water early in the morning made it problematic to catch up the lost time and get the transport to school.

Few girls from that area could go far with their studies because of the hard lives that they were leading. They dropped out of school early and got married.

I was lucky because my parents moved to this particular area when I was already at the secondary school. In the early 1980s Mozambique had adopted a central planning economy whereby a general national plan would determine the tasks of each person who graduated from secondary school according to national priorities. Fortunately I was sent to continue my studies at a college in Maputo city.

The incidence of women's illiteracy and the reality exposed above is what caused me to undertake this research and it guided most of the assumptions that informed my fieldwork.

This dissertation has seven chapters. The first chapter is the introduction to the research. It contains an overview of the country, geographical information, economic situation of the country and the background to the research. Chapter 2 explores the legal framework and includes the relevant provisions on the national laws

related to the issue under discussion, such as the right to clean water, the national water policy and the international instruments. Chapter 3 presents the methodology and methods used in the research and how I benefited from it. Chapter 4 presents the findings collected in the field, including the views of the different respondents in interviews and group discussions. Chapter 5 contains the analysis of the data collected and a reflection of the meaning of the findings presented in relation to the assumptions and human rights framework. Chapter 6 discusses the themes that emerged through the research. Chapter 7 presents the essential conclusions and recommendations concerning the problem under research.

Demarcation of the study

The problem area was chosen on the basis of its importance to women's position in the society and its close interconnection with issues of access to resources and development.

In this research I limit myself to children aged between 9 and 18 years old to be in line with the Convention on the Rights of the Child (CRC). For the purposes of this study, a particular emphasis was given to the gendered dimensions of access to water. Thus, special attention was given to girls aged between 9 and 15 taking into account that this is the average age of the girls that are exposed to domestic work, particularly water collection. I especially limited the study in terms of level of education.

The system of education in Mozambique is divided into four different levels: the primary school goes from grade 1 to grade 7, the secondary school goes from grade 8 to grade 10 and the pre-university (complementary) education goes from grade 11 to grade 12.

According to the national system of education a child enters the first class (grade 1) at the age of 7. My target group includes students in primary and secondary schools because these are the levels where a normal student should be at the targeted age group.

Children of more than 15 years will be considered because parents usually send their children to school late, particularly in the rural areas.

Geographically and for comparative reasons the dissertation covers two peri-urban areas and four rural areas in southern Mozambique.

Considering the similarities of the southern region in most aspects, including agro-ecological, rainfall, water facilities, socio-economic and cultural patterns (Government of Mozambique, Mozambique Vulnerability Report, 1997), the study will be limited to Maputo as a sample that represents the common situation of the remaining areas of the southern region of Mozambique (that is the three southern provinces of Mozambique: Maputo, including Maputo City, Gaza and Inhambane, see map).

National laws and policies with regard to water will be considered in order to assess the existing laws and whether they treat access to water as a human right. At the same time national laws related to the right to education will be considered. At the international level the study looks at the international instruments concerning the right to water resources and the rights of the child.

Objectives

The aims of this research are to:

- 1 Investigate and expose the socio-economic situation of girls in a water scarce environment and assess the role that technology and other interventions can play in continuity and change.
Mostly poor people are exposed to scarcity of water facilities. This research will enable me to evaluate the economic situation of the families in the village and allow me to find out whether any significant changes have occurred over the years in the southern region under research.

- 2 Investigate the impact of the technological and other interventions on easing girl's access to water.
I would like to understand how far technology and other interventions, if there are any, are improving girl's situation by making water more accessible.
In the late 1980s government authorities had drilled boreholes in some compounds but a few months later the boreholes were closed. The explanation given was that when women took a long time fetching water, their husbands could use this time to have extra-marital affairs and their wives never discovered them. Water facilities near the residential areas enable women to go to fetch water and come back in less time. Their husbands were not prepared for such change. As soon as the wife comes from the nearest borehole she will find the husband with other women and that will cause quarrelling between the couple (Ministry of Public works and Housing, Rural Water Department).
In order to avoid the breakdown of their marriages, men closed the boreholes and women went back to far distances to fetch water.
This scenario suggests that the technology of boreholes for water supply was not well accepted in those areas because of social effects related to dissolution of marriages. Therefore it is important to understand how the installation of boreholes or other intervention impact on girl child's access to water.
- 3 Investigate the extent to which the state has realized the significance of the relationship between access to water and right to education.
Thus the research was conducted to analyze the extent to which the existing laws and policies take into account the right to water as a human right and how they relate to the girl's right to education.
- 4 Present recommendations for better access to water.
Finally, the research aims to present recommendations for necessary law reform and action for better access to water in order to promote girls' access to education.

Assumptions

Access to water in the southern region of Mozambique is a problem not only in terms of distance but also in terms of quantity and quality of water in the water points. One could walk for more than three hours to reach the water point and wait for another one or two hours to get a container of water. The nature of the families in Mozambique is the extended family that includes parents, children and grandparents with an average of 5 to 10 members. If such a family can only obtain 10 or 20 litres per day for all the needs of the family, then the water will not be sufficient for the family needs. The quality of water is another question. In some water points the water is not potable.

A number of tribes in the southern region of Mozambique are patrilineal and women and girls are responsible for fetching water for the family. In the process, girls spend most of their time fetching water and formal education is not considered of much importance for them. As a result girl's performance in school is not good enough for high achievement. They stop early and get married and continue the cycle. Consequently the research was carried out assuming that:

- 1 In southern Mozambique there is deficient accessibility to clean water resources;
- 2 Gender-stereotyped practices play an important role in water collection processes, differentiating girls from boys;
- 3 Women uphold discriminatory customs and practices on the fetching water activity;
- 4 The time spent in collecting water has an adverse impact on girls' education;
- 5 Girl's performance in school due to the time they spend fetching water for the family may restrict their achievements in formal education;
- 6 Technology and other interventions on access to clean water influence changes between and within areas in relation to girls' access to water and education;

- 7 Women's class and socio-economic status impact differently on their daughters' access to water and education;
- 8 Water privatization impacts negatively on girl's access to clean water resources;
- 9 There are women selling water and this benefits them and their children.

Research questions

The research questions stem from the above assumptions and centred on finding out the following:

- 1 What access to clean water do women have in these areas? Is it from public water points installed by the government or private sources of water, and how far away are they?
- 2 Do gender roles have different impacts on girls and boys? Are girls obliged to spend most of their time collecting water in their families due to gender roles?
- 3 Do women uphold discriminatory customs and practices on the fetching water activity? Why and which women?
- 4 Has the time that girls spend collecting water any implications for their formal education?
- 5 Are their achievements in formal education restricted due to the time they spend fetching water?
- 6 Are technology and other interventions influencing continuity or change, depending on the areas?
- 7 Do women's class and socio-economic status influence the girl child's access to water and to education?
- 8 Does water privatization have an impact on the accessibility of water resources and girls' education?
- 9 Are children benefiting from their mothers selling water to ease access to water and education? What is the role of the children?

2 Legal framework

International instruments

Human rights have been re-conceptualized through the centuries in order to meet people's needs, especially regarding women in different contexts.

Access to basic needs, such as water, was recently included in the human rights discourse and several international instruments have provisions referring to the right to water. For instance, article 14, paragraph 2 of the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) stipulates that:

'States parties shall ensure to rural women the right to enjoy adequate living conditions, particularly in relation to (among others) water supply.'

Article 24, paragraph 2 of the Convention on the Rights of the Child (CRC) requires states parties to combat disease and malnutrition 'through the provision of adequate nutritious foods and clean drinking water.'

The General Comment No 15 on Article 11 and 12 of the Covenant on Economic, Social and Cultural Rights (CESCR) clarifies that the right to an adequate standard of living, including adequate food, clothing and housing should be interpreted as extending to the right to water, considering that it is the fundamental condition for survival.

Article 15 a of the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa, clearly provides that state parties :

'...shall ensure that women have the right to nutrition and adequate food taking appropriate measures to provide women with access to clean drinking water.'

National law and policy

Despite the fact that the Constitution of the Republic of Mozambique is regarded as one of the most modern in the region, it is silent in relation to the right to water as a human right. It refers to the right to life, (article 70), the right to health and an equitable environment (article 72) but there is no specific reference to water.

The Mozambican government has championed a law reform process and water law was one of the objects of reform. The law in place, Number 16/91 of 3 August, is gender neutral in that it gives the same rights to everyone. Men and women have equal rights on access to water.

The Water Law establishes that water resources are state property and are in the public domain (article 1). It distinguishes two types of use of water: water for common uses and private water. In terms of the law, water for common uses is the water to satisfy domestic needs for any person and family, including water for livestock and irrigation in small-scale farming (article 21). The right to common use of water does not require a license (article 22) contrary to the private water, which has to be applied for and licensed (article 25). The right to water licensed for agriculture purposes can be transmitted together with the right to land (article 29).

On the other hand it classifies as private waters, those concessions of water, especially for industry or large-scale agriculture, that are normally connected to the right of land use. The law establishes that anyone can get authorization to it provided that does not endanger the environment and ecological equilibrium.

The law provides principles for management decentralization and establishes the national water council with the aim of inviting the opinion of other state bodies with an interest in water management. Article 18 created the regional water authorities that have management boards composed of representatives from the relevant ministries, namely Agriculture and Fisheries, Industry and Tourism, and Mineral Resources and Energy.

The national water policy was established in 1996. It recognizes water as a vital resource that must be used in a rational and sustainable manner. It recognizes also that top priority is the satisfaction of basic needs and the participation of beneficiaries in the management of water resources. It goes further and recognizes the economic and social value of water and the need to decentralize the operational management of water resources.

The major innovation of the water policy is decentralization and the creation of the opportunity for the involvement of the private sector in water supplies.

3 Methodology

Grounded theory

This chapter is on the research procedure. It specifies how the research was carried out using the grounded theory, the women's law approach and the gender perspective. The chapter looks at the target group and the type of data which was collected. The data collection method and procedure are also specified. The chapter ends with the barriers and difficulties encountered during the research.

The methodology used in this research is the women's law approach combined with grounded theory. This approach is an interactive process in which initial theory and data collected are constantly engaged with each other to help the researcher decide what data to collect and how to interpret it.

The grounded theory approach which is the thrust of the women's law research methodology, can be described as a methodological process in which the researcher adjusts the initial theoretical assumption in the parallel process of data analysis as the research proceeds (Weis Bentzon, 1998).

Information was sourced from a specific community at the grassroots level where I thought that the major problem would be the absence of water.

By adopting grounded theory methodology in this study, some of my assumptions had to be changed or removed completely. As will be explained in the findings and discussion chapter, the assumption that girls' achievements in formal education are restricted due to the time they spend fetching water was changed because in the rural areas where the research was conducted the formal education goes up to grade 5 only. It was not possible to find information about achievements apart from at primary school level.

It was not also easy to find data related to the linkage between girls dropping out of school and the time that they spent fetching water. For this reason the guide questions prepared for the interviews and discussions were changed in order to find the data that would be pertinent to illustrate the linkage.

As an example, during the interviews with the girls in the community (in the age group specified above) I tried to find out why they were not in school, if they had been in school before, when and why they stopped going to school.

While the research was proceeding and in analyzing the empirical data collected, some changes were introduced in the research plan, particularly in relation to the site of the study. Analyzing the data collected within the rural areas, it emerged as important to conduct the research in areas with some water facilities. Also it was apparent that information from peri-urban areas could give relevant insights into the study.

In spite of having my assumptions and former attitudes about access to water I tried to go into the field with an open mind. This helped me to explore the economic, social and cultural factors that influence the activity of fetching water.

Embarking on this research as an educated woman who had undergone the experience of lack of access to water, I was ready to learn and share ideas with my respondents about women and girls' experiences in relation to fetching water and their performance in the formal education system.

The women's law approach

The women's law approach is a women-centred legal discipline which studies the actual lived experiences and life situations of women. These experiences are based in domestic work, among others, and they offer a starting point for the analysis of women's position in the law and society and explore the realities of women's lives by interrogating the law (Dahl, 1987:13 in Weis Bentzon, 1998).

I had information about the rural areas that have the worst shortage of water and my research questions were formulated on my way to rural areas indicated by the government member. I had in mind the need to find out about the women and girls' lived reality in those areas. I was interested in knowing where they got water, at what distance and how much time it consumed.

In order to find out I walked with a group of girls to one well in Tenga, district of Moamba. I carried my 20 litre container and followed the girls who were going to fetch water for the school. It was 1pm when we left. We reached at the water source at 2pm. There was already a long queue. The water in that well was not clean. Around the well there was grass, insects and animals like hogs and dogs. After 40 minutes the girls were filling their containers. I filled mine and we went back with two little girls, no more than 9 years old that were carrying 20 litre containers of water on their heads.

The girls were surprised and hesitated seeing somebody who was driving a car carrying water on her head. They might have thought that I didn't know how to carry. We walked together and during that time we talked about their day-to-day lives in their homes.

This helped me grasp the real situation in that particular community and gave me the opportunity to interview girls fetching water without the formality of question and answer that can be constraining for little girls, if not deceiving. It also helped me to understand how the school was organized, to meet the teachers and to assess students' needs in relation to access to water.

Using the women's law approach, women and men in their homes shared their experiences about customs and practices related to fetching water. They openly explained what water meant for them and it also helped in understanding the girls' position in the family regarding water supply. The methodology was also useful in understanding the women's perception of girls' formal education.

Gender perspective

In collecting the data a gender perspective was applied throughout the research in order to understand whether there was any relation with gender-stereotyped roles in the issue of fetching water. Gender is not equivalent to either biological sex or to women. Gender refers to the social-cultural construction of women and men. To paraphrase Vijfhuizen (1998), the processes of construction of gender are reproduced and transformed by both women and men. Thus, analyzing gender relations means getting closer to these processes. It must be emphasized that both women and men are involved in constructing gender by their attitudes and reproducing norms and values. From this perspective male and female roles are researched and analyzed based on the biologically different roles of the sexes. Those roles influence women and men in shaping their lives.

This methodology was useful in understanding the gender division of work within the household and within the rural community. The majority of the informants clearly refer to fetching water as women and girls' obligations. A man or boy can fetch water only in specific situations.

During the several group discussions that I conducted as a method of data collection it became clear that the perception of gender was based on customs and practices that were introduced by the ancestors long ago and that customs and practices could be changed in specific contexts and when women and men wanted to change them. As an example, one of the participants in a group discussion let me know that long ago there was a custom that if a man dies, the family had to set fire to his house and burn all his assets after his burial. But now people no longer do that since they realize that the house and property are useful for the surviving relatives. This illustrates that women and men create the customs and can change them for the benefit of the whole society.

Methods of data collection

Interviews with key informants

Before I went to the field I needed information about where to go. The research problem was to be examined in the southern region of Mozambique but for the purposes of the research it was important to know which areas were relevant areas to the research.

Ministry of Public Works and Housing

The head of the communication department of rural water supply in the Ministry of Public Works and Housing provided useful information about the rural areas with the greatest shortage of water. The information helped me plan the fieldwork and make decisions on where to start.

Chief of the compounds in the areas under research

In the districts, the chiefs of the compounds are very important in their particular communities. After introducing myself to the administrative structure, I met the chiefs of compounds so I could access members of the rural community. Although they could have influenced the research negatively, they are most knowledgeable about community activities and they are also the doorway to the community.

The heads of the primary and secondary schools

When I was visiting schools I interviewed the heads of the schools. They gave an overview of their schools and helped me with information about the enrolment of girls and boys and their performance in general. They also facilitated my meetings with students and teachers since they were meant to be in lessons when I was there.

Group discussion research method

Several group discussions were organized as a method of data collection for the research (Weis Bentzon, 1998). This was the most common method used with students, teachers and women and men in the community, because it appeared to be the easiest way to speak to more people. I found this method useful in meeting the target group of the study.

Group discussions with teachers and students, for example, made it possible to coordinate their timetable and use contributing to the research as an extra school activity.

Group discussions with students of primary and secondary schools

During the discussion sessions girls and boys described their daily duties at home and how they performed in school. In describing their daily activities girls mentioned fetching water as part of their daily work.

That was the entry point for the question of why girls collect water and not boys and what I found interesting was that the majority of the participants, including young boys of 10 to 13 years old, had the perception that fetching water was girls and women's duty.

In the process boys and girls started arguing among themselves and questioning whether there was a problem with girls providing water for the family rather than boys. The discussion raised other issues like 'the man is head of the family', thus boys said they needed to go to school to get a good job while girls have no need to be educated because they would soon get married and be supported by their husbands.

Exercise books, pencils and pens were given to both girl and boy students to motivate their participation. More students came to subsequent group discussions because they had informed about the donation of day before.

Group discussion with teachers of primary and secondary schools

The group discussion with teachers was also useful for this research. The method helped capture different views about the effects of girls fetching water in relation to their performance in school. It was an opportunity for teachers to look at the students' problems from a gender perspective.

Some teachers appreciated the discussion and said it was the first time that they had thought about the impact of education in the family and on girls' formal education. They used to have programmes to protect orphans and students from poor families but they had never thought of lack of access to water as an obstacle to accessing education.

Before the discussion sessions with teachers, a roleplay organized by students was presented. This helped to highlight the focus of the discussion and motivate the participation of teachers in the debate. After the focus group discussion, tea was served to thank them for their contribution to the research.

Group discussion in the rural communities visited

People in the rural areas are usually busy in the fields. Thus, group discussion was the best method to speak with community members and not interfere with their daily duties. The discussion with women in the community was used as an occasion for gender sensitization, particularly related to the matter under discussion. Girls' right to education and the parents' duty to give equal opportunities to girls and boys for the benefit of future development of the family and community were discussed.

In the process I was surprised to notice that some community members were aware of the issue of gender equality and they implemented it with their children, giving the same treatment to boys and girls. Other parents, however, still gave privileges to boy children, particularly in relation to formal education.

After the first interviews and group discussion with students and teachers I understood how grave the problem of access to water in the areas under research was. When I went to meet the families I decided to take drinking water for the participants in the group discussion and my interviews in the community.

I used to take a plastic container of 20 litres of water and distribute it to the participants, both men and women. I was sure that 20 litres of water was not enough for the families' needs but even so it was extremely significant for people in those communities. They appreciated the gift and in the process they commented on how good it was to send their daughters to school so that tomorrow they could have cars and bring water facilities to their villages.

Individual interviews

Several key informants were interviewed throughout the research process. The rural water coordinator in central government was one of the people interviewed for data related to water facilities in the region under research and government measures to promote water availability. Local government representatives were also important informants, particularly in relation to the existing local water facilities.

In these meetings it was possible to find out about government's vision in relation to water as a human right and the link between access to water and girls' education were discussed.

Although focus group discussion was the most common method used in the community, in some cases individual interviews were more appropriate.

In some group discussions the answers appeared to be 'politically correct' and did not reflect the reality. In the meeting in Kassimate, for example, participants said that girls and boys as well as men and women fetch water and women's organization activists had taught that men and women are equal and they must do the same housework. In the individual interviews, however, where each person gave her or his own experience in relation to the issue under research, the information was different.

Girls in the community were busy with domestic work most of the time. Thus individual interviews were also used to find out about their lived reality in the community since it was not possible to have a separate meeting with them.

The interviews with girls, women and men in the community, girls and women at the water points fetching water and with the water manager in the rural areas provided significant information, for example, they recorded that students came to school late because of fetching water. Table 1 shows the different groups interviewed as well as the sizes of the sample.

Table 1 Population category and sampling procedures

Population group	Focus group discussion	Individual interviews	Size of sample
Girls in the community (9-15)	X	X	15
Boys in the community (9-15)	X	X	15
Girls in primary and secondary schools	X		47
Boys in primary and secondary schools	X		25
Girls recorded as missing school		X	14
Women teachers in primary and secondary schools	X		20
Men teachers in primary and secondary schools	X	X	15
Women in the community	X	X	60
Women and girls at the water points		X	14
Government (central and local authorities)		X	8
Total respondents			233

Limitations of the study

This study attempts to address girls' lived experiences in accessing water and the implications for access to education as a resource. The field research was carried out over a period of four months and started in the middle of October. In doing the research the time allocated seemed inadequate to some of the focus respondents, such as teachers and students, because of the bureaucracy involved in organizing appointments with the relevant respondents.

Several trips were made to the districts that were about 100kms from Maputo city before an appointment was made.

Also by the end of October the primary schools are about to finish the academic year so grade 5 and grade 7 are preparing for the exams.

The other problem encountered during the study was how to establish figures related to girls dropping out of school and the reasons why. The heads of schools have data on school enrolment aggregated by sex in the beginning and at the end of the academic year and also figures related to dropouts from school during the year but there is no information about the causes.

Therefore, it was not easy to relate the water collecting activities with dropping out. To circumvent this limitation I interviewed the students who were referred by others or by teachers as having arrived late or missed school because of fetching water.

The data collection was also incomplete in terms of the districts visited. According to the initial plans the research was to be conducted in the three provinces in southern Mozambique. That was somewhat ambitious considering the time and the financial resources allocated but data found in the areas visited are broadly representative of the situation in the other rural areas of the southern provinces.

The research plan was also changed for comparative reasons since the rural areas selected had no water facilities so people interviewed had similar views in relation to who collected water. Probably the scarcity of water led to the same understanding of the role of girls in fetching water and perhaps the community would have a different (or similar) views in the areas where water was considerably more accessible.

Also, data from one site could direct the research to a false conclusion in relation to the assumptions presented earlier: the assumption that gender stereotyped practices play an important role in water collection and the time spent in collecting water has an adverse impact on girls' education. Thus, part of the time was spent in peri-urban areas and rural areas with some water facilities. The research in peri-urban areas permitted a comparative

study of parents in areas with different access to water and clarified the uniformity and variations within and between areas.

To conduct research in a community it was necessary to seek permission from the local authorities. Although those local authorities organized members of the community to be present for group discussions their presence may have had a negative influence on the findings of the research. They prepared community members to answer questions in a certain manner since I had given a brief explanation about why I wanted to meet people from that particular area. Thus the respondents' participation was rarely free. They gave artificial accounts of their lives that did not reflect the reality. By the time the research was carried out, municipal election campaigns were going on and the administrative structures were involved in several meetings either between themselves or with members of the community. I would sometimes wait the whole day and return home in the evening without interviewing anyone.

Additionally, water facilities, more schools for children and access to education are usually part of the discourse of politicians and so the research may have appeared to be part of the municipal campaign. Thus, the expectation from the community was more than just to contribute to an academic work. The community members diverted from the topic and presented their real needs. The community of Pessene, for example, asked for a secondary school for their children because in that area the school ends at grade five and their children have to walk 7kms to find a school at the next level.

4 Presentation of data and discussion

This chapter outlines the findings from the field. These are discussed in relation to the initial assumptions and the human rights instruments mentioned in the legal framework chapter.

Scarcity of water and access to water in the rural areas

As mentioned earlier the research started by finding out whether there was a real problem of access to water in southern Mozambique or not.

The information given by Marcelino Pangaia in the Ministry of Public Works and Housing indicated that the country as a whole was facing problems in access to water but the greatest shortage of water was notable in the interior of the country, especially in the those areas where there are no rivers and water is only available 45 metres below the surface during the dry season. In this southern region there are rivers that the country shares with South Africa and Swaziland. Sharing the water resources has proved problematic because South Africa has higher technology in irrigation and water storage than Mozambique. This has resulted in South Africa storing more water than expected and leaving the downstream side within Mozambique stranded, particularly during the dry season. Conversely, they would store water during the dry season and release it during the rainy period, flooding the river basins downstream.

The head of communications in the rural water department indicated that the rural areas with most problems in access to clean water were Namaacha, Moamba, Matutuine, Catuane and Magude in Maputo province, Massangena and Chicualacuala in Gaza province, Funhalouro, Mabote, Massinga and Mambone in Inhambane province.

In some rural areas, like Funhalouro, women and their daughters used to go to fetch water on a Sunday afternoon and would come back home on the Monday with 40 litres of water. He added that the situation had improved with the support of the World Bank that is building boreholes in some rural areas of Inhambane but that had not yet changed the situation on the ground significantly.¹

¹ Interview with the Chief of Communication in the rural water department of the Ministry of Public Work and Housing in Maputo on 9 October 2003.

Because of this information, Namaacha, Moamba, Mabote and Massinga were the rural areas chosen for research. The areas visited are located in the southern region of Maputo, 180kms from the capital city. The rainfall is very low and access to water in Namaacha depends exclusively on rainfall. There is no functional water supply system.

The schools visited did not have any water facilities. Girl students and female servants fetched water for the teachers. The toilets did not have water either.

In the centre of the Namaacha district, people access water at the government water points or fountains or from private wells or boreholes like the one at the Hotel Libombo.

The rural areas of Namaacha visited, specifically Maelane and Changalane, have quite a number of water pumps for a population of 2000 and 1789 inhabitants respectively.

The rural areas of Kassimate and Munucua have no water facilities and the population usually accesses water from points 10 to 14 kms from their residential areas. At some water points the water is, however, salty.²

The situation in Moamba district was similar although there is a small water supply system in the centre of the district which supplies water twice a day. Villagers living in the centre Moamba get about 20 cubic metres between 6.00 and 6.30am and between 4.00 and 4.30pm. The community around the centre has to collect water from the rivers. Some people fetch water from natural holes but it is not potable.³

The district has four localities – Pessene, Sabie, Moamba and Ressano Garcia. Pessene and Sabie do not have any alternative water supply. In Ressano Garcia the government is repairing a water supply system installed during the colonial period. By the time the research was carried out the population was consuming water from holes, but it was not potable.⁴

The advantage in Moamba compared with Namaacha was that the water in the natural water holes was not salty. Those are however equally far away from the residential areas.

It was also found that in peri-urban areas, although they have a problem of access to water, they have better water facilities than the rural areas. The majority of those facilities, like water pumps and boreholes, are from private initiatives.

The representatives of Ministry of Public Works and Housing in Namaacha and Moamba discussed the issue of water as a human right and they argued that water must be seen as an economic and social good. The installation of water facilities and management is costly and the community has to contribute money for better access to water. They added that one of the principles of the water policy in place is the decentralization of water management and the creation of the opportunity for private water supplies.

The District Director of Public Works and Housing in Namaacha said:

'The community has to contribute to have drinking water. I agree that the members of this community do not have money but they have livestock. They can kill one animal, sell the meat and contribute to have water.'

The local government officers explained that they have problems accessing funds to provide water facilities through the national government. Therefore, they depend on the support of existing non-governmental organizations, such as Care International and United Nations programmes like World Food Programme, and the participation of the community to find solutions for access to water.

² Interview with the District Director of Public Work and Housing in Namaacha on the 12 October 2003.

³ Interview with the District Director of Public Work and Housing in Moamba on the 15 October 2003.

⁴ Interview with the District Director of Public Work and Housing in Moamba on the 15 October 2003.

In some cases the non-governmental organizations donate money to provide water facilities under the condition that the community contributes a certain amount.

The problem that local government faces is that the community takes a long time to raise the required amount to qualify for assistance from the non-governmental organization and the problem of access to water persists without any intervention at the national level.

The table below demonstrates the differences in access to water within rural areas. It also highlights the problem of coordination between the government and non-governmental organizations that are building boreholes in the different communities. In Mahelane and in the centre of Changalane, there are a lot of boreholes or water pumps for a small community, whilst Munucua and Kassimate have no alternatives for accessing water. As revealed by the representative of local government in Namaacha, a borehole is calculated to serve 500 people. Thus, there are areas with one borehole for 300 persons and areas where the population survives through natural water holes and rivers.

Table 2 Access to water in Maputo

Category of analysis	Natural holes	Boreholes	Water pumps	Population
Semi-urban areas				
Mahotas	0	0	11	25000
Albazine	0	0	7	15000
Rural areas				
Maelane	0	6	7	2000
Changalane	0	3	5	1789
Munucua (a)	0	1	0	1000
Kassimate (b)	0	1	0	1000
Pessene	3	0	0	800
Tenga	3	0	0	700

The table demonstrates also the effects of private water in the peri-urban areas. There are many boreholes in a small compound, which are installed individually. They are the solution for access to water for a large number of families in those areas but at the same time they are dangerous for the management of water sources.

The government installed boreholes in Munucua and Kassimate but they have never operated because the water in these areas is salty. Through research, it was revealed that government technicians disregarded the advice from the community who knows the area and installed the water pumps in areas where water was not fit to drink. It is worth noting that the community members, although not educated, know about the soil and the subsoil and their knowledge should be used by the government to come up with appropriate solutions for problems that the communities face.

Who collects water?

From the group discussion held with female and male teachers at Mugado primary school, it became clear that girls are more involved in fetching water than boys and that some girls arrive late for classes because they have had to fetch water before going to school.

Although the participants had generally the same views in relation to who collects water in the family, it is important to note that one female teacher stressed that there are differences within the rural areas, specifically



Figure 1 Girls collecting water in Tenga. The author tastes the salinity of the water from a natural hole

in the centre of the rural areas compared to the interior. In the centre of the rural areas, there are some changes in parental attitudes. The primary school teacher explained:

'The water collecting activity is women and girls' duty. But a man can help them. Many families still have the mentality that only girl children must do the domestic work. In my case, I have five boys and one girl, who happens to be the youngest. All my children do domestic work whether girl or boy.'

Other participants emphasized the scarcity of water as the main reason for all members of the family being involved in water collecting activities, despite the fact that traditionally girls and women are responsible for providing water for the family.

She went on to say:

'This year the scarcity of water is the worst ever in 10 years, that is why in many families and boys and girls are now involved in water collection but in our tradition fetching water is girl's duty.'

In the group discussion with teachers in the secondary school collecting water for the family was also generally perceived as girls and women's duty. But it also came out that now some parents prefer to send boys to fetch water because of incidents of girls having been raped on their way to or from the water points at late hours.

Teachers in Official primary school, another primary school visited in Namaacha, are of the opinion that fetching water affects the performance of girls in school. Girls often come late to school or they do not do the schoolwork because they do not have time to prepare their lessons at home.

Another teacher observed that some girls are in the class but do not pay any attention to the lesson. She found out from one of the girls who explained that they were thinking about where to fetch water for the family needs since they did not collect enough water in the morning. As soon the lesson ends, they go back to their domestic work. Thus, they have no idea about what they have learned in the class.

Some other teachers gave examples of students who missed school because of diarrhoea and scabies that affected them during the year, also as a result of shortages of water.

However, there were teachers with different opinions. They stressed that some girls perform better than boys, particularly in primary school. Thus, the issue of fetching water, they argued, does not negatively affect the girls' performance in school. One female teacher said:

'I think that collecting water is not the main reason for failing in school or dropping out. There are many other reasons that influence girls' dropout rates such as pregnancy, early marriage, poverty,'

During the same discussion session, a male teacher went back to the position that fetching water affects the performance of girls in school which he expressed in these terms:

'I think that pregnancy and issues of early marriage are linked to the water fetching activity. In a rural area, a girl who can fill up a 60 litre container with water is ready to get married. The parents can marry her off because she is sufficiently mature to provide water and food for the family. In our tradition, when a family escorts the daughter to the husband's family after lobola⁵ when this family receives the girl they say: Wuyane mate!⁶ That means, "Welcome, water". This is to say that fetching water is a sign of adulthood and therefore girls are forced to drop out from school and marry because of our cultural practices.'

Teachers at Pessene primary school live in a house that is allocated to them by the government. They do not have water facilities. When the focus group discussion was about to start the girl students selected for the discussion were sent to fetch water for the teachers. This fact was my starting point for the group discussion with teachers. There were two female and one male teacher and they had the same views about who collects water for the family. In their view, women and girls have the obligation to provide water for the family. The male teacher's argument was that it was the natural division of work. He said:

'Nature has provided that women and men have different types of work. Men have to do the hard work like building a house for example while women are weak and therefore they have to do soft work such as collecting water for the family, producing food and looking after the children. That is why girls have to learn how to do the women's work in the family.'

The female teacher's opinions were along the same lines and their argument stressed the southern region culture.

'In our culture a man cannot fetch water. It is ridiculous if a man collects water when there are women or girls in the family. That is why we send girls to fetch water for the school but we understand that this can influence negatively the girl's results in their performance at school because the waterholes where they fetch water are far away from the school and residential areas.'

From the group's discussion with girl and boy students, it became clear that girls are more involved in water collection than boys.

From a range of 30 students who participated in the focus group discussion in the primary school of Mugado in Namaacha, only three boys said that they fetch water with their fathers but, interestingly, some of them said that they used to go to fetch water by car or pulling the containers and not transporting them on their heads as the girls do. Carolina, an 11 year-old girl in grade 4 explained:

'We are seven in the family. My parents and five children. Three sons and two daughters. We do not have water at my parents' house. We get water from a government water point that is around 1 km away from home. I collect water every day, early in the morning and in the evening when I come back from school. My mother goes with me.'

⁵ Form of traditional marriage in the southern Mozambique.

Filomena, another student at Mugado Primary school said:

'We are six members in the family. My parents and four children. Two boys and two girls. We do not have water facilities at my parent's house. We usually get water from a government water point that is far from home. My brothers do not collect water. My mother usually comes with me.'

The boys' position with few exceptions was that their sisters and mothers were expected to collect water for the family. It is interesting to note that even if their sisters are younger than the boys they still fetch water and the boys do not. Cipriano Moreira confirms that view, saying:

'I'm fifteen years old and I have two sisters. I don't have any water facilities at home. My younger sisters (11 and 9 years old) and my mother fetch water from some water points.'

The group discussion with students in the primary school of Tenga in Moamba district, clearly revealed that the girls provide water for the family.

The girl students know the names of the different water holes that are in the village, the time that the boreholes have sufficient water and the time when the water comes only slowly. The students who participated in the discussion, were living about 7kms from the school. The water points were located 7kms away from the school. From the water points to the residential areas was around 14kms.

Girls explained that they collect water twice a day. If they go to school in the morning they collect water in the afternoon after class. They fetch water for teachers and for the needs of the family. If they go to school in the afternoon they collect water early in the morning.

The families in the rural areas visited had between five and ten members and they had the capacity to access 20 to 40 litres of water for all the family needs, including preparing food, drinking and washing. Cristina Alberto⁷, an 11 year old girl interviewed at Tenga primary school said:

'We are eight members in the family. I have three brothers and two sisters. We don't have water at home. We used to get water at a natural hole named Fussekane, a place that is very far from where I live. I go to school at 7 o' clock. Early in the morning, at about 4 o' clock, I go to fetch water and come back home at 6 o' clock or half past. When I reach home I take my books and go to school. I am late for school and I do not have time to review my lessons. When I come back from school I go back to fetch water. I only read during the weekend when I am free. My brothers do not fetch water because they are boys. My sisters are very young they can't help me. My mother died. I live with my stepmother. She doesn't help me either. Only I fetch water for the family.'

Most of the girl respondents in the community gave their lived experience on fetching water and how they organized their time to go to school and read at home. They mentioned that they do not have any choice because water is necessary every day and they have to fetch water for their needs but it is an arduous activity.

When meeting women and men in the community I found that generally they believe that women and girls are more involved in water collection than men and boys. It is seen as a women and girls' duty. However, both women and men agree that this activity negatively influences girls time to go to school and do school work because the water points are far from home.

During the group discussion in Mihlangulene and Pessene, it became clear that parents allocate different household tasks for girls and boys according to their gender roles.

A middle-aged woman (about 40 years old) in a group discussion in Mihlangulane said:

'A girl can go to school but after all, she has to be taught housework before she gets married. I will not be at her house when she gets married. She must know the housework including fetching water'

⁷ One of the students recorded in the students group discussion. Interview on the 15 October 2003.

so that she can be a good wife for her husband. She must provide water and food for him. What can she do with her education if she does not know the housework? Her husband does not eat paper from school!!'

A man, aged 55, in Pessene had the same vision based on religious principles. He argued that it was God who made a man and a woman. And He gave women the duty to look after men, providing water and food for him. That is why girls are taught how to fetch water and do the domestic work so that they will be able to perform their duties for their husbands.

The community in Kassimate in a group discussion said that for them both girls and boys fetch water – men, women, boys and girls collect water for the family. In their own words:

'We were taught by the Mozambican Women's Organization that women and men are equal and both must do all the housework. There is no specific work for women or men.'

They added:

'We used to buy water from people coming from Changalane at 50,000.00 mt (approximately US \$2) – that is a lot of money for the population in this community.'

They pointed out that the chief of administration Natália Maluana and the local authorities are seeking a solution to easier access to water. The community members are building a dam through a project called 'Food for work' financed by the World Food Programme and they are paid with food such as rice, maize, sugar and cooking oil. It was noted that the construction of the dam was going very slowly. They explained that they cultivated the land but they did not reap what they expected because of the dry spell. For this reason, members of the community who had been selected to dig the dam performed the task slowly so that the time for receiving food would subsequently be extended.

This discussion raised the issue of human rights. The participants looked at water as a human right and their principle argument was that without water there is no life. One of the participants said that they walk long distances to get 20 or 40 litres of water for a family with 10 members. The water they get is not fit to drink nor



Figure 2 Group discussion with the community in Pessene

sufficient for the other needs of the family, such as personal hygiene, cooking and washing. As a result, the community faces various diseases such as diarrhoea and cholera. They referred also to the fact that the scarcity of water affects their agriculture. They cultivate the land and do not have the harvest that they expected; therefore, hunger is present in all the families.

They mentioned also that the problem they have in the community is the absence of schools. One of the participants said:

'We only have one school, which goes up to grade five. We want our children, both girls and boys, to go on at school but there are no schools here. Why are you talking about right to education and education for all if there are no schools?'

In the follow-up interviews with women in some compounds of Kassimate, the same rural area where I had been earlier, they said that access to water was a problem in that area particularly that year (2003) as the dry season had been so long. For that reason parents were also sending boys to help their mothers and sisters fetch water. Otherwise, in their culture, fetching water is girls' duty. A mother does not teach a boy how to fetch water. A boy has different duties such as controlling the animals in the field. Boys are also meant to go to school so that they can find good jobs to sustain their wives and children in the future.

Munucua, the next village visited, has a river nearby but it was completely dry. Women and girls were having to go and fetch water 7kms away from the areas where they live.

I had a group discussion with the community members in the primary school building. The school is a small house built with local material and it has two classrooms. The classrooms have neither tables nor chairs; students sit on the floor or on timber. There is only one teacher who lives in the community and he teaches all classes in the school. This school, like many others visited in the rural areas, goes up to grade 5.

The perception of the community, which came out in the focus group discussion, is that women and girls have the duty to provide water for the family. Men can help but it is woman's responsibility to provide water for the family. Thus, girls and women are more involved in fetching water than boys and men.

Several participants in the discussion session explained:

'Girls and boys are taught differently in the family. Girls are taught how to do the housework, which includes fetching water. Boys are responsible for building houses or toilets. If the family has animals boys are sent to control them in the field and not girls.'

Middle aged men participating in the group discussion clarified why girls are more involved in fetching water rather than boys saying:

'In my view girls have to be prepared for their future in life. They will be married and have children. Thus, girls must be taught what women do in a house, for example fetch water, cooking, washing, and looking after children.'

During the discussion session, it came out that the community is concerned about the problem of scarcity of water and they established a water management body which is responsible for controlling the use of water facilities in the community. Currently, the community is seeking ways to get easier access to water. All the members of the community agreed to share an amount of 400.000 mt (approximately US \$16) and gave it to an investor who promised to install a water pump. The villages had not seen that investor since October 2002.

Although the majority of the respondents in these communities hold the view that girls and not boys have the duty to provide water for the family, the position was different in the rural areas where there are more adequate water facilities.

In the individual interviews with women in Maelane and the centre of Chagalane where there is water available from water pumps and private boreholes, the community is of the view that girls and boys must have the

opportunity to go to school. Thus, they give girls as well as boys the opportunity to be on time for school, to read and to prepare their lessons at home.

At the same time they should not spend too much time fetching water, to allow them more time to do other housework and study. Women interviewed in Maelane, for instance, said:

'I teach my children how to do the housework and I send them to school. My daughter cleans the house, washes clothes, cooks and goes to school together with her brothers. If there is no water I prefer to go by myself to fetch water and leave my daughter to go to school. I do not want my daughter to have the difficult life I have. She must be educated and have a job and own a house if she wants.'

Many other women interviewed in that area seconded that position. A young married woman said:

'Things have changed. The perception that girls have to do the housework for men is no longer there. Nowadays girls must go to school so that they look after themselves and their parents. The idea that only boys look after their parents is now being challenged and some families have the experience that sometimes girl children look after their parents better than boys.'

It is important to note that men held the same position. In the interview, Armando Sambo said:

'In my family, women are not considered lucky to be married off. Also a girl can get married and not be successful in the marriage. So if she is not educated how can she sustain herself? Not only that, women are not meant only to be married. Girls must have the opportunity to go to school so that they can have a good job and be able to sustain themselves and their families.'

In the peri-urban areas visited, I found that girls were involved in water collection but the water point is relatively near the place where they were living. They could be on time at school and prepare their lessons at home. It also came out that some boys worked for some families by fetching water and they got paid for that job. This usually happened within the compound where there were some boys who did not go to school and could not find a better job. Women (married or single, with or without children) in those compounds hire those boys to fetch water from the water pumps nearby. In an interview with a woman in Mahotas, a compound in Maputo city, she explained:

'I have been living here since 1999. Initially we had problems in accessing water. My servant used to stay in the queue for more than an hour to fetch water. During the last two years many people left their houses in the urban areas and built houses in this area. Some of them installed boreholes when they realized that there was no water supply system here. Now some people access water from those sources and spend less time in the queues.'

Table 3 Who collects water

Category of analysis	Area container	Type of spent	Distance of water	Time	Quantity	Members of the family	Potability
Women & girls	Peri-urban	Buckets on the head	300 m	< 1 hour	200 l	5	Potable
	Rural		5-7 km	10 hours	20– 40 l	8 - 10	Non potable
Men & Boys	Peri-urban	Pulling container	300 m	< 1 hours	6 containers 120 l	5 - 8	Potable
	Rural	Car or tractor	5-7 km	2 hours	80 l	8 - 10	Non potable



Figure 3 Group discussion with the community in Kassimate.

The girl standing is 11 years old and fetches water 7kms away.

What I observed at the water points was that more boys collect water in the peri-urban areas than in rural areas. On my way from Changalane rural area, referred to earlier, I noticed that in the queue at the water point women and girls outnumbered boys while in peri-urban areas (Mahotas and Albazine compounds) there were more boys than girls.

From a group discussion held in the peri-urban areas visited, it became clear that the community still perceived fetching water as women and girls duty. A middle-aged woman in this group discussion explained:

'In my view, fetching water is women and girls' work. It is important that girls learn the housework because we do not know what can happen to them later. But girls cannot be deprived to go to school because of housework. They must have time to go to school and read their lessons at home. She can go to school on time and read at home if she organizes her timetable well.'

A 16 year old girl in the same group discussion session said:

'I am always in time for my lessons at school. I fetch water in the afternoon when I come back from school because my lessons start at 7 o' clock. But sometimes I do not read my lessons at home because of the time consumed by washing clothes and cooking.'

Marta, a 15 year old girl who I interviewed in the queue at the water point said:

'My school is nearby where I am living. I go to school at 7 o'clock and come back at 12 or 1 o'clock. I fetch water twice a week, on Saturdays and Wednesdays when I come back from school. My older sister fetches water on Mondays and Thursday. I am in time for school. I have time to read and do my schoolwork every day.'

The table below indicates the differences in fetching water activity between areas (peri-urban and rural areas) and within the rural areas. Women, girls and boys are involved in fetching water either in peri-urban areas or in rural areas, however, in different conditions. A person consumes less time fetching water in peri-urban areas than in rural areas. Boys transport water in more adequate ways than girls and women. Thus, boys carry more water at a time than women and girls carry either in peri-urban or in rural areas. The table indicates also that the quantity of water that people access in rural areas, where the families are extended up to 10 members, is less than the quantity of water that people access in the peri-urban areas. It shows also that people in peri-urban areas have access to better quality water than in rural areas where in most cases the water is not potable.

5 Significance of the findings

In this chapter I analyze the data collected in the field. This will be done through a discussion of the research assumptions against the backdrop of the human right to access to water resources, examining the reality of the availability of water in the region under research and its impact on girls.

People in the southern region of Mozambique still face scarcity of clean water resources

In order to understand the validity of the research assumption related to access to water, it is important to define what access to water means. The concept of access used for this research is the one given by the World Health Organization which says the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water and it must be enjoyed without discrimination and equally by women and men.⁸

The development of water as a human right makes a great difference for the society, particularly in relation to girls and women's lives. As explained in the publication, 'The right to water' (Brundtland, 2003), the recognition of access to sufficient safe water as a human right means that:

- Fresh water is a legal entitlement rather than a commodity or service provided on a charitable basis;
- Achieving basic and improved levels of access to water should be accelerated;
- Inequalities should be decreased;
- Communities and vulnerable groups should be empowered to take part in the decision making process; and
- The means and mechanisms available in the United Nations human rights system will be used to monitor the progress of states parties in realizing the right to water and to hold governments accountable.

It is an important step for humankind and women in particular since the initial declaration and international conventions overlooked women's needs in conceptualizing human rights. As Maeve Casey pointed out in her paper presented at the World Women's Congress (2002), male western power initially defined rights in a manner that excluded women. And she proposed that women should define the 'rights' rooted in women's subjective experience as falling under a group and define as primary the rights what is necessary for women's survival such as: fresh air, clean drinking water, nourishing food, clothing, shelter and adequate health care.

However, several rights related to the right to water, such as right to health and right to life, have been enshrined in a number of international instruments and declarations. The right to health was recognized when the constitution of the World Health Organization, stated that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being (WHO, 1946). The Universal Declaration of Human Rights of 1948 (UN, 1948) guaranteed all people a right to a standard of living adequate for their health and wellbeing. Article 12 of the International Covenant on Economic, Social and Cultural Rights recognizes 'the right of everyone to the enjoyment of the highest attainable standard of physical and mental health'.

In 2000, the United Nations Committee on Economic, Social and Cultural Rights adopted a General Comment on the right to health that provides a normative interpretation of the right to health as enshrined in article 12 of the covenant. This General Comment interprets the right to health as an inclusive right that extends not only to timely and appropriate health care but also to those factors that determine good health. These include access to safe drinking water and adequate sanitation, a sufficient supply of safe food, nutrition, housing, healthy occupational and environmental conditions and access to health-related education and information.

In 2002, the committee further recognized that water itself was an independent right. Drawing on a range of international treaties and declarations, it stated:

'The right to water clearly falls within the category guaranteed as essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival' (General Comment No 15)

Thus, clean drinking water developed as a human right. For the purpose of the analysis, considering the relevance to the findings, particular attention will be given to three criteria given by WHO: sufficient, safe and physically accessible. According to WHO (2003) access to water is considered basic when water facilities are located within 1 km (30 minutes round trip) with an average unlikely to exceed 20 litres per capita per day. In terms of WHO this level of services requires a high intervention and priority action in hygiene education and provision of intermediate level of services.

Data collected demonstrates that people do not get sufficient water for the family needs. In the rural areas under research the quantity of water depended on the number of people capable of collecting water in a family and the distances from the residential areas to the water points. Thus, a family with 8 or 10 members survives on 20 litres of water for all needs because only one person fetches water.

In the case of Mozambique, the official statistics indicated that the average family at national level is made up of five people. This means that with only one person fetching water the family will only access four litres per person a day. However, in the rural areas the family size is variable and some of the families are well above the national official average, making water scarcity for those families even greater and more problematic.

It should be noted that the quantity of water collected by the member of the family is for different uses including drinking, cooking, washing and personal hygiene. Because of the limited quantity of water that the family get they are obliged to juggle the relative profiles of water use.

The findings suggest also that there is poor distribution of water facilities within the rural areas. There are some areas with water facilities that are more than adequate and areas where water facilities are non-existent. In Changalane for instance, there is one borehole for approximately 200 people while in Kassimate there is no access to water apart from the river.

In the peri-urban areas there are more water facilities and therefore people have better access to water for most of their needs. People in the peri-urban areas are therefore privileged, taking into account that water facilities are near the residential areas and also people are able to access 100–200 litres of water per day, for approximately five people.

Safety of water in the areas visited

The concept of safe water means that water must be safe for drinking and other household uses. Drinking water must be free from microbes and parasites, and chemical, physical and radiological hazards that constitute a threat to human beings. As pointed out by WHO, lack of safe water is a cause of serious illnesses such as diarrhoeal diseases, which kill over two million people every year, the vast majority, children, mostly in development countries (Brundtland, 2003).

As I observed, in Tenga the sources where water was available were not always clean. Natural water holes were not protected against impurity. It is common to find animals drinking water from the same holes as girls collect their water. There is also the problem of high salinity and coloration of water. Findings indicate that the problem of high levels of salinity in water is prevalent in the rural area of Kassimate and Munucua while in areas like Pessene and Tenga, the water is dirty. Thus people in those areas are consuming water not proper to drink with negative effects to their health.

On the contrary, the water in peri-urban areas is potable. Water from some boreholes is even qualified to be bottled for hotels as I was later informed by the peri-urban water coordinator in the Ministry of Public Works and Housing.

Accessibility of water for the families in the areas visited

According to WHO the concept of accessibility means that everyone must have safe and easy access to adequate facilities and services in order that clean drinking water is secure and usable. The Committee on Economic, Social and Cultural Rights developed the concept of accessibility of water in four dimensions that included: physical accessibility, economic accessibility, non-discrimination and information accessibility. In terms of the General Comment to article 11 and 12 of the International Covenant on Economic, Social and Cultural Rights, physical accessibility means that water must be within safe physical reach for all sections of the population, within the immediate vicinity of each household, educational institution and workplace; economic accessibility means that water facilities must be affordable; the principle of non-discrimination signifies that water must be accessible to all, including the most vulnerable or marginalized sections of the population; and information accessibility includes the right to be informed about issues related to water.

Data collected in the field research indicate that water is not physically accessible in the conditions presented in the General Comment No 15 for three main reasons: long distances, long queues and time spent waiting for water.

Water facilities are located far away from the residential areas, which range from three to five hours away. This makes the water physically inaccessible because of the long distances that people (girls and women) have to walk to fetch water. Other factors that are related to long distances are the long queues at the water points, either because the place is crowded or they have to wait for the water level to come up in the natural holes. The natural holes hold a little water that comes very slowly from the ground. When a person is filling up a container the water can dry up so she has to stop for a while waiting for the water to come again. This happens every 20 or 30 minutes, particularly during the dry season.

According to the United Nations Committee on Economic, Social, and Cultural Rights, accessibility includes economic accessibility and non-discrimination on any grounds. The necessity for drinkable water obliged people from communities like Kassimate and Monucua to buy potable water which was difficult for them. This means that drinkable water is not affordable, particularly in those areas.

I observed that members of those communities are economically vulnerable. Most people depend on agriculture to sustain their families and the money they have to pay for water reduces the little income that they have. I am not saying that water should be free, since these people buy water from other people who have brought it for them using their own transport. I am arguing that drinkable water has become unaffordable for economically vulnerable communities. I also argue that the differences in water facilities available in peri-urban areas and rural areas can be taken as a sign of discrimination on the grounds of the area of residence. People living in peri-urban areas have better water facilities provided by the government than those in rural areas.

Several problems result from the long distances to water points. As my data demonstrate, women and girls are mainly responsible for fetching water in the family. Girls are exposed to the risk of being raped on their way to or from the water points. There is also the problem of consuming infected water, with all the consequences to health, since people in those communities rarely boil water for drinking.

Gender stereotyped roles in collection of water

The research revealed that housework includes fetching water. The society's expectation for girls is limited to the private sphere. Girls have to know how to do the housework, which includes cleaning the house, cooking, washing and fetching water. Water collecting is women and girl children's work in the work division of the community. The findings show that among women, girl children contribute most of the labour invested in water collecting. This was evident from the simple observation of the proportion of girl children among the people coming to the water point to collect water. On my way back from Changalane, I noticed that in a queue of 21 people, 7 were women, 9 were girls and only 5 were boys.

Girls go to fetch water every day (and, on a bad day, twice) for the family needs such as cooking the food, drinking, washing clothes and bathing.

Boy children also collect water to help the girl or the mother or if there are no women or girls in the family and although they have their own duties at home, they generally do not have as many as the girls. They herd domestic animals in the fields and look for food to feed the animals. In some cases boys fetch water for financial rewards – they are paid for the work while in most cases girls fetch water to satisfy the family needs without payment.

It is also worth noting that boys are involved in collecting water under better conditions than those of girls. Usually this is when the water points are near the place where they live and the transport they use is also more comfortable compared to the way girls carry.

There is also the question of class in water collection, particularly in peri-urban areas. Families financially better off have domestic servants who do the housework and their daughters do not fetch water.

The interviews and group discussions held with girls and boys in the schools suggest that there is a clear division of housework in the families. The interview guide that I used during the research had a sequence of equal questions for boys and girls in order to find out what their different obligations are. The answers from both boys and girls are summarized in the table below (Table 4). The table demonstrates the time that girls spend fetching water while boys are relaxing. It also indicates that apart from fetching water girls have more duties at home than boys.

Table 4 Daily distribution of girls and boys housework

Hour	Activity	Comment
4:00 am	girls	Fetching water
	boys	Sleeping
5:00 am	girls	Fetching water
	boys	Fetching water
6:00 am	girls	Cleaning the house
	boys	Animals to the field
7:00 am	girls	Going to school
	boys	Going to school
8:00 am	girls	At school
	boys	At school
9:00 am	girls	At school
	boys	At school
10:00 am	girls	At school
	boys	At school
11:00 am	girls	At school
	boys	At school
12:00 am	girls	At school
	boys	At school
13:00 pm	girls	At school
	boys	Back from school
14:00 pm	girls	Back from school
	boys	Resting
15:00 pm	girls	Cooking food
	boys	Playing
16:00 pm	girls	Sometimes they fetch water at this time
	boys	Animals back from field
19:00 pm	girls	Serve the meal
	boys	Rural families usually have one meal in the evening

Data collected in the field indicate that although there are some changes in attitude and behaviour in the rural community, particularly in areas with some water facilities, gender roles still determine what girls and boys do. Women themselves (and men) uphold discriminatory customs and practices in fetching water by sending girls to fetch water and giving other duties to boys. Thus boys usually have most time free to do schoolwork and engage in recreation with friends.

The scarcity of water and its implications for girls

In this section I analyze the implications of the lack of access to water for girls. I discuss access to water and its implications for girl's education, health, right to leisure and nutrition.

Time spent in collecting water may adversely impact on girl's education

Girls are affected differently by the water collection activity. Findings from the field indicate that girls are responsible for provision of water for the family; they go to school but must also fulfil their duties at home.

According to the majority of my rural informants, formal education is not a priority for girls. All they must know is domestic work. For this reason girls provide water for the family so that they can learn how to do this and they will not have problems when they get married. Girl children miss out on school as a result of their responsibility to collect water.

Although the findings indicate that there are other factors that negatively influence girls' education it is clear that fetching water is one factor, among others, that affects girls more than boys.

In the schools visited only girls were recorded as missing school or arriving late because they have to look for water before they go to school. As explained earlier, it was not possible to collect data related to girls dropping out of school because of fetching water. However, it is obvious that the distances that girls have to walk to fetch water and the time consumed in this process make a difference to whether they really want to go to school and participate in class. As pointed out by WHO (Brundtland, 2003):

'Poor water and sanitation have a negative impact on education, but when safe water and appropriate sanitation are provided in schools, increased attendance and a reduction in dropout rates results.'

It is also clear that after domestic work as it is conceptualized in the community, it is physically and mentally impossible to concentrate effectively on intellectual work. Therefore it can be argued that the performance of girls in school due to the time they spend fetching water may restrict their achievements in formal education.

Another aspect that cannot be ignored is that in the rural areas I visited, such as Kassimate, Munucua and Pessene, the schools available are limited to grade five level. However, girls could not access high levels of education even if higher level schools existed in their areas because of the social, cultural and economic environment to which they are exposed in those communities. Issues of tradition, religion and culture mentioned are examples of the social and cultural barriers for girls' education and the main reason why it is not a priority in the rural areas visited.

As my data disclosed from several respondents, fetching water was seen as a sign of girls reaching the age of 'majority' and their readiness to be married and carry the responsibility of the family – their expectations in life. The economic environment, explained in more detail later, is not favourable for girl's better achievement. Families, particularly in rural areas without water, do not have the means to send their children to school; they need their children to help them in agricultural activities and other housework, like fetching water, to maintain the family.

Lack of access to water and its impact on health

The fact that water facilities are far from the residential areas limits the quantity of water that can be collected and therefore the water collected is not sufficient for family needs. The family is obliged to select one of the needs to be satisfied. Perhaps families prioritize the preparation of food compared to personal hygiene. That explains the cases of illness mentioned by the respondents. Fetching water is also a cause of physical problems. The long distances that the girls walk carrying a heavy bucket with water on the head contributes to back pain.

Poor water facilities result in poor health. Personal hygiene is always compromised with negative effects for the population as a whole. Diseases such as cholera originate through lack of hygiene and sanitation and are easily spread to others in the community.

Thus, the right to health provided in several international instruments mentioned earlier, is jeopardized in the areas where the scarcity of water is acute.

Girls' right to leisure and their responsibility as water providers

Usually girls are busy with activities throughout the day. Apart from agricultural activities and fetching water, girls have to do the housework. In between, they try to do their school work and prepare for lessons. During the weekend girls are expected to fetch more water for washing clothes. When they have free time they read or do their school work. In Pessene, for example, I had to interview girls at the water point because it was not possible to find them at home. This leads to the conclusion that the girls' right to leisure is denied. This right is recognized as a human right, particularly for the development of the child as provided for in article 31 of the Convention of the Rights of the Child. The right to leisure is also provided for in CEDAW (article 13a) that states:

'Women and girl children need access to leisure and sporting activities for physical, health, mental, educational and social reasons, and for entertainment.'

Girls are restricted to the private sphere with very narrow choices. They live this routine throughout their lives never being exposed to any other challenge as a result of the pressure of domestic work.

Nutrition in a water scarce environment

The majority of the work force in agriculture, especially in domestic food production (for consumption) is made up of women and girls. They cultivate the land for food. However, they don't have techniques for water conservation and irrigation. When I went to the fields, most of the land was completely dry and there was no sign of anything growing because the dry season stretches over such a long period.

Furthermore, women and girls spend a substantial part of their time in water collection giving them less time in the fields and a reduced per hectare yield for the subsistence of the families.

Thus there is not sufficient food for their families, people face problems of malnutrition and children are deprived of their right to adequate nutritious food provided for in article 24 (2) of the Convention on the Rights of Child.

The role of the government in water supply

The recognition of human rights makes state parties to the international instruments obliged to respect, protect and fulfil the rights under the conventions.

This obligation to respect requires state parties to avoid measures that hinder, prevent or interfere with individual rights; the obligation to protect requires that state parties ensure that individuals or corporations do not interfere in any way with people's enjoyment of human rights; the obligation to fulfil requires state parties to take all necessary measures to ensure, for each person within its jurisdiction, opportunities to obtain satisfaction of those needs recognized in human rights law (Brundtland, 2003:7; Staib, 2001:36).

Considering the human rights perspective, governments have the primary obligation to ensure the realization of people's rights. They must take the steps necessary to ensure that people can enjoy their fundamental rights.

The right to water assumes a significant position considering the wide implications of absence of water for human beings. In fact, water is a prerequisite for the realization of other human rights provided for in several international conventions and international treaties. For example, the right to adequate food is recognized as a human right and water is essential for the preparation of food. Water is also important since it is used in irrigation, for food production and for livestock watering. Water is required for hygiene purposes. The absence of water for personal hygiene is dangerous for health since many diseases such as diarrhoea and cholera can be avoided by accessing clean water and encouraging hygienic practices. Thus, water is essential to guarantee the right to health.

Water also has implications for girls, with particular emphasis on girl's right to education, considering the findings from the research. The fact that water is not accessible involves the violation of women's human right to water, right to health and to adequate food. Since the girls' right to education is jeopardized because of fetching water, their right to education is also being violated in those areas.

The requirement for the financial contribution of the community suggested by government representatives is questionable in certain areas such the ones in which the research took part, considering the high level of poverty. The Committee on Economic, Social and Cultural Rights, interpreting articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights, correctly stated:

'States parties should ensure that the allocation of water resources, and investment in water, facilitates access to water for all members of society including those in rural communities' (General Comment No 15 of 2002) (Emphasis mine).

The allocation of funds for investment in water facilities is irregular. It appears that local government is struggling to provide the community with water services without the much needed support from the authorities at central or national level. The lack of distribution of funds is contrary to the spirit of the International Covenant on Economic, Social and Cultural Rights as interpreted in the committee's General Comment No. 15, declaring that:

'National governments must ensure that local authorities have at their disposal, sufficient resources to maintain and extend the necessary water services and facilities.'

Local governments are seeking local solutions involving the local community, non-governmental organizations and United Nations programmes such as the World Food Programme. The participation of the community is essentially in the form of work. The community members agree on expending one or two days of their time digging boreholes or dams, as is the case in Kassimate, Sabie and Ressano Garcia.

As explained earlier, the United Nations programme, in coordination with local government, selected community members to dig a dam and they were paid in food, through the programme called 'Food for work'.

However, it is important to note that Maputo is recovering from a long period of war, which lasted about 16 years and was spread throughout the Mozambican countryside with extremely negative consequences for rural households. As estimated, one third of the national population was displaced from their homes (Waterhouse and Vijfhuizen, 2001). In some rural areas everything was destroyed and remains in ruins and people have had to be resettled over the last few years.

In some of the rural areas visited where water from underground is salty, there are signs of water reservoirs and water tanks, built during the colonial period, that are now completely destroyed. The majority of the villagers living in Kassimate and Munucua, were working in private companies and living in houses built by the enterprise. During the war, houses and private companies were destroyed. They are now living in precarious small houses built with various materials and most of them are unemployed.

Presently, the government has to define priorities in relation to how to best assist the people. Government has to decide whether to start by providing schools, health services or water facilities. Although the main respondents never mentioned the war as a crucial factor it is probably the reason why the government seems to pay less attention to the problem of access to water. Furthermore, to ensure water services in the areas researched would require a huge financial investment. This could be another constraint that the government faces in installing adequate water facilities.

Another factor that is critical is the lack of technological capacity for conserving water during the rainy season (from rivers) to be consumed for the different needs during the dry season. Those technologies could include intermediate measures for conservation of water while researching better solutions.

Government policy on water supply

The Government of Mozambique has several policies on gender equality dating back to the first constitution (1975) and enhanced in the revised constitution in 1990. Since then, the government has passed various laws to protect the status of women and has in place strong policies on gender reflected in the constitution and in family, labour, land and water laws.

As I pointed out before, the water law is gender neutral. The water policy in place recognizes the need for decentralization of the operational management of water resources. For this purpose the law created regional water authorities which have management boards as part of their structure. The members of the board are from the relevant water ministries, being composed of representatives from the Ministry of Agriculture and Fisheries, Ministry of Industry and Tourism, and Ministry of Mineral Resources and Energy.

Although the policy refers to user groups it does not contain any clear statement about the participation of women as the major users of water. For instance the Ministry of Women's Issues and Social Programmes is not represented on the management board.

Basically, the national water policy defines the principles related to water management in order to satisfy the basic needs for water in urban, peri-urban and rural areas. The policy includes:

- 1 The participation of the beneficiaries in the planning, implementation and management of infrastructure of water supply facilities;
- 2 The value of water, taking into account that water is a social and economic good;
- 3 The decentralization of the management of water resources;
- 4 A statement about the limitation of the government in direct intervention in the implementation of the water supply services and the development of the private sector (Direccao Nacional de aguas, *Politica Nacional de Aguas*: 5–9).

In relation to rural water supplies, it establishes that the principle objective of the water policy is to provide the basic infrastructure for water supplies for groups with low incomes, particularly those in rural areas. The population with better financial resources will be given priority on location of water facilities.

Women are usually disproportionately affected because they tend to be more dependent on natural resources in order to carry out their productive activities. The participation of women as the beneficiaries is needed in order to achieve equal access between women and men in the decision-making process.

As highlighted by Hellum (2001) equal access to resources such as water and land, is within the framework of the women's convention and closely linked to equal participation in the political and public life of the country, including women's participation in elaboration and implementation of development plans at all levels.

Impact of technology and other interventions on easing girls' access to water

The situation is different in areas with boreholes or water pumps in terms of access to water. Although girls still fetch water as part of their duties, they can be on time for school and they have time for themselves. Findings from the rural areas with some water facilities and in the peri-urban areas where water pumps and private boreholes are available, indicate that those facilities benefit women and girls in that they do not spend more than 30 minutes going to the water points.

Also, the fact that water is available changes people's attitudes and behaviour. Parents had changed their earlier position in relation to girl's education and consider that daughters should be educated as well as their sons.

Families that can afford a water pump or a borehole develop a private commercial sector for water supply. In the first place this benefits the girls in that particular family and those girls whose families can afford to pay for water for their needs. This raises the issue of the impact of women's class and socio-economic status. Girls from those families are privileged because their parents have a different concept of the domestic work that does not include fetching water from long distances.

However, in some areas such as Monucua, where water from pumps or boreholes is not an adequate solution because of the high salinity of underground water, the situation has not improved even though government has installed water facilities. Women and girls continue to fetch water at the usual water points which are long distances away.

Impact of privatization of water

This undertaking considered the assumption of the presence of private water supplies in the rural areas under research. From the fieldwork it becomes clear that private water facilities are present in some rural areas. In Namaacha for instance, some respondents revealed that they used to fetch water from a borehole that belonged to a particular person. But there are few private water facilities. There is no privatization of water and these private water facilities are not available in the rural areas like Kassimate and Munucua where the scarcity of water is acute.

In the rural areas visited, people used to sell containers of potable water. People coming from Maputo city or Changalane used to transport containers with water to Tenga and Kassimate and people could buy from them. But it is clear that it is not privatization, as such.

The private boreholes are more in the peri-urban areas which is where the private water supplies are based. The phenomenon is relatively new, even in the peri-urban areas, and it emerged when people realized that the government could not cater for the water needs of most of the population in peri-urban areas.

The law does not regulate the process of private water yet and people dig boreholes all over compounds without any kind of control.

6 Emerging themes

The vision of the community without water

Working in the field was an opportunity to be in contact with reality. Even though access to water was my prime concern I also came away from the field with a different picture.

The rural communities without water that I visited were notable for their high levels of poverty. People were living in conditions that limited their capacity to look to the future. They had to think about what they were

going to eat on a day-to-day basis. They were not in a position to consider their future or that of their children. Talking about access to water and the right to education seemed somewhat irrelevant to them. The problem for them was hunger because the land was not producing food as a result of the long dry season. The vision of benefits of education for girls and the linkage with the time they spend fetching water was not part of their concerns.

I visited Maelane and Changanane, areas with boreholes, and the situation was completely different compared to the areas without water facilities. The desire for development was evident among the community members. People were also ready for change in terms of attitudes and behaviour. Women and men had advanced perceptions about the questions under discussion. In one of the families I visited, the woman was working at the post office so I interviewed her husband. It was clear that he had the desire to develop himself and his wife and children through education.

The perception of water as a marketable item

The research revealed that people in the rural areas understand water as a human right; they have the perception that they can demand from the state the obligation to promote their right to water and provide water services near their residential areas. This was something that I had not expected in rural areas with people living in such conditions. Nevertheless, I realized that people accept water as a marketable commodity. Women and men sell and buy drinking water. That fact is in some way innovative in the community compared to past years where people had the perception that water was a gift from God and refused to pay for it.

Issufo Chutumia, (working in sustainable development in Mozambique) pointed out:

‘The history of water consumption in Mozambique shows that for a long time it was regarded simply as a gift from God...The direct beneficiaries of water supply have shown some resistance to payment of the fees demanded.’

I also realize that despite the levels of poverty, people are ready to contribute with money or work to have water facilities in their residential areas.

7 Conclusions and recommendations

Water is essential for life and is consumed every day but one only learns to appreciate it when it is not accessible. The scarcity of water in the southern region of Mozambique, particularly in the rural areas in this study, is due to various causes. The reasons for lack of access to water can be summarized as follows:

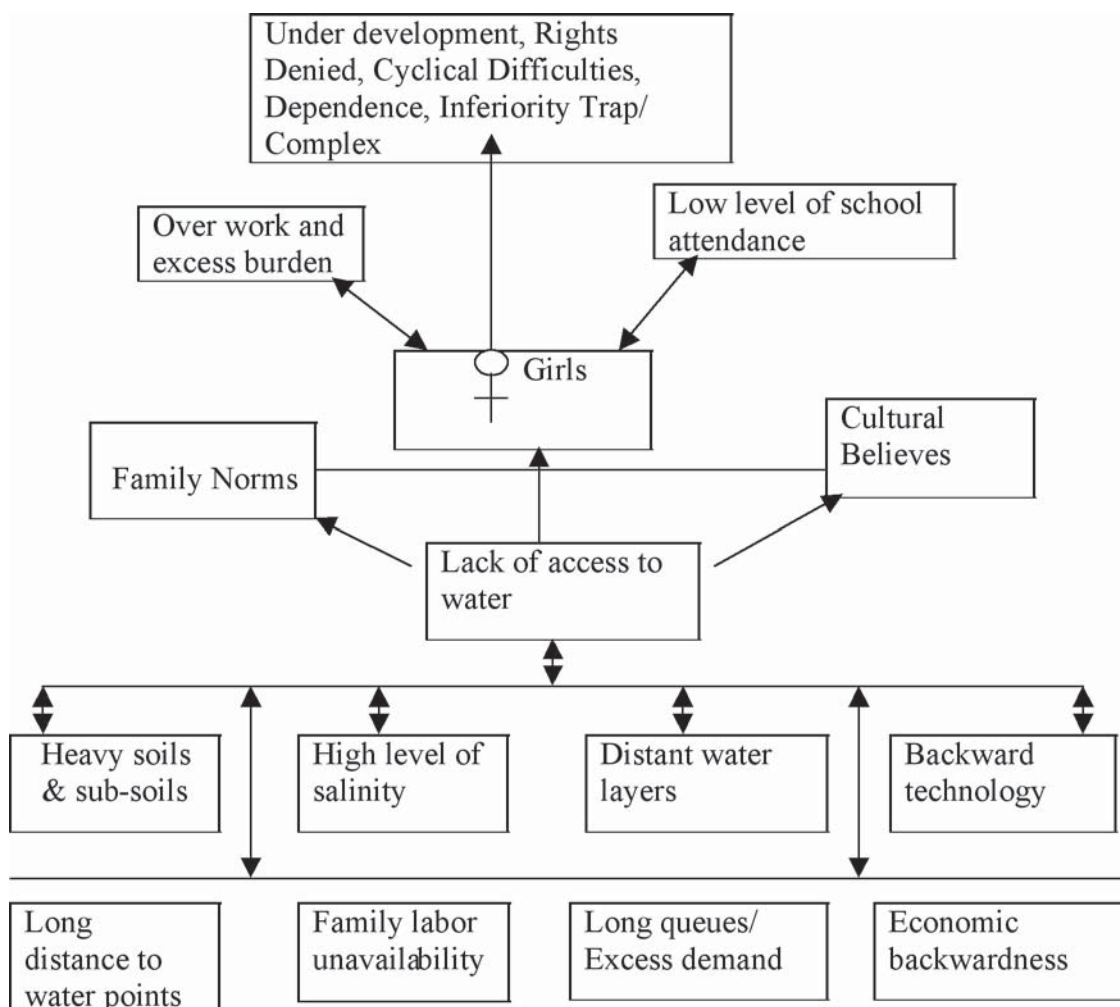
- Low rainfall;
- Nature of the soils – in some rural areas the soil is not suitable for digging boreholes because it is excessively sandy or the level of underground water is too deep;
- Long distances from the residential areas to the water points;
- High level of salinity in the water available;
- State agenda defining the priorities does not put water as a priority;
- State financial constraints and low level of investments by the government in providing water facilities;
- Inappropriate technology for the type of soils and treatment of water;
- Cultural practices and beliefs and gender bias that perpetuate the principle that boys cannot fetch water and do the domestic work.

Recognizing all these factors, I found several implications for girls following from the lack of access to water resources and came to the conclusion that girls are more affected by the absence of water than boys, because:

- Girls are responsible for fetching water for the family;
- Girls' health is affected because of water collection (they are physically strained);
- Girls' right to education is affected through missing school because of fetching water at long distances and long waits in the queue;
- Girls' performance is affected in school;
- Girls are deprived of the right to leisure because of collecting water activities.

The following diagram highlights the causes of scarcity of water and the effects of absence of water.

Diagram 1 Systematic representation of the impact of access to water on girls



The state obligation

Mozambique has ratified the International Covenant on Economic, Social and Cultural Rights, whose article 11 states:

‘State parties recognize the right of everyone to an adequate standard of living for himself and his family including adequate food, clothing and housing, and the continuous improvement of living conditions.’

Further, article 12 establishes that:

‘State parties recognize the right of everyone to the highest attainable standard of health.’

Mozambique has ratified the Convention on the Elimination of All Forms of Discrimination Against Women,⁸ which in Article 2 provides that:

‘State parties should take all appropriate measures, including legislation, to modify or abolish existing customs and practices which constitute discrimination against women.’

Further, on Article 10 provides that:

‘State parties should take appropriate measures to ensure equal rights between women and men in the field of education.’

Article 14(h) of CEDAW establishes that:

‘States parties shall take appropriate measures to ensure women in rural areas enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communication.’

Mozambique has ratified the Convention on the Rights of the Child⁹ and Article 24 of this convention provides that:

‘State parties shall take appropriate measures to combat malnutrition through the provision of adequate nutrition, food and clean drinking water.’

Mozambique has ratified the African Charter on Human and People’s Rights.¹⁰ Article 16 (2) of this charter provides that:

‘State parties shall take the necessary measures to protect the health of their people.’

And Article 17(2) provides that ‘every individual shall have the right to education’.

Recently, the Summit of the African Heads of State and Governments in Maputo, adopted the Protocol to the African Charter on Human and Peoples Rights on the Rights of Women, which provides that:

‘State parties shall take appropriate measures to provide women with access to clean drinking water and producing nutritious food.’

It also provides that:

‘State parties shall take appropriate measures to eliminate all forms of discrimination against women and guarantee equal opportunity and access in the sphere of education and training’ (Article 12).

⁸ Ratified by Mozambique 11 November 1978 through the Law no 45/78.

⁹ Ratified by Mozambique 2 July 1993, through the resolution no 4/93.

¹⁰ Ratified by Mozambique 23 October 1990 through the resolution no 19/90.

In the Mozambique governmental programme for the ongoing five-year period (2000-2004):

'... education is considered a fundamental right for all citizens and an important factor for the integration of individuals in the social and economic sphere, the basis of capacity building for challenges of development of the country.'

Since at the international level Mozambique is bound to internationally approved legislation by treaties ratified, the state has to adjust, therefore, the national laws and policies in line with the international instruments. The combination of the international laws related to the right to water and the national laws and policies indicate that the state has the responsibility of providing water facilities for all citizens without exceptions.

The common use water defined in the national law recognizes for everyone the right to use water for all needs including water for agriculture and livestock. This is to say that no one can be denied the right to common use of water and the state has to take adequate measures to ensure that everyone enjoys the right to water. The responsibility of the state is greater when dealing with rural populations that are more vulnerable. Most rural people are not formally employed and survive on subsistence agriculture.

In terms of the national law, water for common use does not need a licence, since it is essential for life. However the people in rural areas cannot access water even when required. Thus the equal right to water provided for in the law is *de jure* equality and not *de facto* equality, since only a part of the society, particularly in the urban and peri-urban areas, enjoy such a right.

The absence of water in the rural community has multiple effects for the country as a whole. It also affects food production and the harvest tends to be deficient. Considering that girls' education is jeopardized by the lack of access to water, the absence of water contributes to raising the rate of illiteracy in the country, with major incidences in the rural areas. Thus, the absence of water creates a gap between people in the urban areas and rural areas in terms of access to education, particularly for the girl child. In practice, girls from rural areas are objects of discrimination in relation to direct rights to water and other water-related rights.

Therefore, there is a need to analyze access to water from a different perspective and minimize the negative effects.

Plan of action and the way forward

The following recommendations are intended to help with possible approaches to improving access to water in the rural communities, given the issues raised pertaining to the implications for girls.

- 1 Access to water has multiple impacts. The provision of water facilities should be considered as a first priority on the government agenda. Alternative solutions should be sought like allocation of necessary funds for construction of water reservoirs in certain areas for collection of rainwater or water diverted from rivers;
- 2 Coordination between the Ministry of Public Works and Housing and Ministry of Education for planning provision of water facilities in rural areas in order to agree on the possibility of locating those facilities near the school in the community. There should be a trade-off with the community, in which it sets a compromise to send their daughters to school since they have access to water in the residential areas;
- 3 Studies to establish the quality of soil and water and the solution for providing potable water in those areas need to be undertaken;
- 4 There is need to include the community, particularly women, in decision-making processes about how to solve the problem of access to water and where it would be best to locate the water points;
- 5 Cooperation with neighbouring countries for better management of water resources from shared rivers.
- 6 The rural community has to be sensitized in order to give equal opportunities to girls and boys.

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