1. DATA FROM KITUI-SOUTH

KALIA KATUNE SUB-LOCATION

1.1. BACKGROUND INFORMATION

Settlements in this area (Kalia Katune) dates back to the 14th century. The original inhabitants were the Masai and the Galla who were later driven away by the Kamba. The Galla and the Masai were nomadic pastoralists. The Kamba people originated from Mbooni (Kitondo hills), Mitaboni and Kitui (Endau). They came for farming and in search of grazing land. Later they began to migrate to the lower parts of Mutha, which include Malindi, Ithango, Kendoo, Ngesa and Yimuthumua to look for better arable land. However, according to Mzee Mwongela Nzau, the Kamba moved towards the south as they followed the Galla people in order to steal their cattle. In fear that the Kamba would steal all their cattle, the Galla people retreated up to Kakya area, which is the border between the Kamba and the Galla. Mwongela adds that there were no antagonistic feelings between the Masai and the Galla. He noted that the original Kamba migrants to the area were men who did not come with their wives and termed them as thieves who came to steal the Galla cattle and hunt wild game. After amassing enough wealth they went back for their wives and settled in Mutha Hills. Due to population pressure they started migrating southwards (towards Thua River and Tsavo national park).

The downward migrations (southwards) of the Mutha people started in 1928. However after 3 years some people moved back due to unreliability of rain in the Southern end. The southward migrations became more intense in 1948. Four years later they returned again due to lack of enough rain. It was these back and forth movements that rendered them “children of two worlds”. That is, they had a home in the Southern end and another in the Northern part of Kitui South. In 1960 the back and the forth movements ceased and people just moved towards the South (Thua river and Tsavo national park) to settle. The government evicted some people who had settled near Thua River in its efforts to expand the National park leaving behind their infrastructure and established means of livelihoods.

For quite a long period, people from Kalia Katune had relied on borehole constructed by the colonialists. However after the pump was stolen the area was left without a reliable water source. Other the years several Non-governmental organisations have ventured into the area to provide water to the people. Such NGOs include, DANIDA, ActionAid, Amref and ANDRA. These NGOs attempted various water projects such as, shallow wells, sand dams, earth dams, rock catchments, roof catchments in schools, underground water tanks, overhead water tanks and harnessing of springs. Out of all these projects the people of Kalia Katune rely on only

one harnessed spring, which is also very unreliable. In short there is no reliable source of water in the area.

1.2. WATER SOURCES IN KALIA KATUNE

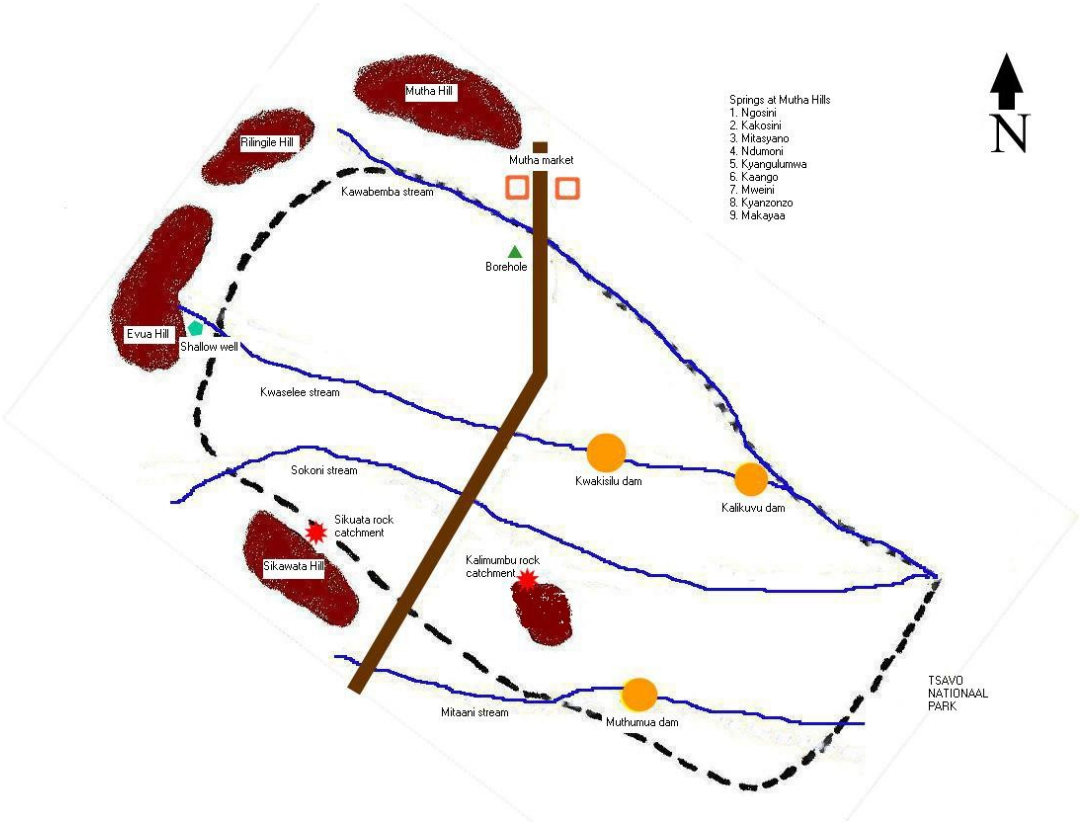

Figure 1.1: Resource map of Kalia Katune sub-location *note: sketch not drawn to scale*

The water sources used by the people of Kalia Katune vary with seasons. In the wet season, which is in the months of October to December and February to March, the people have a variety of water sources. These include earth dams, rock catchments, roof catchments and several seasonal streams.

The streams, on which they make scoop holes at various points, include Kwaselee, Sokoni and Kawambemba stream. Some of these seasonal streams only have sand halfway down stream suggesting that they are only convenient to a few community members.

There are three earth dams in this area. At the central part of the sub-location there is Kwa Kisulu earth dam, which was constructed by the colonial government along Kwaselee stream. The other is Kalivuku earth dam, which was constructed by the community further down the same stream. The people in this sub-location cannot use this dam because another community from a different location has repossessed it. At the Southern side of the location there is Yimuthumua earth dam, which was built by the community with help from Action Aid. There are also many water springs situated outside the sub-location. These include small and

big Nduumoni, Makayaa, Kakosini, and Ngosini. Kango, Kyangulumwa and Mitasyano. These springs are situated at Mutha Hills (see Figure 1 .1).

During the dry seasons water is available from the springs in Mutha Hill and the Thua River, which is 42 km away. It is pertinent to note that most of what the people referred to, as springs are only dug wells on the mountain and had very little water.

Preference of water also sources varies with seasons. During the rain seasons Kwaselee stream and Kwakisilu earth dam are mostly preferred. However, it should be noted that, people draw water from the nearest source and once it dries they go to the next alternative water source. During the dry seasons the open springs (commonly known as the moon) at Mutha Hill are mostly preferred. These springs are commonly known as 'the Moon' because they are far uphill and people take about three hours to get there, through rugged obstructed route. People prefer these springs because there are no long queues and are the only alternative water source for the people. Here it should be noted that Ngosini and Kyangulumwa springs have been harnessed in to water projects. During the dry season there are long queues of members waiting to draw water. Members who are not patient enough to wait for their turn go to the ‘moon’, which is more convenient than waiting for three days at the project water point.

1.3. QUANTITY OF WATER

The amount of water used in a household varies with season, family size, means of transporting the water and price of water. During the wet season, focus group discussions members said that on average families used up to 8 (20 litre) jerry cans per day for all domestic chores. However, during dry seasons the quantity of water used drops to one (1) jerry can per day with a few households using only a half a jerry can.

Given that the water sources are few, the focus group commented that due to population pressures and limited amount of water available in the dry season, nobody is satisfied with the quantity of water available. ‘Relief comes only with the rains’.

1.4. ACCESSIBILITY OF WATER

The route to the water sources from the homesteads can be sub-divided in two sections. Up to the foot of the hill, the route is a combination of all weather roads and thorny zigzag paths. This is the route commonly used by the members of the Ngosini water project. The non-members and people who are impatient in the queues of this water project use a rocky narrow path up hill as they head to the 'moon'. This is usually a slow journey that takes up to 3 hours uphill. Down hill, the time doesn't differ significantly because at certain points they have to off load the donkeys since the path is between huge rocks, that abstract the passage the time taken down hill also varies depending on the of the speeds loaded donkey.

Condition of the route during rainy season

The distance and the time taken to water sources is dependent on the location of ones homestead and the water source in question, also taken into account is the age of the person who draws the water (see Table 1 . 1)

Table 1.1: The distance or time to the Mutha Hill springs as given by men and woman in Kalia Katune

MEN	Distance mentioned by the men [km]	Time mentioned by the women [hrs]
1	20	12
2	16	8
3	15	8
4	10	6
5	9	6
6	9	5 ½
7	8	5
8	7	5
9	4	5
10	2	4

It should be noted that the above table shows that men can only estimate the distance to the water source but not the time. Perhaps they do not trek to fetch the water. Conversely, women were only able to give the actual time taken to the water source. This is an indication that they are the actual drawers of water and that, to them, time taken is much more important than the distance.

1.5. AVAILABILITY OF WATER

According to the chairman of Ngosini water project, members are allowed to draw water once every two days as stipulated in the by-laws. Suffice to note, that due to the long queues this arrangement does not work. This is because, people take numbers for drawing the water and it may take up to six days before a member draws water. For those who go to the moon, they can only make one trip per day since a trip to the water source takes nearly a whole day (see Table 1 .1). Once the donkeys have returned to the homestead they have to be rested for the next trip:

It was noted that before the projects were implemented people were not buying water. However after the projects were initiated and the introduction of the queuing system at the water points the water became scarcer. Some people reverted to buying water to solve the problem of queuing for days. The people denied that they sold water, but since there is buying there must be some selling, even if this is silent trade.

During the rain season people of Kalia Katune do not go to the Mutha springs and thus do not need to queue because they draw water from the nearest water sources. These sources include scoop holes in various streams, rock catchments and earth dams. However, during the dry seasons those with money take less time, they only go to buy water from those who have “illegally” drawn excess. Those who cannot afford to buy water have to queue for two to three days at the water project. Those who go to 'the moon' take lesser time to queue but suffer walking three hours up the hill and back; nevertheless they are assured of getting water within one day.

1.6. CONTROL OF WATER USE AT HOUSEHOLD LEVEL

Focus group discussion members unanimously agreed that, the water is never enough in the household, especially during dry seasons. In order to ensure that they have some little water for cooking and drinking, women are involved in crediting water to each other. One woman retorted that, 'this water has to be refunded since it is just like money'. Other people pile up their clothes and limit bathing for their children. During the weekend the school children go by bicycles to Thua River to wash their clothes.

The women asserted that, once water enters the homestead, it is put in the main house and locked with 'a big padlock'. The household head (usually the man) carries the key. This contention was however refuted by the Sub-locational Development committee, which is composed of eleven (11) and only two (2) women.

USES OF WATER

In Kalia Katune water is mainly used for cooking, drinking, laundry, bathing and watering the livestock. However, there are no designated water sources for each of these purposes. There is very limited use of water for irrigation purposes.

THE CASE OF LIMITED WATER IN THE HOUSEHOLD

In case of limited water in the household, focus group discussion members enumerated several adjustment mechanisms. For example, those left at home have no option other than waiting until the person who went to fetch water returns. The little water left in the household is spared for drinking and cooking for the children. The people adjust their diet; they cook ugali and porridge from millet and sorghum flour instead of Isyo (mixture of beans and maize). The preparation of these meals needs limited amounts of water. In other instances, cooking ladles especially for cooking ugali are never washed. They are only scraped using a knife. The cooking pans (sufurias) are turned upside down for the residue to peel off. In some families where there are no small children, the members skip some meals especially lunch. Where there are children, they are encouraged to stay in the houses so that they do not get thirsty quickly. In cases where there is absolute lack of water in the household, some people borrow water from their neighbours and refund them after fetching theirs. To capture this scenario, members asserted that *water is valued just like money*.

In other cases people are compelled to migrate towards more permanent water sources even as far as Thua River, which is 42km away from Kalia Katune. Once they reach these places, some join their relatives, while others camp along the river throughout the dry season.

1.7. CONTROL AND MANAGEMENT OF THE WATER SOURCES

Each water source has its own protection/management by-laws. The water projects have by-laws geared towards to protecting the source, created by the committee when the project was being established. Who ever goes

against these by-laws are fined. In cases of disagreements on the payment of this fine, the assistant chief who is also acting as the sub-location development committee chairman steps in to solve the issue. Watchmen are hired to guard the earth dams when there is water in them. They are there to help catch the culprits who misuse the source. The springs that are harnessed into projects are sealed with strong concrete structures, to stop people from drawing the water directly. People who are found drawing water from this area are arrested and put in the cells, but are not charged.

There is no elected caretaker committee to manage the rock catchments. However, the earth dams, which include Yimuthumua and Kwakisilu, have caretaker committees, which have employed a watchman to prevent misuse. The community members assist in fencing, removing the weeds and de-silting the bottom of the earth dams.

Some water sources are not repaired because the members lack the technical know how. For example, the earth dam called Yimuthumua is constructed on porous ground and the people do not know what to do.

As for the Ngosini and Kakosini water projects, an elected committee overseas maintenance. Nevertheless the women from Kalia Katune felt that they were the ones who maintained the water projects since they paid monthly contributions of 30 shillings. According to the chairman of the Ngosini and Kakosini water project, there are people trained within the committee to repair different sections of the water project. These people are paid with the monthly contributions. Women noted that this chairman is also a plumber and therefore pays himself with 'their' money. The way this money is spent is not transparent because there are no records. It was alleged that some committee members interfere with the system to fake destruction and thereby earn themselves some money from the water maintenance kitty.

Ngosini water project was initiated by DANIDA in 1994. This organisation approached the community through the sub-location development committee. Later Action Aid harnessed the Kakosini spring and built the collection tank for Ngosini. They also laid pipes to the near by secondary school. Due to the proximity of the two water projects, which served the same community, two sub-committees were formed to manage each water source under the chairmanship of one person. Members of these two sub-committees are inhabitants of Mutha location. Even though people from Kali Katune sub-location participated in the project, none of them were selected to join the committee. Further, it was found out that Kalia Katune sub-location development committee has no mandate in the water project. This is because Kalia Katune was formerly part of Mutha location and was later cut out to be part of Ndakani Location thereby depriving the people of their membership in the Ngosini and Kakosini water project in which they participated. The women blamed their husbands for not being vocal on the issue and said: "*We work so hard but our husbands don't give us support*". Also the administration ignores the problems that they are facing from being cut off from the water project. This is because they feel as women they cannot complain, they have no

voice, as at one point this was done but the committee of the water project bribed the chief to keep quiet.

1.8. KALIA KATUNE SUB-LOCATION DEVELOPMENT COMMITTEE.

The committee is made up of thirteen members (11 men and 2 women). The selection of members into this committee is guided by stipulations in the district Focus For Rural Development Guidelines. These guidelines give mandate to the area Assistant Chief to be the chairman of the committee. As the chairman he selects the other members, who should include head teachers, teachers and church leaders from the area.

It was established that this committee rarely meet to talk about water issues. However, when they meet, it is the chairman who chooses the time and venue for such meetings. Through writing, he informs the other members about the meetings and formulates its agenda. Members with issues to be discussed raise them in the meeting. All other members of the committee are equal in authority. In the absence of the chairman the meeting cannot take place because there is no member who is second in command.

Committee members said that they were not satisfied with this power arrangement because any agenda that did not fit the chairman's wishes could easily be voted out. Further, the chairman has the power to hire and fire any committee members. The only issue that the members were satisfied with was the medium of communication, which is the local language (Kikamba), and the method of arriving at decisions (voting). The chairman reserves the right to determine ones tenure in office. Once a member is terminated the chairman selects a new member from the community.

The committee meets the rest of the community at public meetings (Barazas) to report its resolutions agreed on in their meetings. Sometimes the community does not agree with these resolutions, especially when one of the committee members colludes with the community. In such times the committee has to canvass for the acceptance by using 'their brains'. In other times they push the community to accept by using threats and intimidations.

It has been established that the community contributes 100 shillings per household, which includes a husband and his wife (wives), to the development committee for projects. The elders of the villages collect this contribution. It was reported that the people were not satisfied with the transparency of this money collection and use, 'the big fishes misuse the money'. There are no bank accounts for such projects and thus; the money is kept in 'peoples pockets', this can create problems as public money can get mixed up with the person's own money, as it was said 'money is money'. Some people do not contribute because they believe that the money is being misused, while others are too poor to contribute. Some people were ignorant of the projects and thus did not pay heed to such contributions. It was suggested that all people would contribute if there was enough information about what they were contributing money for and if there was transparency in the management of the money. The

defaulters are duly warned by the administration officers that they shall not get any assistance in case they sought assistance from them.

1.9. PAST INTERVENTIONS IN PROVISION OF WATER

There have been several donors that have visited the area and established water projects and other development projects. There was a disagreement within the focus groups interviewed and other local sources on which donor did what project. But there was consensus that none of the NGO's came back to the area to assess the success, failures and challenges facing the projects they helped to establish.

PERCEPTIONS OF WATER USERS ON THE WATER PROJECTS

DANIDA (donor) entered to the area and established projects on soil conservation. The people were trained how to terrace their farms. They also initiated shallow wells and ground water tanks but the people say that none of these initiatives function today. The women even gave an example of a well that they dug in the lowlands in Kawambemba village where they were promised water after the rains. A lid was put over the well and they waited, unfortunately after the rains they opened up the well and they found there was no water. The problems the people felt was that they worked in the dry season and so they became very thirsty. They had to draw water from available water sources, take this home and then carry the water to the construction site. They perceived the administration for these projects as good.

Action Aid entered to Kalia Katune and implemented boreholes, shallow wells and sand dams. Some of these implementations have not been effective due to technical failures. They also constructed water tanks in the schools, rock catchments, spring protection and earth dams. They even bought donkeys for some people. They also had training on sanitation issues. The school water tank project was seen as a success even though the tanks were empty by the end of the dry season they are useful for a while. Also the people said that at least the water projects gave them some drinking water. There were problems with some of these projects. The donor did not bring tools, so the community had to provide the tools, leaving none at the homestead for work on the shambas. The workmanship was also said to be unsatisfactory since tanks leak. They said that this is due to 'lack of professionalism' within the fieldworkers as the materials were 'misappropriated' by these field workers after the chairperson of the project had signed for them. This resulted to poor cement ratio in the construction of the tanks. The people did not like the idea that they had to provide food and water to the artisans even though the donors were (in their eyes), paying them good salaries.

In Kalia Katune several earth dams have been established, these are Kwa Kisilu, Kalikuvu, and Yimuthumua. In all these earth dams there are problems with the maintenance and management. People from Ngaani sub location have repossessed Kalikuvu because they say they have a higher population density than Kalia Katune and therefore should use the dam. Yimuthumua earth dam does not hold the water; the people say that

it has been constructed on porous ground. This can easily be repaired but the people do not have the technical knowledge to do so. They also have not thought of writing to the donor that, assisted in construction, established the project to ask for information. This is because that the ownership of the project had been 'handed over' to the community when the donor left and they feel they cannot re-contact the donor. Kwa Kisilu dam is thus the only reliable dam in the area. The trouble is that it is only a small dam and due to it's over use during and immediately after the rain season, it dries up very quickly. Evidently, people are utterly dissatisfied with most of the water projects initiated in the area. This is because the earth dams, the rock catchments and the roof catchments are only seasonal water sources and therefore unreliable since rainfall in the area is also unreliable.

The expected results from these water projects were that they would bring water to satisfy the community. However this did not happen, as there were certain unexpected results. For example, before Ngosini and Kakosini springs were harnessed into a project they provided enough water for Mutha Location which, formally included Kalia Katune sub location. However, after the people participated in the water project, a new administrative boundary was drawn alienating people from Kalia Katune from the greater Mutha location. It is in this respect that women from Kalia Katune asserted that they had been used as slaves in the project work. As such they felt that their contribution did not benefit them. Further, in these projects the queuing system of drawing water was introduced. This favoured only people of Mutha Location and was a disadvantage to the people of Kalia Katune who had to queue for up to 3 days un like in the past. This partially explains why some people in Kalia Katune opted to go to Mwaini (`The moon') Water Spring.

It is pertinent to note that, the springs in Mutha Hill only become reliable during the rain season when the level of water increases and drawers of water decrease as many use alternative water source such as scoop holes in the nearby streams.

PARTICIPATION OF THE COMMUNITY IN WATER PROJECTS

Community participation in water projects is at household level. Only one member of the household is supposed to participate at a time on behalf of the household. During the focus group discussions it was evident that women participated more then their male counterparts. In almost all water projects community members provided labour. Such labour included carrying sand, stones, bricks and transporting pipes to the required destinations. For disadvantaged members of the community, the sick, breast-feeding and expectant mothers and the aged they had to pay 20 shillings to other members in order to do the manual work for them. It is surprising to note that even though the majority of the participants were women, they are a minority in the water committees. For example in Ngosini water project the committee is composed of three women and nine men. Even though the community selected this committee, women are not adequately represented in the committee. It was noted that this is because husbands are very reluctant to let their wives participate in such

major managerial affairs. In addition, women are the major drawers of water and thus have limited time to participate in such meetings. Those who did not participate in the actual manual work to become a member for a particular project have to pay 1500 shillings, plus 20 shillings membership fee and then 30 shillings as monthly contributions in the months of June, July, August, September and October (the dry season).

Impact of the past water interventions on the environment

As expected, availability of water in an area has an impact on the environmental conditions. This could be in the short run or in the long run. According to focus group discussion members, earth dams have had minimal environmental impacts. It was observed that vegetation indicates a drier area downstream than upstream were earth dams have been constructed. The environment of Ngosini and Kakosini has changed negatively. The vegetation around the water source is liable to overgrazing and over-manuring as a result of the donkey's excreta. There is no evident change of the environment around the rock catchments.

1.10. Quality of water

Perception

The people make a difference between the quality of water from the springs, earth dams, roof catchments, scoop holes in seasonal streams and the Thua River.

The spring water is perceived as being of good quality because the water is clear and the taste is pleasant. Some people mentioned that wild animals sometimes pollute the water. These include monkeys, *the red* snakes, leopards and cheetahs. However, they did not explain how these animals pollute the water. Organic materials were also identified as a source of pollution to the spring water.

The other water sources can be used only in the rainy seasons and shortly afterwards. The water from the earth dams, scoop-holes and the Thua River is perceived as of inferior quality compared to the spring water. Algae sometimes infest the earth dams. Before the rainy seasons start, the residents near the earth dams take some precaution to improve the water quality. They remove the vegetation at the bottom and the silted top layer. The water, which is collected from scoop-holes, is brownish and has a salty taste. The rainwater, which is collected from the roof catchments, is perceived as of good quality. Only first hours of rain have some dust and organic materials from the roofs. The Thua river water quality is not considered as priority and that is why it is used as the last alternative only in times of severe water shortage.

Indicators of quality of water

It was found out that good quality of water is indicated by its clearness and a pleasant taste. Several indicators of poor quality of water were enumerated. Waterborne diseases are the most common indicators of poor quality of water. Diarrhoea, typhoid and amoebic dysentery are

common waterborne diseases in the area. These diseases are most common in the rainy season as witnessed during the El Ninô rains in 1996/1997. At that time there was also an outbreak of cholera. There were difficulties among the youth to differentiate cholera from common diarrhoea.

It was established that children suffered mostly from skin diseases (ring worms), mumps and eye infections. However, amoebic dysentery was a common problem in the whole population.

Other indicators of poor quality of water are brownish mottled teeth. Almost everybody who grew up in Kalia Katune sub-location has brownish mottled teeth.

CLEANLINESS OF THE WATER SOURCES

Focus group discussion members noted that animals and organic material mostly polluted the water sources in the area. Monkeys, cattle, snakes, leopards, antelopes and cheetahs pollute the open water sources such as the springs in Mutha hill. There are no industrial activities that would pollute the water sources and the people do not use any artificial fertilizers or pesticides for their agricultural activities. Nevertheless, the research team established that donkeys (the means of transport) are also a source of pollution. This is because they are tethered near the water sources as they wait to transport the water. In effect, they spill their dung around the wells. After it rains, this waste is washed into the spring wells.

The pollution of the Ngosini and Kakosini water source are minimal. This is because the spring water from Mutha Hills has been piped into a tank at the base of the hill. Thus, the only sources of pollution could be rust from the iron pipes and algae in the storage tank. This tank is, however, cleaned annually with chloride.

Only a few people in the area have roof catchments, these are those with iron-roofed houses. The roofs contain dust and organic materials but they do not separate the water during the first hours of rains to prevent pollution. This is because water is so scarce that it cannot be wasted.

WATER TREATMENT AND PURIFICATION

The most common means of treating water is boiling. However, the use of this method is very limited. Sedimentation and decantation are methods of purification, which are used especially when some water is dirty with soil or earmarked for reuse. Nobody uses chemicals to treat the water.

Most people do not treat water because they believe that the quality of the water is good. Besides, the people have the feeling that water will be wasted in the boiling process because of evaporation. Moreover, they do not have the patience to wait for the water to be boiled, because they are normally very thirsty when the water arrives at the household level. In the rare cases were water is boiled, it is put into the storage containers mentioned above.

1.11. HYGIENE AND SANITATION

LAUNDRY

People wash their clothes at home only at times when they have enough water especially during the rain seasons. At times of limited water in the household and in the area, the children take the clothes to the water sources for washing. Washing is done away from the water source because it is forbidden by the community or by the members of that particular source since it can be a source of pollution.

RE-USE OF WATER

Some people use the laundry water to water their livestock or for bathing their children. Depending on the intended use of the laundry water, sometimes it is left to settle and then decanted. If it is intended to wash/bath the children, it is decanted, but for waiting livestock it is not.

DISPOSAL OF WASTE WATER

Wastewater is usually poured outside the house or thrown in the kitchen garden (utundani). In other instances it is sprinkled on the un-cemented floors to minimize dust in the house and to make it cooler.

SANITATION

Given that the people walk long distances to the water sources and that there are no human settlements uphill or around the water sources, pollution from toilets is ruled out. This is simply because toilets are located in the homesteads far away from the water sources.

STORAGE OF WATER IN THE HOUSEHOLD

In most cases the water is stored in 20-litre jerry cans and kept in the house. Sometimes the water is stored for domestic use in bigger plastic tanks. The capacity of these tanks can vary from 50 to 100 litres. When people store the water in the drawing/transporting 20-litre jerry can. Women alleged that sometimes the household heads lock the houses in which the water is kept in order to control its use. This allegation was, however, refuted by men. In most cases the water is stored in places that are not accessible to livestock and the children. This is done to prevent possible contamination and misuse of the water. The containers for drawing water are not regularly cleaned because of the lack of water. Sometimes stones, pebbles or sand is used to clean these containers. Plastic cups or calabashes are used to collect the water from the storage containers for use.

1.12. DRAWERS OF WATER

From the focus group discussions, it was established that people of Kalia Katune opt to fetch water at night especially after midnight and also early in the morning. This is done to avoid being scorched by the sun (which is very hot during the dry season). In addition, this is also a strategy geared towards taking care of their donkeys. Another reason is that the waiting

time at night is shorter than during the daytime. Besides, women pointed out that fetching of water at night freed more time during the day that could be used otherwise in domestic activities.

The number of people involved in drawing water varies depending on the means of transport used. Donkeys mostly transport the water. In cases where a household has one donkey, only one person goes to draw water. Where there are two donkeys, two people are involved. However the girls said that 1 person could also transport water using 2 donkeys. It should be noted that, duties of going to draw water are rotational. The rotation is between the family members especially between the wives and the husbands and occasionally children draw water during the weekends. In cases where a woman leaves home at night to draw water the husband or any other male accomplice accompanies her. Some women and children also carry water on their back.

It was established that majority of the drawers of water were women and children (especially the girls). Children fetch water mostly during the weekends while women do so during weekdays. Sometimes children are compelled to miss school to go and fetch water. Group members asserted that only a few men were involved in fetching water. Some men alternate with their wives. Such men either use the donkey or a bicycle. Only a few men fetch water by bicycle perhaps because it is utterly impossible to ride a bicycle uphill.

1.13. MOTIVATIONAL AND DEMOTIVATIONAL FACTORS TO PARTICIPATION

COMMUNITY PARTICIPATION AND THE BORDER QUESTION

A community is defined by participation in a particular project. Beneficiaries (who are the bonafide members) are defined by their contributions towards the implementation of the project. Thus a community is not defined in relation to any specific administrative boundaries.

Formerly, Kalia Katune was part of Mutha location. Later it was carved to be a sub-location in Ndakani location. Even though the Ngosini and Kakesini water projects are in Mutha location, people of Kalia Katune participated in the project. However, there have been disagreements between the water committee members (who hail from Mutha) and Kalia Katune members. As such, Kalia Katune people are discriminated against simply because they come from a different location. Currently there are no operational water projects in Kalia Katune. There are only earth dams and rock catchments, which are operational during the first few months during the rains. These have not been able to solve the water problem in Kalia Katune. The administrative border question has thus served to disadvantage the people of Kalia Katune.

1.14. ENVIRONMENTAL AWARENESS

The protection of the environment is definitely not the first priority of the people in the area although to some extent they are aware of the contamination of the water and the environmental degradation by erosion and overgrazing.

ENVIRONMENTAL MANAGEMENT

The people of the Kalia Katune sub-location mentioned several sources of water contamination. They are aware that there is environmental stress at some water sources but they have not taken any decisive measures. For example, at the Ngosini and Kakosini water source there is environmental stress caused by overgrazing and the dung from the donkeys but they have not implemented any effective rules to prevent this environmental degradation. The environment around Makayaa and Mitasyano springs at the Mutha Hill is over manured with donkey excreta. Here, the community has not taken any action to prevent contamination of the springs or environmental degradation. The people in the community cut trees for firewood and this has increased the environmental stress.

In the past the farmers in Kalia Katune got technical assistance on soil erosion control in form of training from the government through the ministry of agriculture but for the last 10 years nothing else has been done

Nowadays charcoal burning has become an important source of income and as result, many people cut trees in their lands. Out of every ten people interviewed six admitted that they cut trees for charcoal burning. Everybody knows that it is not allowed and that it can lead to (increasing) soil erosion but in defence they argued that it is *"better to cut charcoal than to steal"*. The prevention of erosion is very limited. In some cases they dig terraces and lay trashes (misonzo) on their farms. But on the other hand they have to cut trees to make these terraces, which makes the soil more sensitive for erosion. Some children mentioned that they plant trees during the rainy season in their parents farms and this may be seen as good gesture forwards environmental conservation.

1.15. EXPECTED BENEFITS OF WATER AND TIME GAINS

Even though many NGOs have been in the area with an intention of providing water, there is still not enough water for the people. Thus the peopled wished that, if they had more water, they would use it for agriculture to grow crops such as tomatoes, sukuma wiki and other horticultural crops, doing business such as making bricks for sale and bee keeping. This way they would have more food for their children and more time to prepare it. During the dry season some children do not take their lunch meals because their mothers spend a lot of time fetching water. Both men and women agreed that, if there would be more water, the food security would improve since they would have more time to do farm work.

There was a general consensus among in the focus group discussion members that the household head (usually men) would benefit most from

availability of water in the area. This is because, as the head, he has the responsibility of ensuring that his household runs smoothly. Availing of water would lessen personal stress, thereby creating a ‘peace of mind’. However women felt that everybody would benefit from adequate supply of water, ‘including livestock and even the dog’. They would have more time devoted to their families with an intention of making their homes better. This would also accord women a different status because they would be sending their children for water, thereby getting more time to relax. It should be noted that women go for water most of the times because children may not be able to queue for three days at the water sources which are usually too far. Children will also benefit because they will miss fewer classes in school. Group members alleged that the lazy and the aged would benefit least from availability of water. In addition the current water vendors would lose their businesses.