

Report of the PRA carried out at Mwasonge Beach, Tanzania October 23rd – November 3rd, 2000

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1. Introduction

This paper comprises part of the so-called '3-beaches Survey' of the Lake Victoria Fisheries Research Project (LVFRP). In Tanzania, this study has developed to examine two landing sites (Mwasonge and Ihale), and to chart the progress of the newly established Beach Management Units (BMU) at each beach, comparing one BMU against the other. The over-arching objective of this survey was to develop an understanding of the context in which Mwasonge's fishery exists. The study does so by examining the community's history, culture and beliefs, various other socio-cultural factors, their resources, society and economy, wealth and the community's perceptions of wealth. Importantly, the survey examines the community's institutions and its perceptions of fishing rules and changes within the fishery. All of these facets of community life are examined with the use of Participatory Rural Appraisal tools, and the images that the study generated are reproduced herein.

Data gather concerning institutions and perceptions of resource base change was further enhanced with a formal, structured questionnaire, administered to a selection of community members. This questionnaire also gathered data about externalities, perceptions about the relationship between the community and the state, and the efficacy of fishing regulations, amongst others. This report concludes with comments and recommendations.

Figure 1 provides a map of Mwasonge and the area surrounding it.

2. Historical background of Mwasonge fishing community

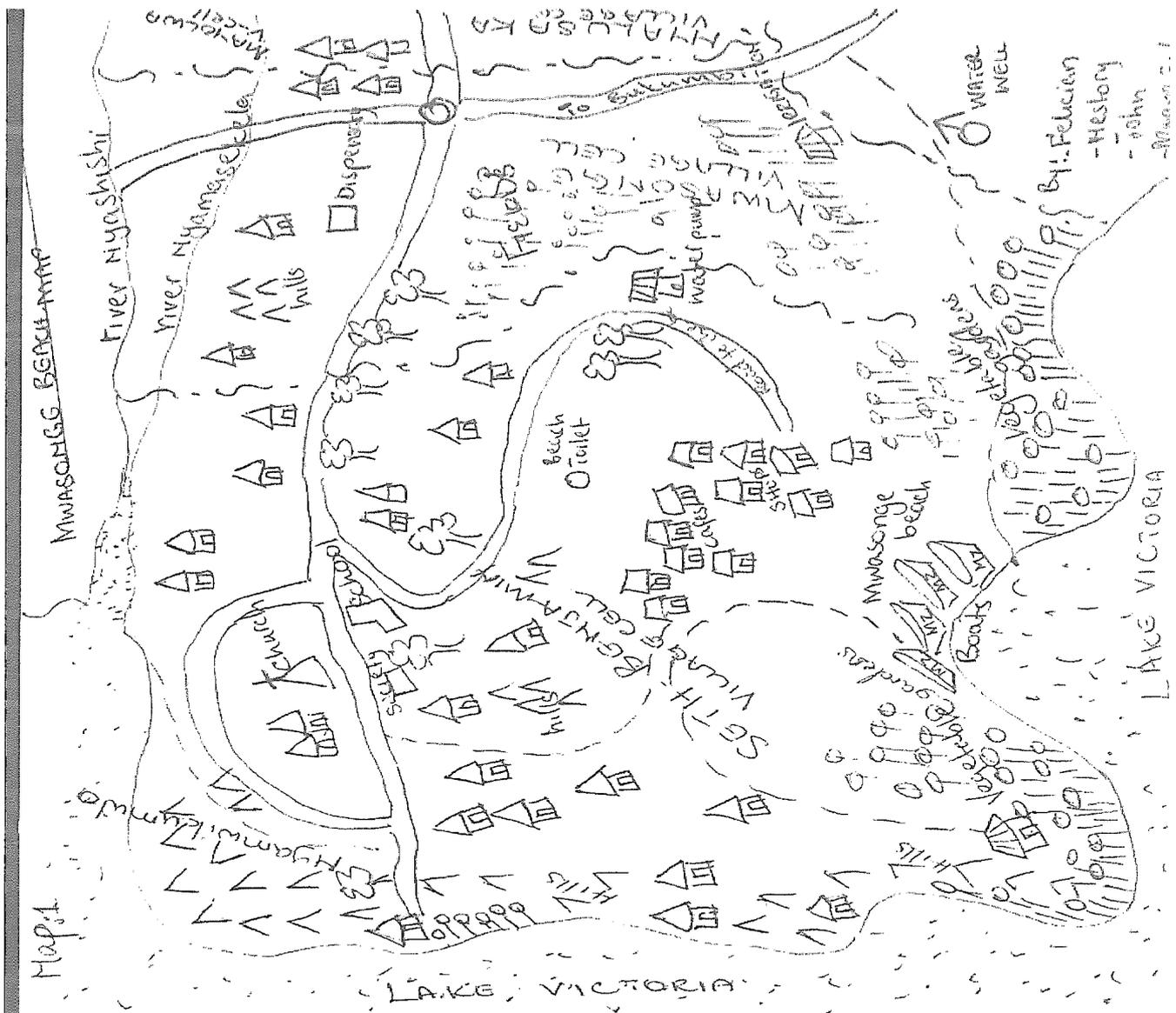
Mwasonge origins

A group of three old men (all 64 and over), who had lived at Mwasonge all their lives, were interviewed for this subject. The Beach Secretary identified the elders, and had informed them of our desire to interview them the day before. They asked why it was that they were being interviewed, and yet our interests lay in the fishery. Two researchers explained to them the importance of their history in relation to research at the landing, saying that it the interview would also help them to reflect on where they came from, where they are and where they are heading. It was important to assess whatever good things existed in the past and to see if some could be renewed for use today. The elders enthusiastically agreed to participate.

Mwasonge is located about 5 km. from the Nyashishi River, which marks the border between Mwanza Rural and Misungwi Districts. To reach the village, there are two main roads, one of which is accessible throughout the year, while one is seasonal. The village's name, which started to be used in the 1960's, is derived from a nearby hill of the same name. 'Mwasonge' means 'a sharp pointed object'. This name started to be used in early 1960's. Before independence the area was known as Isahula, the name of the first influential person to settle there.

NGUSSA, D., KABATI, M., KOMBA, D. MEDARD, M., MLAHAGWA, E. and MSUNGA, D. 2000. Report of the PRA carried out at Nkombe Beach, Uganda, September 2-10, 2000. In GEHEB, K. (Ed.) The Co-management Survey: PRA reports from five beaches on Lake Victoria. *LVFRP Technical Document* No. 9. LVFRP/TECH/00/9. The Socio-economic Data Working Group of the Lake Victoria Fisheries Research Project, Jinja: 149 - 184.

Figure 1: Map of Mwasonge Beach and surrounding area



In the old days, Mwasonge village was under the rule of Mtemi Kafipa and later his son Charles Ulago, who is still alive. Mtemi owned a very big area, and many extra huts surrounded his homestead. People would settle around his homestead. Some of these lived there permanently, especially those who had problems of food, health and other family problems. The Mtemi had many workers and helpers who did both off farm and farming activities. He was a polygamist who had many wives and children. He was respected in the community and some people believed that he had spiritual powers. Because he was said to have these powers, had a big farm, was very rich and many cows and houses, people respected him because these were valued qualities at that time.

The major tasks of the Mtemi in the old days were as follows:

- (a) He had the authority to mobilise farming and agricultural activities in his chiefdom by, for example, advising the community to plant drought resistant crops such as millet, cassava and other legumes. He was also responsible for advising his community on suitable seeds and precisely when the farming season started.
- (b) He was believed to have the power to foresee certain things such as when a dangerous disease was about to break out.

- (c) He could then consult traditional healers to identify ways of eradicating the disease, and to prepare medicines in anticipation of the outbreak. He would call upon his community to use certain methods to protect themselves, and explain to them how they might heal themselves.
- (d) He had the power to stop the brewing and drinking of alcohol in his area around farming times. Drinking and festivities could start once the harvest was in.
- (e) He helped to solve conflicts, such as marital problems, and had a committee on whose advice he could draw.
- (f) He had a powerful information network which would tell him if anyone was up to no good within his Chiefdom, and these he would chase away with their families.
- (g) He endorsed byelaws and other rules within the community, and, once these were endorsed, the community respected them. Amongst the byelaws he endorsed were:
 - Byelaws on farming and celebration times.
 - Byelaws on harvesting times.
 - Byelaws on calamities.
 - Byelaws on peace and order.
 - Byelaws on how to use various common resources in their communities, such as grazing land, farming land, dangerous fishing areas, helping each other while in the lake and other by-laws subject to their culture and traditional beliefs.

The elders reported that the Sukuma are not originally from Mwanza town. They came from the Uzinza area and Ukerewe Island, at a place known as Rubya. The respondents knew this because when one had problems with one's children, such as when they were sick, then the traditional healers would come and tell them to return to their origins to worship, and these origins were Uzinza and Rubya. They sometimes also hear the ghosts speak, and these used the dialects of those from Ukerewe and Uzinza, so they knew that their ancestors came from those places.

Some of the inhabitants of Uzinza and Rubya migrated to Mwanza in search of good land, and to run from domestic quarrels. There is a small village near Kisesa, about 8 km. from Mwanza, called 'Sukuma', and it was from this place that they got their name. 'Sukuma' was named after a small village near Kisesa about 8 km from Mwanza town. People were proud to be referred to as the 'WaSukuma' because the 'Sukuma' town was, at that time, considered much more developed than other places. The 'Bagwe-Sukuma' were the first Sukuma people to settle at Mwasonge.

Marriage

Up until the early 1930s, marriage amongst the Sukuma would occur as follows: a boy, who had fallen in love with a girl, would plan to secretly 'kidnap' her. He would then send word to her parents or neighbours to say that when they searched for her, they should come and check at his place or home. The girl's parents would then respond by sending a band of strong youths to the boy's home to capture the most healthy cows from there. The youths would have to be very quick and clever so as to secure the best cows. Often, they would cause chaos around the boy's home, but eventually, they would be allowed to take the cows.

After a few days, the boy, along with a delegation of elders, would go to the girl's home where they would negotiate a suitable dowry with her parents. This would comprise a number of cows additional to those already seized. The marriage could then occur, and would be accompanied by food, traditional dances and local brew.

After the marriage, the groom would go to his in-law's home accompanied by seven of his friends, who would assist him with a number of tasks that the boy's in-laws would set for him. These tasks were designed to enable his father-in-law to determine whether or not he was a hard working person, and would typically be hard. These included:

- (a) Construction of house.
- (b) Cutting wood and timber.
- (c) Farming.
- (d) Clearing a new farm.

The groom will stay in his in-law's compound until his father in-law is satisfied with his workmanship. He is then allowed to leave with his friends and his bride.

Good and bad luck and other beliefs

In old days, it was believed that if a man were to meet a woman in his doorway or on the way out of his house, this was a sign of bad luck. If he were to encounter a man or boy, this was good luck. This particularly affected fishers who were often on the way to the lake early in the morning. Women, the respondents said, always caused good or bad luck. If a man fails to succeed in life, a fiend might tell him that it is because of the woman he married, while if he has success, he might also hear that his wife is in some way responsible.

Seeing a black snake on one's route was considered bad luck, a belief held until now. The owl is the harbinger of death, and its flight around one's home indicates that a death will occur within it. If it happens, an elderly resident is supposed to run outside calling some words like, "go away we don't need you here! Go and find another compound!" People still believe that this is the case. The visit by a hyena can also indicate that a death is on its way, and people still believe this as well.

In the old days, people believed that death was caused by witches, and the family of the deceased would typically consult with a healer to find out if the death was God willing or not. People believed that dogs could see witches, and that if one heard dogs barking in the night, this was because there was a witch close by. They would hope that the dog could chase the witches away.

If an earthquake occurred, people believed that it indicated that there would be abundant rainfall that year. Earthquakes no longer occur as frequently as they used to, and people have begun to forget about this belief. The appearance of '*kakakuona*' was also an indication of heavy rains and bumper harvest in that year. This is still believed up to now.

If one notices that someone's upper eyelid is quivering, it is thought that that person is going to receive a guest. If the lower eyelid is quivering, it is believed that perhaps some bad event, such as death, is going to occur to that person. Many people still believe this.

If someone is talking, and a little spittle sprays out, people may think that that person needs food to eat. This is believed up to now.

Nowadays, people will decide whether or not to believe in such things on the basis of each belief's merits. Many people are now Christian, and do not believe in these things and will discourage others from doing so. Others will hear elders speaking about these things, and respect what they have to say.

Beliefs about fishing activities

The fishers believed that there was God for all fish known as 'Ngasa'. When Ngasa was happy, there would be large fish catches. Traditional ceremonies were performed in order to try and keep Ngasa happy. The elders explained that each section of their economy had its own god. Farmers, for example, had a god known as Liwelelo, while hunters had one called Lyuba. Belief in these gods has diminished because of Christianity.

The majority of fishers believe that the lake has ghosts and before starting any fishing, their boats should be cleansed with herbs and local medicines.

Those who are to go fishing will also cleanse themselves, washing themselves with herbs provided by traditional healers before departing for the lake. These activities continue, especially amongst those who do not believe in a Christian God.

Fishers also believe that when they go out fishing and encounter a snake or crocodile, then they will get a good catch. If they fail to do so, they might assume that one of the crew has slept with a woman who has brought them ill luck. Bad luck might also occur if the fishers encounter a dead body on the lake. Because they have met with the body, then some foul current must have brought it their way, and they should surrender an oar to the current, which will stop the body from following them. When the fishers saw a big fish jumping in water in front of them, they would consider this an unusual event, and hence the fish might possibly be a ghost. In response, they had to remain quiet.

Culture related to taboos and women

In old days, Sukuma women were not allowed to eat eggs, because it was thought that they would then start behaving like being prostitutes. Pregnant women were also banned from eating eggs, because it was thought that this would cause their child to be born without hair. Women were not allowed to eat liver nor meat cut from the ribs. These were regarded as cuts for men because God created woman from man's ribs. Children were also not allowed to eat liver. It was believed that if they did they would not be energetic, and that they would keep on tripping over. Women were prohibited from eating *Protopterus* because it was thought that they would not be able to produce breast milk if they did so.

Men and women used to eat separately. Men, as household heads, were always given the good portions of the meat, specific parts of chicken, goat, pig and cow meat being reserved for their consumption alone. Vegetables and fruit were for women and children. The respondents said that, now, things are changing. Some households continue to believe in the above customs, but there are many who do not, and whose children can share in the good portions of meat.

Beliefs about natural features

In Sukuma believed that when a river floods, no one should attempt to cross it. A river in flood was an indication of a ghost's displeasure with the community. It was also believed that ghosts owned all rivers. If a person should hear voices down by the river, or drums beating there, then it was thought that the ghosts were happy, and that the rains would be good.

Some hills were respected as venues for elders training the youths. During circumcision activities, for example, the old men and young men stayed around those hills. The hills were also used as areas for Mtemi sacrifices for rain, the prevention of diseases and bad luck in his chieftdom. They were places for inaugurating the youths when they reached maturity and assumed the responsibilities of elders, such as showing them important medicinal herbs.

The lake was believed to be the home for ghosts, and fishers would need to prepare themselves, with help from traditional healers, for their trips out on to the lake. It was thought that such preparation could better assure them of luck in their activities. It was also believed that ghosts owned islands, and that fishers should not fish around these. Fisheries would sometimes leave sacrifices, clothes or money, and these would be left there and no one would take them. As they approached the islands, fishers were not supposed to speak loudly or to insult one another, lest the ghosts made them disappear beneath the water.

With fish scarcity, however, fishers now go everywhere on the lake, including those places they used to think were dangerous. Some fishers continue to believe these legends, but many of the young fishers do not.

The following historical time line summarises some of these events:

Year	Event
1930s	There was no proper arrangement for marriage. Young men would elope with women, and later the woman's father would send some young men in pursuit and to seize some cows. The groom's family and these men would often fight around the cowshed, and typically, the in-law's men would win.
1940s	The indigenous species such as <i>nembe</i> , <i>gogogo</i> , <i>furu</i> and <i>soga</i> were plenty. They had other types of tilapia called them ' <i>njusi</i> ', which were reddish and had a very fine taste. The communities believed that when the Mtemi was happy, they would get good catches, and they would sacrifice at the lakeshores to try and ensure this. There were outbreaks of small pox, chicken pox and measles.
1948	The disaster of the ' <i>mwekela</i> hunger', meaning the stomach that is always empty, lasted for the whole year. People had to buy food from far away and there was no transport for them. They carried the food on their heads or some used donkeys.
1949	The community experienced their first locust attack, which destroyed their crops.
1950s	Traditional marriages were common, and sealed by negotiated dowries. Men would try to marry women from good families that were not afflicted by inheritable diseases such as leprosy or mental disorders. During that time, marriage started to get expensive.
1952	The second locust attack occurred. They covered the whole sky, changing the village's weather. It was dark and humid, and they could not see the clouds. They attacked all food crops and green vegetation. Their breeding areas were known as ' <i>butanda</i> '. The community tried to destroy them, but it was very hard. The whole area was left a reddish colour after the locusts had left. Because of the locusts, there was a famine. They called it ' <i>dona</i> ', the name for maize flour, which the government handed out for free, and which they thought was bitter and tasteless. At this time, they used their boats to search for food in places like Bulima in Misasi and Uzinza in Sengerema district.
1961	The <i>uhuru</i> (independence) rains, which caused flooding, house destruction, landslides, and created ponds, new islands and floating islands on the lake where papyrus mats had broken off from shore.
1970s	Religious marriages were common, and people often sought to marry only those from their own religious groups. <i>Ujamaa</i> settlement policies commenced, bringing people together in villages where there were schools, health and road services available. The chief and the Mtemi were abolished. The government became responsible for the well being of the community.
1974	Another famine, called ' <i>gada</i> ' occurred. ' <i>Gada</i> ' is a weighing scale, and people only used it to weigh food when there was hunger.
1980s	By now, both religious and traditional marriages were rare. Women left their parents to go and stay with men. The elders claimed that they did not benefit at all. Children now have much more power than they used to. In this decade, developmental changes became more apparent, with people building good houses, education was valued, more cars were available, there were many more buses, and people could travel from place to place without problem. The mtemi was no longer recognised by the communities, although he remained highly respected within his family and clan, who continued to consult him on various issues.
1984	They started seeing Nile perch for the first time. At first people would not eat it. They worried because they did not know even the name of the fish. They noticed declines in tilapia catches and those of the former indigenous species.
1990s	Development: the policy of <i>Ujamaa</i> started to change, and the government started talking about development and self-reliance policies.

Table 1: Historical events at Mwasonge.

3. Socio-cultural factors

The research team decided to find out what women thought about various socio-cultural issues. Four women participated in the interview. The eldest woman was 50 years old while the youngest was 25 years old. The discussion took place while the women made buns.

The respondents said that in the old days women stayed at home while men migrated to various places in search of extra income. The woman's duty was to bear as many children as possible, along with the household chores. Farming, weeding and harvesting were also female activities. Men undertook all the business, and decisions about what the household should sell were also male decisions. Women would not know what was earned, and did not dare to even ask their husbands this question. Men kept it secret. A man could give a woman a few coins, which were supposed to cover all household necessities.

Women did all the work except the following:

- (a) Building houses.
- (b) Going fishing.
- (c) Construction of latrines or water wells.
- (d) Making fishing nets.

All major household assets, such as the house itself, were considered male property. This was so that should a woman leave her husband, then she would take nothing with her. It is, however, different today. Once women get money, they can contribute to the costs of constructing houses. They also own boats and gear and may hire people to work for them. Money, in a sense, has allowed them to own.

In the old days, women were not allowed to touch boats, particularly when they were menstruating. Nor were women supposed to eat neither lungfish nor *Mormyrus* because it was thought that some sort of skin disease would then afflict their first child. Other thought that eating these fish would ensure that they only yielded a small amount of breast milk. Nowadays, however, there are many families and clans who no longer believe this. Many old women are not allowed to eat chicken because, it is believed, they will get sick. They eat fish, beans and vegetables.

The respondents said that it is not the woman who decides on her marriage, but her father. It was also the father who negotiated the dowry, and a father might force his daughter to marry into a wealthy family because her father wanted the cattle. The man a woman married might be someone she had never met before, but nowadays many women marry early in their pregnancy. Men often like this because it shows that the woman is fertile at the wedding. In Tanzanian's rural areas today, young men and women will get together well before marriage, exchanging gifts as a sign of their mutual affection. When the time comes to marry, however, the woman's father will still send a representative to the man's family to negotiate the dowry. Once the dowry is agreed, then the man will often go and spend some time at his in-law's home before returning home, at which point he will send a party of sisters and females to the woman's home to collect her. Once they arrived at the bride's home, the bridegroom was not allowed to do anything with her until his in-laws offered some money to her, at which point she would do the following:

- (a) To enter the man's house.
- (b) To sit down.
- (c) To eat.
- (d) To go to bed.
- (e) To fetch water next morning.
- (f) To cook food.

The offered money will then be given to her, and she will then return to her family's home to ask for various household and cooking items. To this day, the payment of a dowry is seen as the basis of the marriage having occurred. In the old days, a pregnant woman was not permitted to marry, but nowadays it normal.

4. Resources at Mwasonge

A transect was carried out at Mwasonge by two researchers accompanied by two middle-aged, male community members. The Secretary to BMU helped the team to identify people who knew the village cell demarcation.

The team started the transect by following the shoreline from west to east, identifying various varieties of vegetables from the individually owned gardens (Figure 2). Cabbage, tomatoes, maize, water melons, sugar cane, cucumber, sweet potatoes, cassava, group of animals (cows and goats) and sweet potatoes were identified. The team also noted trees and vegetation such as Eucalyptus, papyrus, water reeds and varieties of grasses. At the landing site itself, the beach has ten small buildings, most of which were business stalls such as small shops, tearooms and small hotels. Some houses were empty, and it was learnt that crewmembers rested in these rooms when they came from the lake. The transect to the west of the beach was also covered with small vegetable gardens. Along it were two pump houses built during the *ujamaa* period, one for pumping drinking water, while the other was supposed to pump water for irrigation. Neither worked, parts of their machinery long ago stolen.

A second transect was carried out by the team, along a course with the beach as its starting point and heading inland (Figure 3). At the beach, the team noted fish being sold by the traders. They sold their fish on polythene bags spread out on the ground. The following features were identified along the transect: cassava plants, mango trees and sisal plants planted along farm boundaries. To the west, a water tank was built on a hill. Further up, there was a sisal factory. The respondents said that it was no longer in use. During the colonial days, the government supervised sisal production, but when independence came, the government nationalised all industries, and people ceased to concentrate on sisal farming. Food crops became much more important than cash crops.

Generally the beach had few trees with small houses with mud walls and grass thatch. At the landing site, buildings are concentrated, but scattered elsewhere.

5. Socio-economy at Mwasonge

Income sources and expenditure

A group of middle aged men (three) and women (two) were interviewed on this topic. Each of the respondents participated by describing his or her income sources and their expenditures. Figure 3 indicates fishers' incomes and expenditures over the course of the year. Incomes peaked between May and July, when catches were low. Women's incomes also peaked when fish catches were low (Figure 4).

At Mwasonge, the main sources of income were agriculture, fishing and small businesses. Respondents identified the following as the main areas where their incomes were spent:

- (a) Food.
- (b) Education.
- (c) Purchase of land/plot.
- (d) Clothing.
- (e) Health.
- (f) Buying cattle.
- (g) Saving at home, and, for a few, in banks.
- (h) Miscellaneous.

Figure 2: Transect along Mwasonge's shoreline

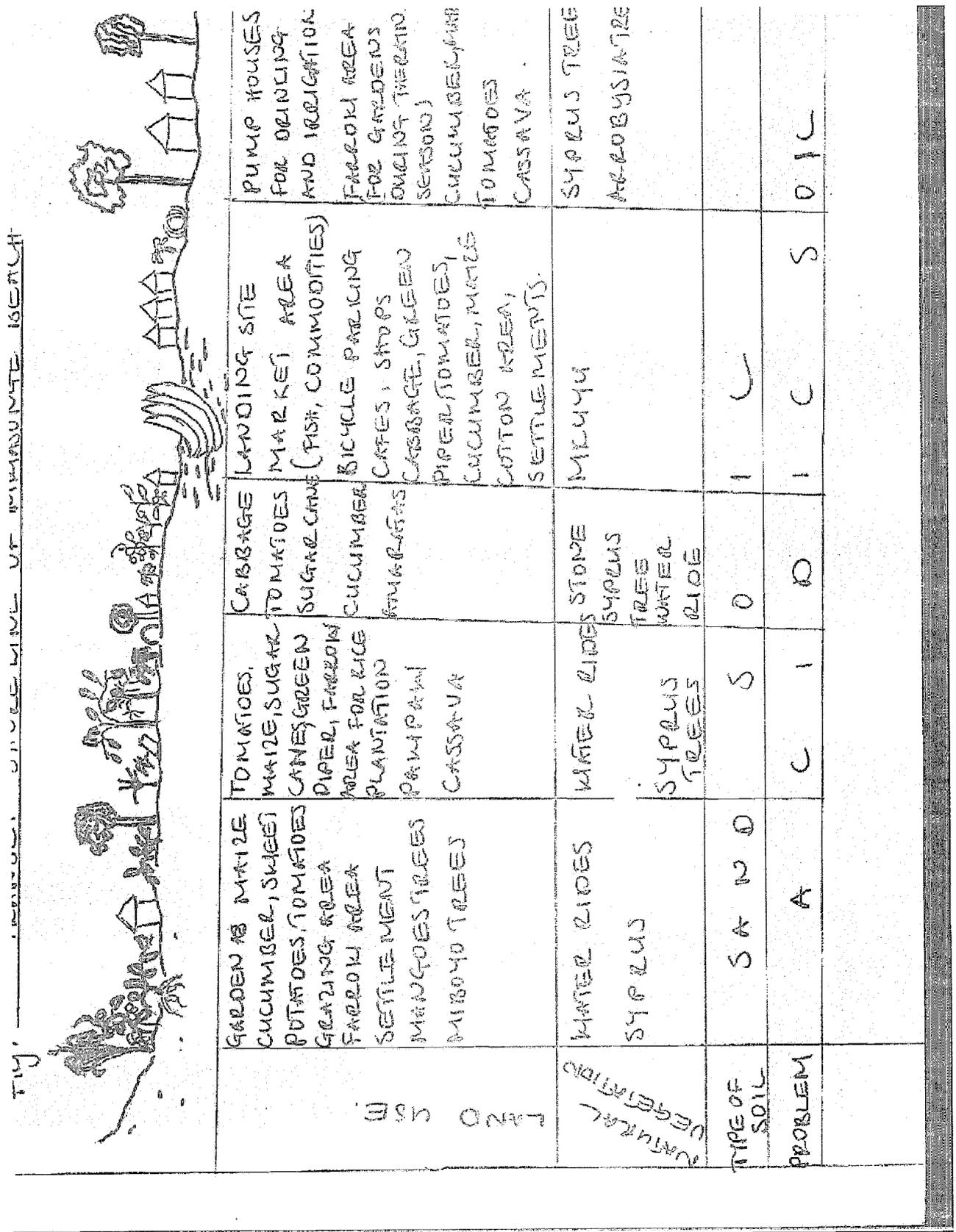


Figure 3: Transect along the road leading to Mwasonge

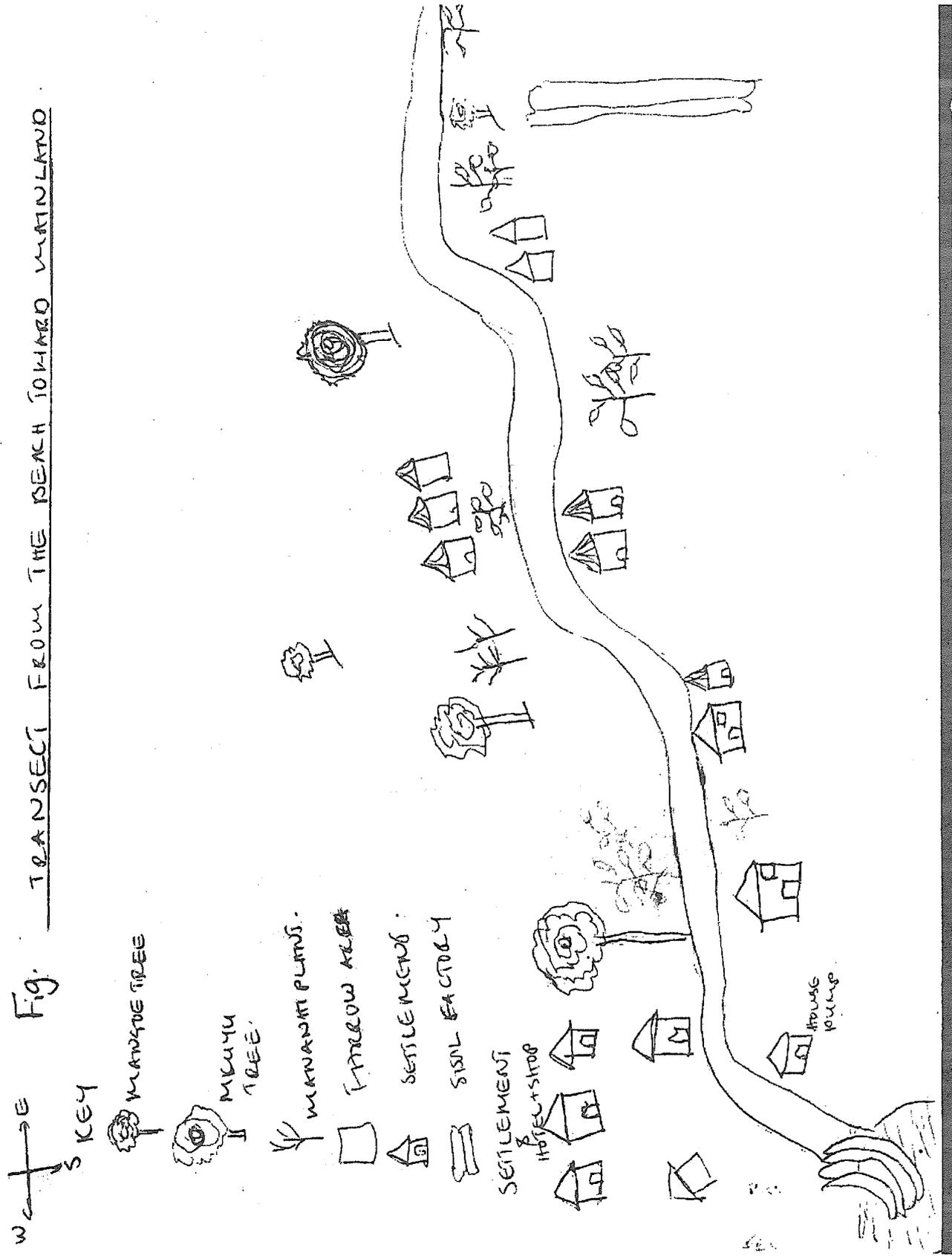


Figure 4: Fishers' incomes over the year at Mwasonge

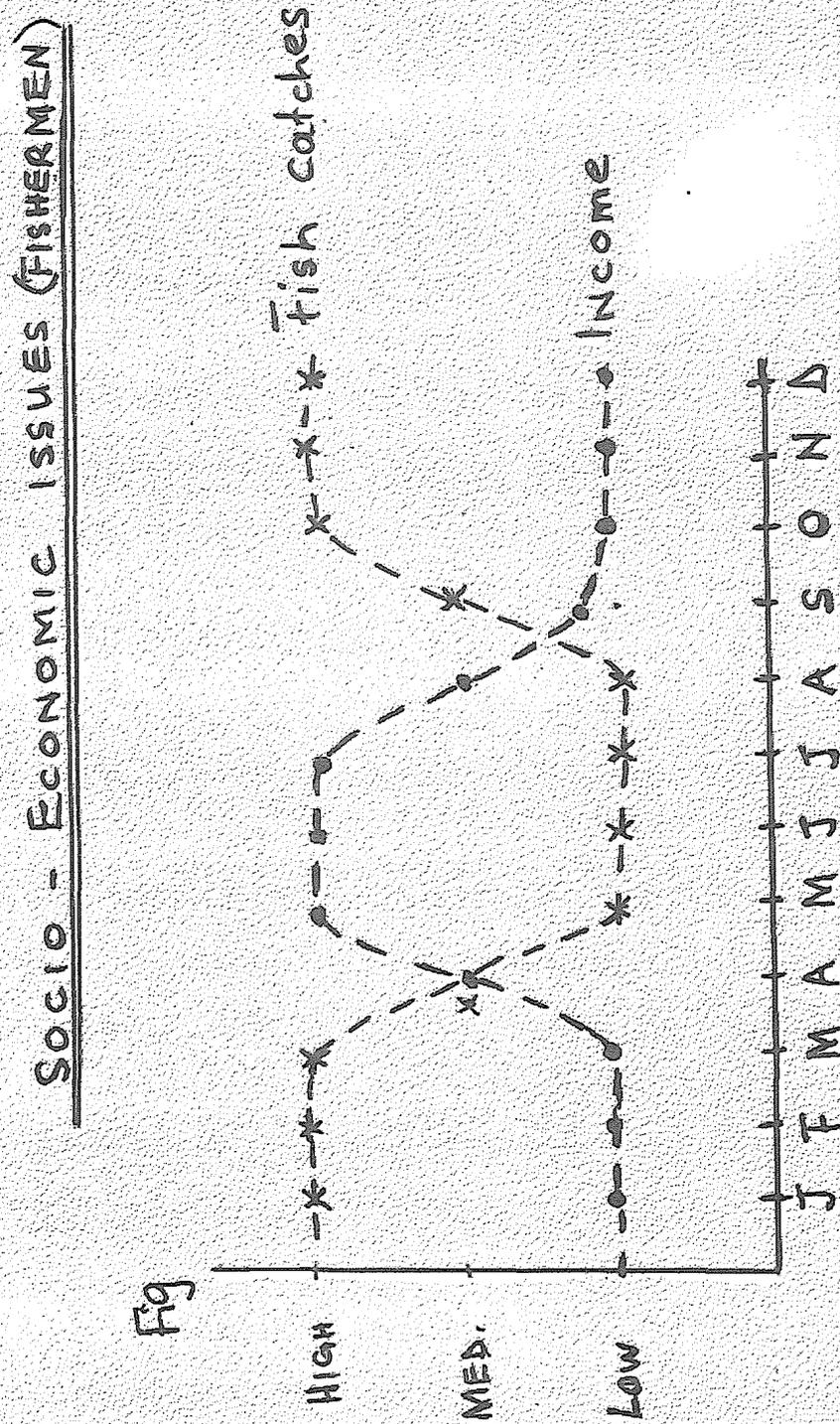
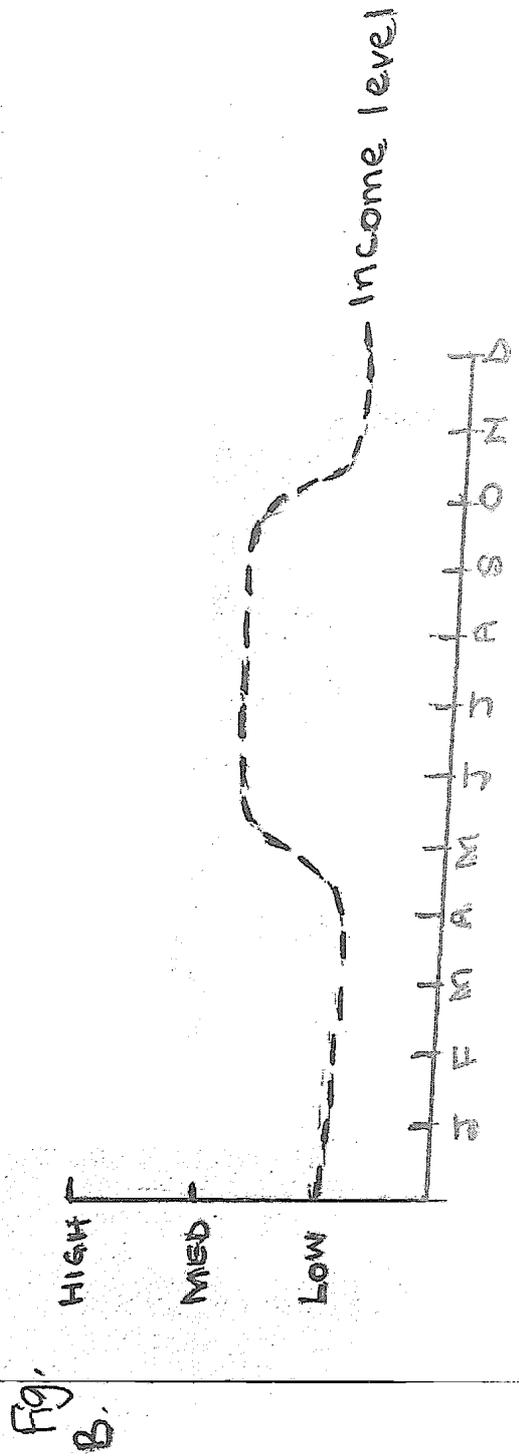
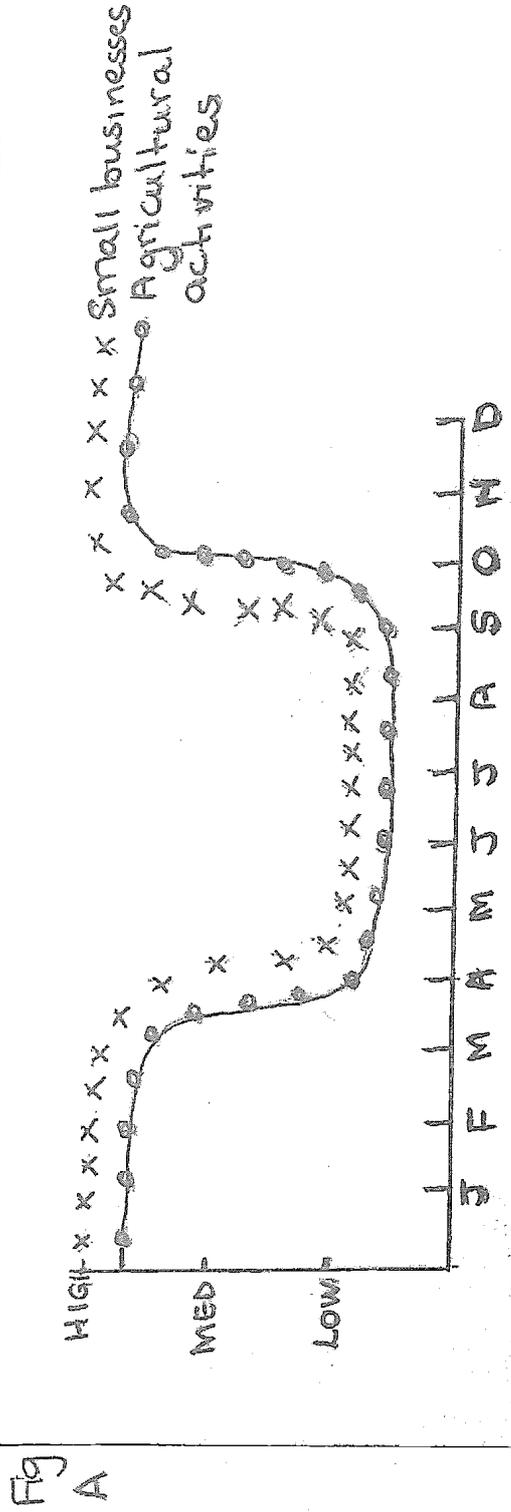


Figure 5: Women's incomes over the year at Mwasonge

WOMEN SOCIO-ECONOMIC ISSUES



Food was mainly derived from agriculture, and fishing was typically identified as the main source of stable, cash incomes. Most women earned a cash income from small business activities. Our respondents also said that they spent more money on clothes than men because they liked to be smarter than men. They agreed that, at Mwasonge, most people do not keep their money in bank because of lack of awareness; high initial deposits demanded by banks; high consumption costs mean that people are less likely to save; men discourage women from opening accounts because they fear that this will make them more powerful than them - men are reluctant even to speak to women about saving money; and, women cannot save because most daily domestic expenditure is covered by them.

A fisher at Mwasonge beach has both ups and downs in fishing. Fishing peaks during the rains because a lot of food is brought down in the rivers running into the lake, and the lake is warm during the rainy season, which is conducive to fish breeding. During the rains, fish prices are low, but they are also more stable. During the dry season, prices tend to fluctuate depending on the degree of competition between the buyers, and the availability of fish. Figure 6 depicts fishers' income sources and how they spend these. The more stones in a box, the greater the amount of income spent on that particular expenditure.

Women's business activities will depend on fish catches. When catches are good, then there is more money in the local economy and people tend to buy more. Figure 7 depicts women's income sources and how they spend their money. During the peak fishing seasons, women's incomes are good, but they often have to spend it on hiring farm labour while they conduct their businesses. In addition, their medical costs tended to rise during the rains, and there were often festivals around this time, like Easter and Christmas. School fees were a persistent burden to female respondents. Amongst the problems women faced in their businesses were the following:

- (a) Fishers and community members sometimes eat food or take tea without paying.
- (b) Sometimes, they sell their items on credit but the money is repaid in instalments over a long period of time. By the time the payment is complete, the woman has already made a loss.
- (c) Resident fishers may migrate to other landing beaches and the women's customer base shrinks.

The women explained that those involved in the brewing trade faced even worse problems. Fighting could break out where customers drank their brew. Drunkenness and prostitution were also common there.

Wealth at Mwasonge

A wealth ranking exercise was used to obtain information about how community members perceived income distribution and their own, internal, standards of living. A list of 99 community members from the Seth Benjamini village cell (of which Mwasonge is a part) was obtained. Each name was then written on a separate card. Three respondents were then selected to define wealth and poverty in their community, and then to place each card into the income brackets they had defined. The research team had no problems with the exercise. The respondents knew everyone in the community and were very cooperative.

The respondents characterised a wealthy person in the community as follows:

- (a) S/he has ten or more cows.
- (b) S/he will be involved in business in some way.
- (c) S/he will have one or more boats.
- (d) S/he will have at least one acre of land.
- (e) S/he will have a good house with a corrugated iron roof.
- (f) S/he will be able to provide his/her children with at least a primary education.
- (g) S/he will have one or more bicycles.
- (h) S/he will keep animals such as chickens, ducks, cats and/or dogs.

Figure 6: Income sources and expenditures by selected Mwasonge male respondents

Fig. SOURCE OF INCOME	INCOME AND EXPENDITURE (MEN)							
	AGRICULTURE	SMALL BUSINESS	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE
Fig. SOURCE OF INCOME NESTORY WILLIAM	AGRICULTURE	SMALL BUSINESS	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE
WILBARD FAUSTINE	AGRICULTURE	SMALL BUSINESS	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE
PETER NENETWA	AGRICULTURE	SMALL BUSINESS	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE	FISH BUSINESS	AGRICULTURE

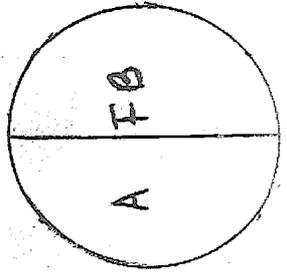
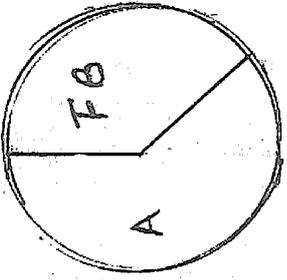
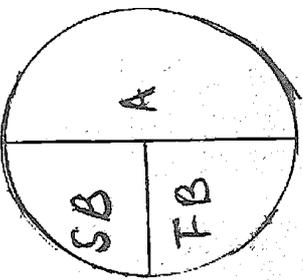
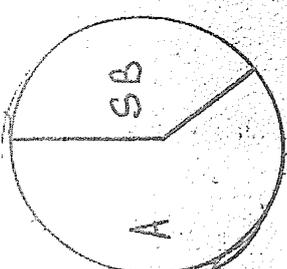
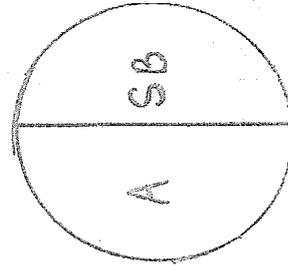


Figure 7: Income sources and expenditures by selected Mwasonge female respondents

Fig. SOURCE OF INCOME	INCOME AND EXPENDITURE (WUMENI)										
	EDUCATION	FOOD	LAND	CATTLE	MED	CLOTH	EXTRA	SAV			
MARIA MCHELE 	AGRICULTURE	00 00 00 00	00 00 00 00		00 00	00 00 00 00	00 00	00 00	00 00 00 00		00 00 00 00
	SMALL BUSINESS	00	00 00		00 00					00 00	00 00
MODESTA FIMBO 	AGRICULTURE				00 00				00 00 00 00 00 00 00 00		00 00 00
	SMALL BUSINESS	00 00 00	00 00						00 00 00	00 00 00	00 00

People in the middle class were those who did not have capital but had a sufficient amount of money to meet their daily needs. Our respondents said that the following criteria applied to this group:

- (a) They own hook and line gear.
- (b) They have small vegetable gardens.
- (c) They are able to give their children basic primary education.
- (d) They may own a single bicycle.
- (e) They also own chicken, ducks and dogs.

A poor person at Seth Benjamin possesses nothing. S/he works as a labourer and rents a small room or house with his/her family. S/he may have many children, which s/he is unable to care for properly. They are often unable to educate their children, and if they try to, they are typically unable to cope with the costs. Men from this class will often have many children with different women, and will leave these offspring with their mothers. Their budgets are not planned; they may be unable to buy food and may end up begging food from their neighbours. They may eat once or twice a day and are always drunkards. Their health is always poor and their clothing will always be bought second hand.

The results, after respondents grouped the inhabitants of the community, are pictorially presented in Figure 8 below, and may be summarised as follows:

Group	Number	Percentage
Rich class	15	15%
Middle class	78	79%
Poor class	6	6%
Total	99	100%

Table 2: Wealth ranking categorisation

Our respondents claimed it was very easy to drop from the rich class and into the middle class, and described the following ways in which this might occur:

- (a) Misuse of funds arising from poor budgeting and planning.
- (b) When the main breadwinner in the family dies, the rest will be left poor.
- (c) Over drinking.
- (d) Theft of property.
- (e) Persistent drought and lack of capital.
- (f) Involvement in criminal cases may result in the accused selling all his/her assets.
- (g) Natural calamities and disasters such as drought and fire.

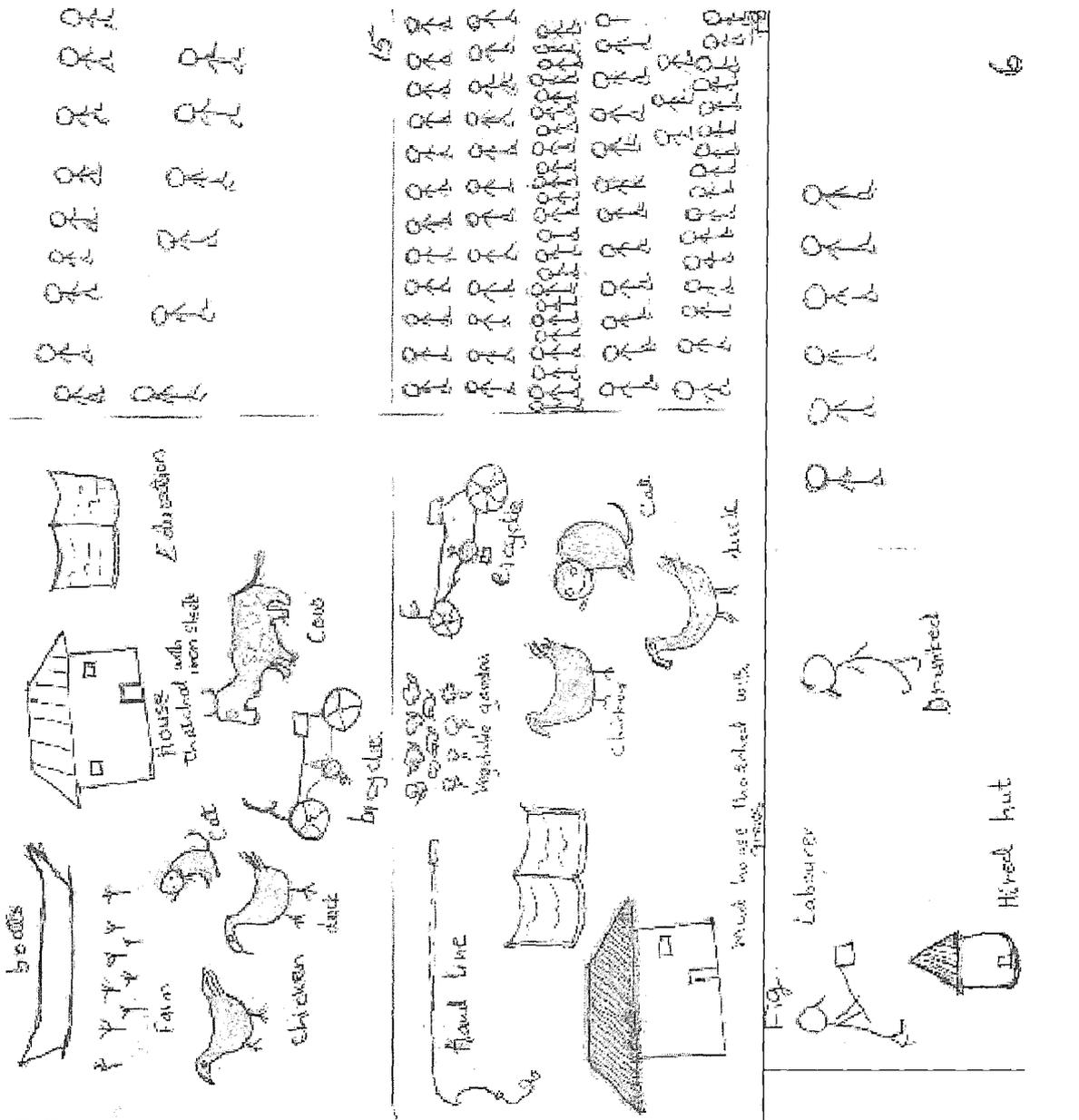
Additional reasons were given when the team presented the report to the community. These were:

- (h) Spending so much money on prostitution.
- (i) Laziness.

One could move from the poor to the rich classes by:

- (a) Working hard.
- (b) Borrowing from friends and relatives.
- (c) Stealing other peoples' property
- (d) Participating in the petty trade and small business arenas.

Figure 8: Wealth ranking at Seth Benjamin cell



It is very difficult, however, for the poor to get into the rich class, our respondents claimed. The poor are highly dependent, and normally rely on others in the community. They face so many problems, like disease and lack of rainfall that our respondents were not optimistic that their socio-economic status could improve.

When the report was presented to the community as a whole there were a number of community members who said that they felt that the description of the lowest class was too kind. Conditions for people in this class are, in fact, much worse than initially portrayed, they said. These respondents said that the poorest group could be characterised as follows:

- (a) They are homeless, but may continue living with, and relying on, their parents, even though they are old enough to work.
- (b) They are loiterers and beggars.
- (c) They eat food from food stalls without paying.
- (d) They sleep while out on the lake guarding nets, and during the day hang around the village drunk.

- (e) They have no families of their own.
- (f) The community does not trust them.
- (g) They have no responsibility.

These respondents felt that Seth Benjamin cell had for classes, and placed six community members in the lowest class, 28 in the poor class, 50 in the middle class and 15 in the richest class.

Infrastructure and communication at Mwasonge

The village cell chairman identified three young and middle-aged people who were knowledgeable about the community to participate in the village mapping exercise. Later on, another person joined the group. The respondents started by discussing the main structures in the village, of which they considered the following to be the most important:

- (a) A Catholic Church.
- (b) Three rocky hills.
- (c) A primary school.
- (d) A water pump house.
- (e) A co-operative society building.
- (f) An irrigation pump house.
- (g) The original beach Nyamwikumulo.
- (h) The Nyashishi River.
- (i) A road leading up to the Shinyanga road.
- (j) Footpaths.
- (k) Swampy areas near the lake with reeds and papyrus (*lutende*).
- (l) A landing site for boats.
- (m) Lakeshore.
- (n) Households.
- (o) Farms.
- (p) Gardens.
- (q) Boats.
- (r) Beach settlement.

The team identified a piece of flat ground and sat down together with the respondents. At first, one respondent took the stick and began to draw the map, but the other respondents disagreed with him on many things, and eventually they agreed that each one would draw his own map, and then the one that best represented the group's perspective as a whole would be selected. When they finished, they assessed each map jointly, and finally agreed on the best one and modified it somewhat to improve it further (Figure 1).

Generally, the village had poor communication facilities. There were no telephones, radio calls, mass media office nor electricity. To cope with this situation, the community used various ways to communicate. Some of these are described below.

When it is necessary for the community as a whole to meet, they will sound a horn, blowing into a cow's horn (*'kupiga pembe'*). Such occasions may arise when there is a death, meetings, burials, political issues and government issues to be discussed. The horn will normally be blown when the village is not busy, and it is the village cell secretary who is responsible for this.

When something happens at the individual or household level, the news will be forwarded to the ten-cell leader, who passes it on to the cell leader, who then announces it.

The community has byelaws concerning the death and burial of people. When someone dies, the whole community is supposed to donate money to the family of the deceased. It is expected that the whole village

will turn out for the burial, and businesses are closed on that day. Those who fail to attend will be fined Tshs. 5,000/-

Drumming is sometimes used as an alternative to horn blowing, while the church and school might use a bell to summon their classes and congregations. Announcements can also be made at church or school. House to house visits may occur by cell leaders wishing to remind certain households of government business, such as making contributions or paying various dues or levies. Village government may use 'mgambo' guards to deliver information to people within their jurisdiction. *Mgambo* guards are people who have volunteered for some military training, and who are then deployed in a capacity similar to that of the police at the village, ward and district level. The *Mgambo* will send tax defaulters to the police post if necessary.

Amongst the Sukuma, a greeting will normally take some time, as the well being of families is enquired after. An outsider will be repeatedly asked about his/her background, to find out if they are in some way related.

The most common language at Mwasonge is Kiswahili, and everyone speaks it very well. Greetings often occur in KiSukuma, and if someone greets in Kiswahili, it is assumed that they are a Sukuma person wishing one to think that they are modern.

Much information is also transmitted via the small businesses on the beach, with community members leaving messages with business owners to pass on to others. Our respondents considered this an important conduit for the dissemination of information.

6. Institutions at Mwasonge

Governmental and non-governmental institutions

Mwasonge village is one of the biggest villages in the Ibetenya Ward in the Usagara Division of Misungwi District. The village has four village cells namely: Mwasonge, Nyalusaka, Mayolwa and Seth Benjamin. The main beach is located within the Seth Benjamin village cell, which is itself contained within the main village of Mwasonge. The list of institutions serving Mwasonge and Seth Benjamin provided in Figure 9.

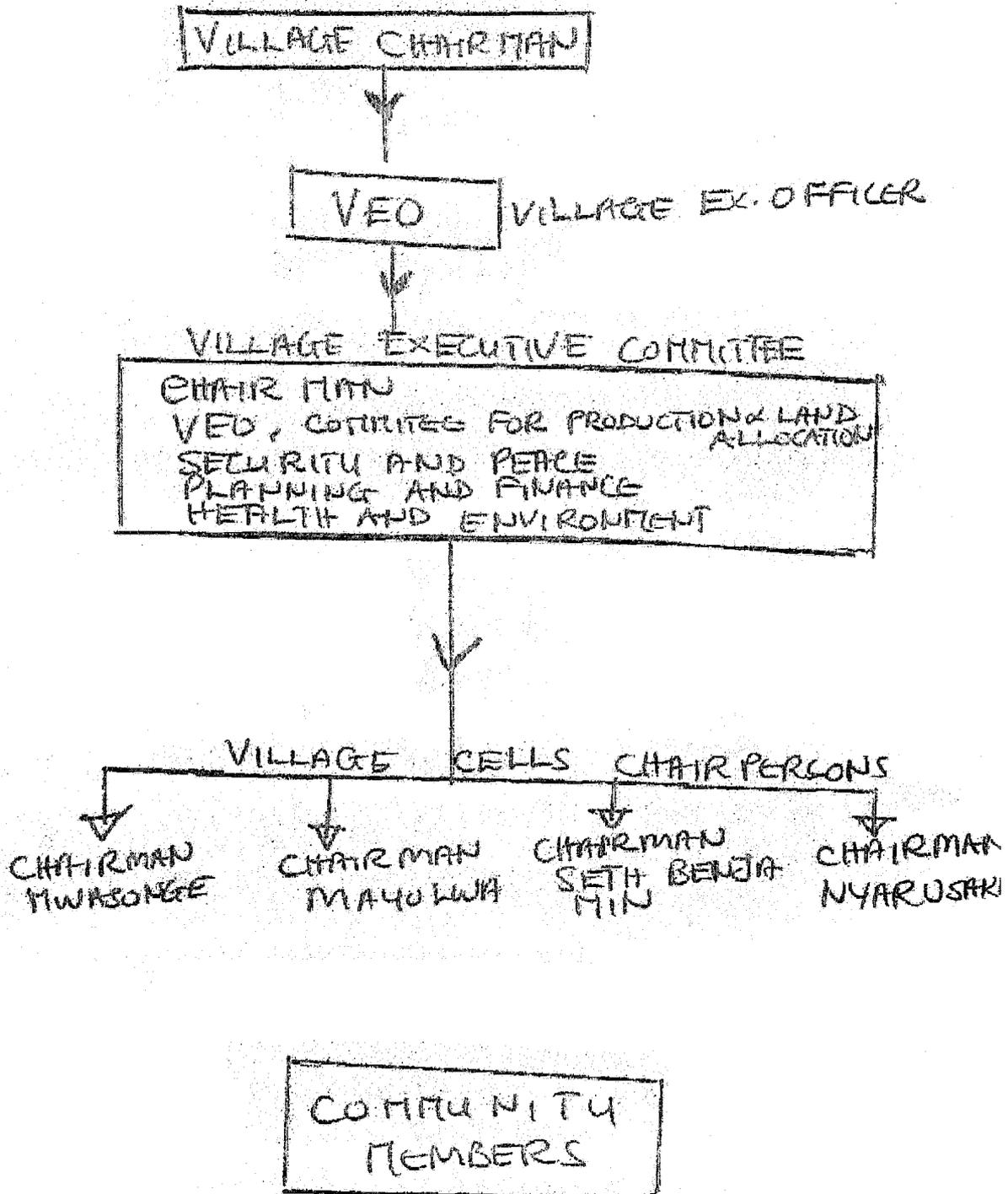
The village is an *Ujamaa* village established in 1970's. Mwasonge is a farming and fishing community. The village has a 60 acre *ujamaa* farm, which it rents out to an individual for Tshs. 3,000/- a year. The village has about 180 'kaya' (families), and some 2,000 residents. There are about 40 permanent fishers at the landing.

The Village Government has a chairman who is elected by the community. He may be from any of Tanzania's political parties, although once elected, he will have to follow the policies of the ruling party. As it happens, the present chairman is a member of the Chama Cha Mapinduzi (CCM), the ruling party. The secretary to the chairman is the Village Executive Officer (VEO). The village has a village executive committee, which is the main decision-making body in the village, and has on it representatives from different sectors of the village's society and economy. Each represents a separate committee, and at Mwasonge there are four of these:

- (a) The committee for security and peace.
- (b) The committee for production, land, farms and plot allocation.
- (c) The committee for health.
- (d) The committee for planning and finance.

Figure 9: Mwasonge's governmental institutions

Fig. VILLAGE ADMINISTRATION FLOW CHART.



The Chairman told us that all of these committees are, at the village level, regarded as institutions. Besides these formal governmental institutions, there are others:

The Beach Management Unit: this has some 16 members, with a Chairperson, secretary, treasury and other supporting members (see Figure 10). Out of 16 members, 2 were women who were also involved in monitoring beach sanitation.

The Primary school: both teachers and students at the school are all, in one way or another, participate in both government and socio economic activities. The head teacher is involved in village education committee, and is a resource person providing various forms of advice.

The health unit: the village has a government dispensary and clinic for mothers and children. It provides free services to community members. Renovation, repair and other manual work for its maintenance are sometimes done by the community members.

Youth group: this is an unregistered group which farms along the lake shore. There are more than 20 male and female members who sell the produce from their farm both in the village and in neighbouring villages. If their harvest is large, they may hire a bicycle to take it to sell in Mwanza.

The Seth Benjamin village cell: this is the main village-level government institution. Its command comprises a chairperson, a secretary and four elders (Figure 10).

Women's group: It is based at the village cell, unregistered and it was newly formed when the team visited the beach. There are about 10 women all belong to Seth Benjamin village cell. They are currently dealing with different activities such as tearoom, food vendors, shop owners, farmers, fish traders and farmers.

The Fisheries Department: this exists at the district level. Mwasonge has no extension officer based at their landing. The District Fisheries Officer occasionally visits them, and is in close touch with the BMU.

The Hunters group: this operates at the main village level, and its task is to counter the activities of marauding wild animals, such as bush pigs.

The Sungusungu: this is one of the main institutions at the village. Its members are drawn from the entire village cell, and its main function is to maintain peace and order in the village. The group also arranges fines and punishment for offenders. It is highly respected by the community.

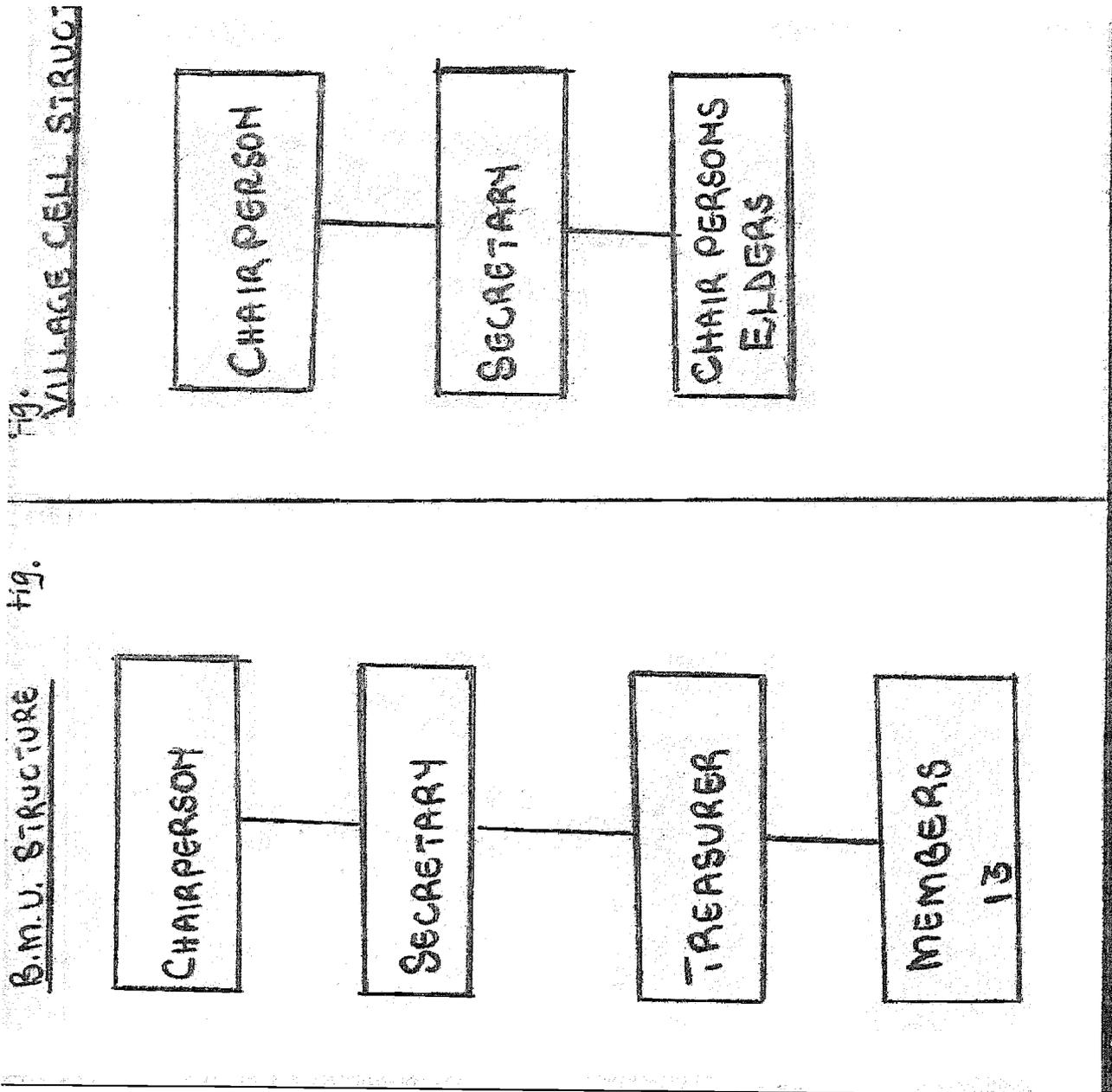
The Walimba group: this is a rescue team whose task it is to assist anyone drowning. Most fishers – particularly crewmembers – are members of this group.

Health, Sanitation, Water (HESAWA): Mwasonge has managed to get assistance from this international NGO, which constructed four wells in the village. Our respondents claimed that some of the wells are not very reliable during severe droughts, and people continue to use their own wells, or to draw water from the lake.

Fisheries responsibilities of the various institutions

The Beach Management Units: this operates at the ward and beach levels. At the ward level, there are five representatives drawn from each of the beaches in the ward (Figure 11). This group has a chairperson and a secretary. At the beach level, there are 16 members, and their main activities revolve around the maintenance of fishing regulations, sanitation and order at the landing site (see below).

Figure 10: Structure of the Beach Management Unit and the Village Cell

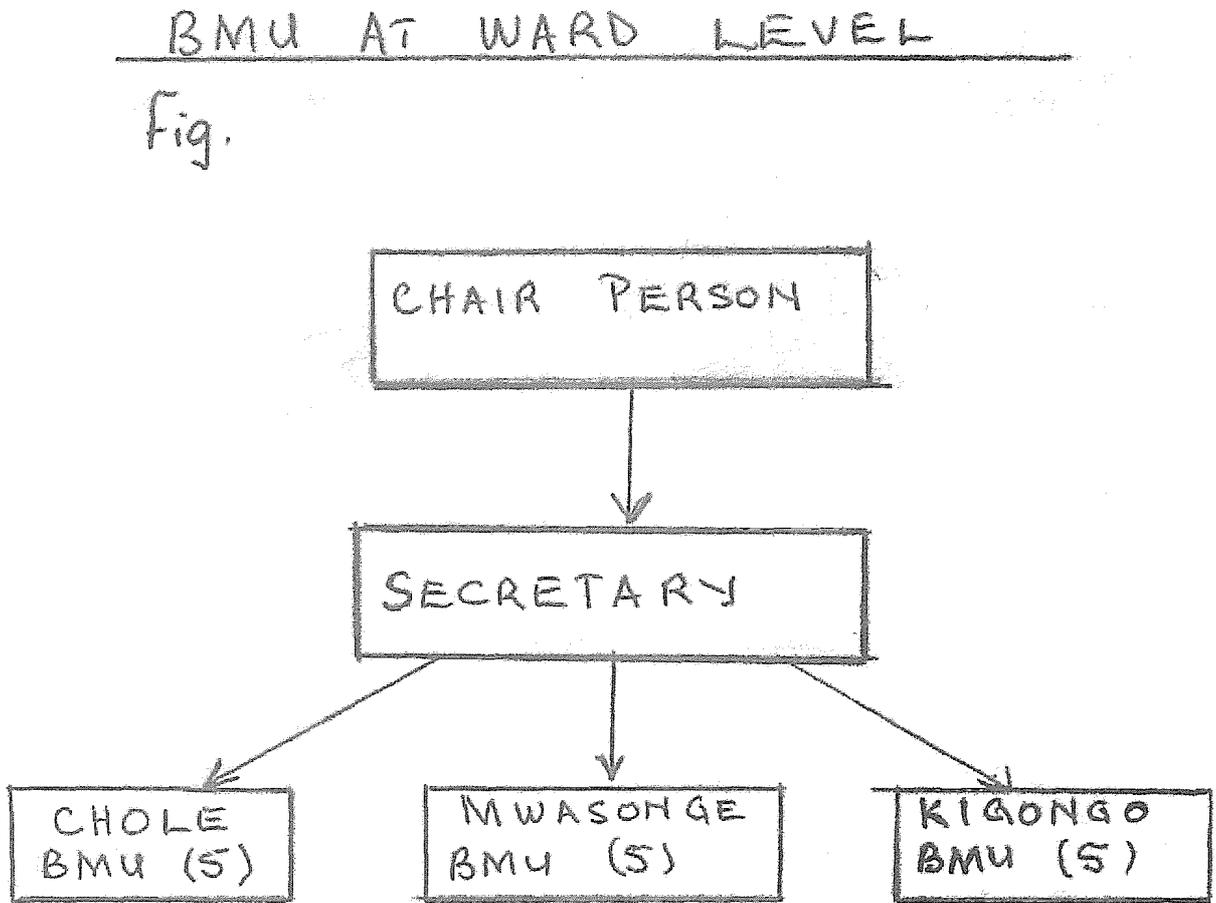


The Village cell committee/village government: this has a total of five members. Their day-to-day activities are:

- (a) To maintain peace and security in the community.
- (b) To settle disputes in the community.
- (c) To act on behalf of the BMU on some issues.
- (d) To impose punishment on offenders sent to them by other community groups/members.
- (e) They also deal with household problems such fighting, theft of both fishing and non-fishing items.

The Fisheries Department: this institution is represented by BMU at the beach level. It deals with all fisheries related matters at the beach level. It also educates the community about impact of using illegal gears. It reports to the District Fisheries Officer.

Figure 11: Organisation of the BMU at ward level



The Walimba group: to rescue any person foundering in the water, or to collect the bodies of those who have drowned.

Female vendors: this group provides various ancillary services at the beach, selling food, owning shops, and tearooms. Some fishers and crewmembers were reported to depend on this group for food.

7. Community management, control and punishment of fisheries-related offences

A group of three fishers, one village government leader and a female BMU representative were interviewed on offences and punishment at the community. Semi-structured interviewing was used to obtain answers to the following questions:

- (a) What are the major offences in their community?
- (b) Who solves them?
- (c) How are they solved?
- (d) What kinds of punishment were given?
- (e) How often do these offences occur?
- (f) What challenges and problems do they face in responding to these offences?

Common offences

The most common fishing offences at Mwasonge-Seth Benjamin beach were mentioned as:

- (a) Use of under sized nets.
- (b) Fighting.
- (c) Theft of gear.
- (d) Bathing in the lake.

The participants confirmed that their beach was amongst the worst beaches in their district because illegal fishing practises were so common on it. This included fish poisoning. When the Fisheries Department came to the beach in 1999 to help them establish the BMU, the committee selected had amongst its members those that practised fish poisoning, and the BMU worked to protect this activity from interruption. This latter BMU has now been disbanded and a new one selected. "By giving us the responsibility we should be examples to the community and we should be able to report to the Fisheries Department when required" the BMU representative to the interview commented.

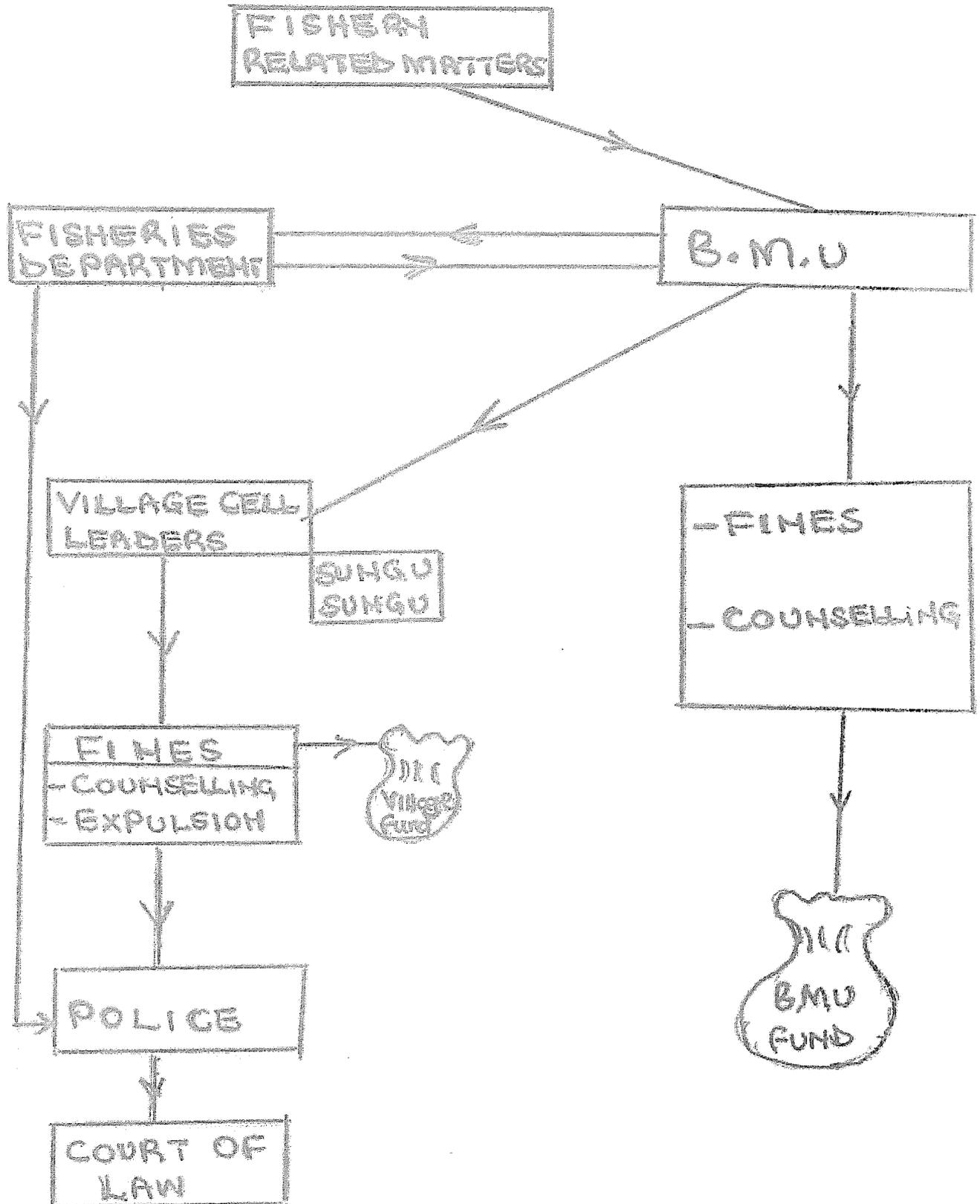
The new BMU contains non-fishing members of the community, amongst which are government representatives. The main village administration is located a few kilometres away, and for a long time, they did not really know what was going on in Mwasonge's fishery. Now that they have trusted informants within the BMU and the community, they are seeking to turn Mwasonge's bad name around.

Our respondents said that the BMU had the following responsibilities:

- (a) To make sure the beach environment is clean.
- (b) To make sure the boats are seaworthy.
- (c) To make sure all the boats are licensed.
- (d) To make sure all the fishers have a fishing license.
- (e) To make sure immigrant fishers report to them and the village cell leaders on their arrival with the letter from the BMU at their beach or origin.
- (f) To make sure fish poisoning and other illegal fishing practises are abolished.
- (g) To make sure that undersized nets are not in use.
- (h) To make sure fish is being sold in specified places.
- (i) To make sure that all solid and degradable waste is properly disposed of at the landing.
- (j) To punish fisheries-related offenders.

The BMU has considerable control jurisdiction at the landing site, and can implement and enforce the fisheries regulations and punish infringements as appropriate following consultation with the District Fisheries Officers (see Figure 12). The BMU had done its best to limit various fisheries offences, but some still affected them. Fishers using under-sized mesh-sizes, for example, would often land very early in the morning so as not to be caught, or land at some secluded beach away from the main landing site. There was a time that they would confiscate the under-sized nets and the fish caught in them, and send the offender to the District Fisheries Office. But then the offenders would just get released and repeat his crime, and the BMU got very discouraged, and a conflict arose between them and the Fisheries Department. Since then, the Fisheries Officer has explained why the offenders were released and their relationship is now much better. Our respondents also mentioned gear theft as a problem, and attributed this mainly to outsiders and those who want to get rich very quickly.

Figure 12: Relationship between BMU, other village-level administration and punishment



The process of punishment in Mwasonge's fishery

Fisheries offences at Mwasonge will be handled by the BMU in conjunction with the village government, Fisheries Departments, police and law courts. A fisheries-related offence will always first be investigated by the BMU. If the Mwasonge BMU feels that the case is too difficult for it to handle, it will be referred to the Ward BMU, and from there to the District Fisheries Officer (DFO). If the DFO cannot deal with the offence, it passes on the law courts for arbitration. If the BMU demands rapid action, they may take the offender directly to the police and the courts before informing the DFO.

How cases are dealt with may also depend on the nature of the offence and who is involved. For example, when there are problems involving migrant fishers, the BMU will often include the village government in their censure. The village government will also be involved when fishing gear or boats are seized. Who punishes various offences and types of punishment used are provided in two matrices below (Figures 13 – 14).

All fines collected by the BMU go into its fund, while those administered at the village level become village government funds, such as daily levies imposed on fishing boats.

BMU challenges and solutions

In their task of enforcing the regulations, the BMU occasionally comes across cases where the offender admits to his/her crime, but there is no physical evidence of the offence. The BMU will then impose a fine, because if they take the offender to the police without such evidence, the offender may just be released.

When administering punishment to different offenders, the BMU may come across cases whereby the culprit admits the offences but lack exhibits. These are dealt with by administering fines, as they are afraid that if they take them to the police they will be set free by lack of evidence.

Political problems can also confront the BMU. During the 2000 electoral campaigns, one villager accused the BMU of using poisons to fish with after his cow died. After investigation, it transpired that the villager's cow had in fact died after eating vegetables that had been sprayed with an insecticide, and that the villager's main concern was to discredit the BMU secretary who was a member of the ruling party, while the villager was a member of the opposition.

The BMU was concerned that their activities might not be sustained in the long run because of funding difficulties. They derive some funds from fines levied, and the village government charges a Tshs. 100/- daily landing fee on all boats at the beach. This helps to fund some of their activities and to pay the village chairman a bonus, because he does not receive a salary for his work. But the funds are limited and variable, and present the BMU with a major problem.

8. Fisheries and gear: trends, status and management

Two researchers carried out this interview, with one asking the questions while the other took notes. Five respondents participated in the interview. The oldest respondent was 65 years while the youngest was 24 years old. The youngest fisher was a surprisingly active respondent, even relating historical information to the interviewers. Both researchers and respondents sat on a mat on the ground, and the interview commenced with everyone stating his/her name, age, length of stay in the place of work and the type of fishery or activity involved in.

Figure 13: Offences and punishment at Mwasonge

FIG. 13

OFFENCE \ PUNISH	USE POISON	USE UNDER MESH SIZE NET	FIGHTING	THEFT OF GEAR	BATHING AT LAKE SHORE
FINE			000 000 000	0000 00	000 00
CONFISCATION OF GEAR		0000 0000 000			
CHASED AWAY	00000 00000			000 00	
TAKEN TO POLICE	000000 000000 000000			00000 00000 00	
COURT OF LAW	00000 00000 00000 00000			00000 00000	
REPORT TO DISTRICT	0000 0000 00	0000 0000 00			
REPORT VILLAGE GOVT FOR ACTION			000 000	0000 000	00
REPLACE TENT				0000 0000 00	

Figure 14: Offences and punishing agents at Mwasonge

COMMON OFFENSE PUNISHING AGENT	USE OF UNDER MESH NETS	FIGHTING	THEFT	BATHING AT SANDRE	WASTE MISMANAGEMENT
POLICE			0000 000 00		
BTU	0000 0000	000 000	000 000	0000 000	0000 000 0
VILLAGE ADMINI.	000 0	000 0	000 00	000	000 0
COURT OF LAW	000		000 000 0		
FISHERIES DEPT	0000 0000				

Fishery trends over time

In response to a question on how Mwasonge's fishery had changed over time, one old man replied that, in the old days, they used to have fish species like *Alestes* ('soga'), *Synodontis* ('gogogo'), *Mormyrus* ('mbete'), *Protopterus* ('kamongo'), tilapia ('sato'), Haplochromines ('furu') and 'ningu'. The dominant species were tilapia. The catch was both for home consumption and for sale. Traders from the hinterland used to come to the beach, and stay while their purchases accumulated and were dried in the sun or smoked. When they left, they would hire porters to help them carry their fish to various markets.

This large variety of fishes remained with them until 1976, when they started to decline. People could not understand why this was, and some said that it had something to do with the *Uhuru* rains of the early 1960s. The village economy suffered during this time, and farming became relatively more important than it had been previously.

In 1982, the community saw the Nile perch for the first time. Other species started to disappear, and many of the community's fishers moved from tilapia fishing to targeting the Nile perch. Many of these became migrants following good catches around the lakeshore, while those who did not join this fishery tended to concentrate on fishing for subsistence purposes. In the early 1990s, the Nile perch boom commenced. *Nembe*, *gogogo* and *soga* virtually disappeared from their catches. They knew that the Nile perch was eating many of these species because they could see these in its stomach when they processed it.

From 1996 onwards, the community noted a small increase in the indigenous fish species on which they had previously relied. Many of these, including tilapia, could be caught along the shore and in rocky areas. After 1998 they noted, the tilapia tended to be caught offshore, in deeper waters. They thought that this was because the fish were being 'harassed' by humans, particularly because of traps being placed in river mouths, and the use of the 'katuli' fishing methods, where the water is beaten to frighten fish towards nets.

Nets are normally set in the morning, between 1100 and noon, and retrieved around 0600.

Fishing boat and gear changes over time

Before 1910, the boat was not used for fishing. There was no real need to. Fish and other food seemed plentiful, and the idea of fishing further offshore never occurred to them. At some time early in the 20th Century, the community built a clay boat, and when it was first used, was a success. The second time they used it, however, it sank and the crew drowned. They used no boats thereafter, until the 1940s, when they started using a dug out canoe, carved from the trunk of the *mkuyu* tree. The boat was very unstable, particularly in rough weather, and many users drowned. As such, the community stopped using this boat, but at neighbouring beaches, such as Luchelele and Shadi, they continue to use it to this day.

In the days when they experimented with the clay boat, they used nets made from sisal – both beach seines and gill nets, and targeted *soga*, *gogogo*, *mbete*, *kamongo*, *sato*, *furu* and *ningu*. During the time of the dug out canoe, they still targeted the same fish, and still used the sisal beach seine. Traps were also common at this time.

The traditional basket traps were known as 'migono'. Old and middle aged people used to make them, and they were very cheap because the raw material needed was freely available along the shoreline. The traps were set facing river and stream mouths, and tended to catch large *sato*, *kamongo* and *mbete*.

In the 1950s, they hook and line became very common. Fishers would fish in the evening after their farming and herding activities were finished for the day. They would throw 'chum' into the water to attract the fish. Initially, they did not use bait, but later, when they noticed worms in the fishes' stomachs, they started using these as bait. The technique remains popular. Old and young people seek the worms in muddy water.

By the 1970s, the long line fishery had developed. This was normally set along the shore to target *sato*. Fishers liked the technique, because they could just leave the hooks in the lake and retrieve them the following morning.

After independence in 1962, reel thread appeared in the shops. This was suitable for making nets with, and many fishers did. If a fisher wanted to make lots of gill nets or a very large beach seine, he would invite people from the community to come and help him. He would buy a goat and some local brew for the group, and lay on local dancers. Several gill nets could be made per day in this way, while a beach seine would take between two and three days depending on its size.

In 1963 small nets were very common. Fishers realised that it cost much less to make under-sized nets than the legally sized five-inch varieties. In addition, such nets caught both big and small fish. At that time, people were little worried about the management of the fishery because fish was plentiful.

Towards the end of 1967, modern nets started appearing in the shops. This was efficient, durable and expensive gear. Only prominent fishers could afford it, and it was used mainly to target *sato*.

Between 1968 and 1978, long beach seines became very common in Mwasonge. Beach seine owners were rich and respected in their society. They occasionally came to the landing site, and when they did, everyone would know in advance that they were coming. They were like parliamentary members. People from all over the village could participate in fishing. They said for the big beach seine it could employ more than 300 people and take three to four days to haul it. Such a beach seine owner could assist the community in many ways, by lending money to the poor, providing fish for food, assisting community members during funerals, sorting out various family problems and even buying school uniforms for some poor families. In the late 1980s, beach seine owners were still seen as amongst the wealthiest people in the village.

In 1995, however, they were told by Fisheries Department officers not to use beach seines because these were killing small fish and eggs. At first, they did not take the warning seriously, and the Fisheries Department decree was unsuccessful, because even the Fisheries Extension officers feared the beach seine owners. The owners were so rich that if the Extension Officers needed financial assistance, they could help them. From 1997 the Fisheries Department started to confiscate beach seines at their beach. In 1998 they took almost all the beach seines. Many fishers lost their work in this way, and over-drinking, robbery and loitering became common.

As the rains declined, so too the traditional basket trap fishery declined. These were only used in the long rains thereafter, and during the dry season, small meshed gill nets were very common.

In 1990s, the Nile perch dominated the lake's fishery, and tilapia was being caught as a by-catch. The indigenous species had declined so much that they often wondered what was going on. Sometimes, they reasoned that Europeans were interfering with the lake because they would occasionally find tagged fish, particularly *furu*. In the early 1980's, they were asked to report to the fisheries research institute once they caught a tagged fish.

In 1999 the Beach Management Units (BMUs) started. The first BMU was inefficient. They protected offenders who used under sized mesh and splashing methods. Up until 1999, their beach was known as the beach for lawbreakers. In 2000, the Fisheries Department noticed the problems. A Fisheries team visited their beach and told them to re-elect the BMU. This they did, and they believe that the new BMU is doing a much better job. Gear is being monitored, as are visitors to the beach. The BMU also registers boats and licenses fishers.

The group complained that many fish species, such as *furu* and *gogogo*, cannot be caught in five-inch nets. When the governments prohibit gear below five inches, they should take this fact into consideration. In their community, the under-sized nets are still in use and the small size of the fish is one of the reasons for this.

9. Current fisheries resource status and management perceptions at Mwasonge

The achievement of sustainable fisheries resource use implies the participation of various stakeholders. In the preceding sections, we have examined the background context to Mwasonge's society, culture and economy. In this section, we will explore the community's perceptions of collective management of the fisheries resource. This can help to find ways of designing fisheries management plans that can cope with the heterogeneity of preferences and capabilities within the community, that takes into account local historical, socio-cultural and economic. A fully structured interview was administered to 38 boat owners and crewmembers for this purpose.

Background information

81% (31) of respondents were Sukuma, 5% (2) were Jita, while the remainder were Kerewe, Nyiramba, Zinza, Kara and Jaluo (one respondent each). The majority of fishers were 30 years old or less. Just over half were married, and 71% had had some primary school education. 76% (29) of them agreed that their families had been associated with the fishery in some way for a long time. This, and the fact that so many are married, suggest that the respondents interviewed have many family responsibilities and are highly dependent on the fishery to meet these.

Perceptions of the fish catches

The respondents said that the most important trends affecting the fishery were declining catches (34%) and gear theft (31%). The following statements further confirm these perceptions:

Statement	Agree	Disagree	Not sure
There is less fish now than 5 years ago	33 (87%)	5 (13%)	-
It takes longer to catch fish now than it did 5 years ago	34 (90%)	3 (8%)	1 (2%)
There are fewer fish species now than 5 years ago	32 (84%)	5 (13%)	1 (3%)
There are more boats now than 5 years ago	35 (92%)	3 (8%)	-
The fish I catch now are smaller than 5 years ago	16 (42%)	21 (55%)	1 (3%)
There are more illegal techniques now than 5 years ago	6 (16%)	32 (84%)	-
Fishing pays less now than 5 years ago	20 (53%)	18 (47%)	-

Table 3: Perceptions on fisheries resource base change over the past five years

Respondents disagreed that the average size of fish landed now has declined since five years ago. This may be because respondents were afraid to say that this was the case or else because the fish have remained persistently small throughout the period. In view of the background information obtained, it seems unlikely that average fish sizes have remained large over the period. The same is true of the statement concerning illegal fishing techniques being more common now than five years ago, although respondents may also be considering the impact of the new BMU. In all other cases, respondents agreed with the statements given to them.

Reasons for fish scarcity

Respondents claimed that there was more tilapia around now than there was in the 1990s, although catches of this species was on the decline. 32% of respondents believed that catch declines had occurred because of increases in effort (both fishers and gear), 26% because fish were no longer breeding and/or migrating to other areas, followed by another 26% who said that the disobedience of fisheries regulations was the main cause of catch declines.

Fishers at Mwasonge believed that tilapia is abundant in only a few areas on Lake Victoria, Mwasonge being one of them. Several of them said that this meant that tilapia are not, therefore, inclined to migrate, otherwise they would have left a long time ago.

60% (29) of our respondents said that catches of some species had increased over the past five years. These were *sato 'ngere'* and *gogogo*. 64% (24) of our respondents said that, over the past five years, tilapia has attracted more investment than other fish species. Of these, 45% claimed that this was because it was abundant, and 42% because of high demand for it.

During unstructured interviews, the community had agreed that illegal gear use was still common at Mwasonge. The reasons given for why this was were as follows:

Statement	Agree	Disagree	Not sure
You will not catch enough fish unless you use small mesh sizes	20 (54%)	15 (40%)	2 (6%)
Small mesh sizes are cheaper than large ones	23 (60%)	14 (37%)	1(3%)
They use it because they are not stopped by Fisheries Department	6 (16%)	27 (71%)	5 (13%)

Table 4: Reasons for persistent use of illegal gears

The high price of legal gear was the most commonly accepted reason for the persistent use of illegal gear. One respondent explained that 90 metres of five inch, three ply net cost about Tshs. 2,800/-, while 90 metres of three inch, three ply net cost the same amount. Two and a half inch, two ply net, however, costs Tshs. 1,200/-. The price decline has implications for its durability – lower ply nets are not as strong as high ply nets.

Respondents were asked what management actions needed to be taken on the lake, and their reactions were as follows:

Statement	Agree	Disagree	Not sure
No more fishers/boats/nets allowed on lake	6 (16%)	27 (71%)	5 (13%)
Government and fishing communities must take the regulations more seriously	5 (13%)	33 (87%)	-
The fishing communities must be able to say who can or cannot fish	36 (95%)	2 (5%)	-
Fishing communities should be allowed to claim the water in which they fish	25 (66%)	13 (34%)	-
Fishing communities should be allowed to punish offenders	20 (53%)	18 (47%)	-
There should be Fisheries Dept. personnel living on the landings permanently	32 (84%)	6 (16%)	-
Fishing communities should be allowed to participate in rule making	36 (95%)	2 (5%)	-

Table: 5 Respondents views on management options

Strong agreement was obtained for fishing communities being allowed to say who could or could not fish from the community's beach, that Fisheries Department personnel should live permanently at the landing, and that fishing communities should have the right to participate in rule making. Lower majorities were obtained in favour of communities having the right to claim water territories and having the right to punish offenders.

The right to determine who could or could not fish from Mwasonge was raised in connection to the perception that it is outsiders that steal their fishing gear and for using illegal fishing gear and techniques in their waters. Respondents claimed that fishers from Luchebele and Mkaa landings were to blame for these problems. Some fishers did not agree that a Fisheries Officer should be permanently stationed at the landing because the BMU now fulfilled this function, and such an officer would just get bored. Others said that the Fisheries Department would not be able to do this in any case because they had too few staff. Our respondents also argued that it was important to be allowed to participate in rule making because the five-inch minimum caught none of the smaller species, such as *furu*, and they considered this to be a problem.

Although the majority of respondents agreed that they should have the right to claim a parcel of water as their own or the community's, there were several fishers who were very cautious about this approach. Some worried that poorer fishers with rights to a parcel of water would just sell theirs to wealthier fishers.

The role of the state

Before the establishment of the BMUs, respondents felt that the fishery was under-regulated. The majority of respondents agreed that the fishing regulations are good, and that people do generally obey these. They also felt that their landing had a good relationship with the Fisheries Department (FD). In their area, they said, the FD did not act like policemen, and they approved of this. They also felt that the FD did a good job protecting the fisheries resource base.

Statement	Agree	Disagree	Not sure
The fisheries regulations are not good	9 (24%)	29 (76%)	-
People generally obey the regulations	33 (87%)	5 (13%)	-
Fishers in this beach are friendly with Fisheries Department	26 (68%)	12 (32%)	-
The Fisheries Department does not do well to protect fish resources	10 (26%)	28 (74%)	-

Table 6: Respondent's views on the fisheries regulations and the Fisheries Department

Although respondents generally approved of the FD and felt that it had an important role to play in the regulation of the fishery, there were dissenting voices. There were some who had had their gear seized, and therefore had nothing positive to say about the FD. Other complained that their beach was neglected, unlike Chole Beach, which had received a patrol boat, an outboard engine and uniforms for the BMU. There are also members of opposition parties, and felt that the FD was in some way synonymous with the ruling party, and therefore spoke negatively about it.

The FD is fairly active at Mwasonge, where the community said that they 'sometimes', 'sometimes' seized illegal gear and 'sometimes' destroyed catches caught with illegal gear.

Fishing regulations

Respondents were asked to rate the efficacy of selected regulations and their responses are as follows:

Regulation	Unaware of regulation	Effective	Useless
Mesh size controls	1 (3%)	37 (92%)	-
Closed areas	20 (57%)	16 (42%)	1 (3%)
Closed seasons	12 (32%)	26 (68%)	-
Poison fishing	1 (3%)	37 (97%)	1 (3%)
Trawling	3 (8%)	34 (89%)	1 (3%)
Minimum landing size for fish	1 (3%)	37 (97%)	-
Fisheries licences	3 (8%)	35 (92%)	-
Boat registration	3 (8%)	35 (92%)	-

Table 7: Respondents' ratings of selected regulations

Generally, respondents were aware of the fisheries regulations, although the majority were unaware of closed fishing areas, and hence, many thought it ineffective. Those that were aware of them mentioned the waters around Saa Nane Island near Mwanza and Rubondo Island in Geita District (both national parks). 79% of respondents knew that the minimum mesh-size for gill nets was five inches.

When asked if they have any rules made by the community, the majority of respondents mentioned restrictions on certain methods such as poison fishing, under-sized nets and splashing methods. The community could not distinguish between government law and those made by them.

Our respondents said that the only fisheries-related institution of any relevance at their landing site was the BMU. They said they used to have several agricultural institutions, such as a cotton co-operative society, but this was no longer functional.

Respondents said that there were areas on the lake where they would not fish. 37% said that they would not fish in fish breeding areas, and 21% said that they would not fish in river mouths. They said that it was not normally permitted to fish in the mouth of the Nyashshi River, the river mouth closest to the community. They said that fish bred in these areas, and that it was through the mouth of the river the migrating breeding fish had to pass.

Externalities

Respondents were questioned about a number of externalities, and their responses are summarised in Table 8:

Statement	Agree	Disagree	Not sure
When there are many boats where I fish, I will not catch enough fish	24 (63%)	10 (26%)	4 (10%)
My gear will often tangle with other gear set in the same places where I fish	21 (55%)	17 (45%)	-
If I get to the fishing grounds late, I may catch no fish	21 (55%)	17 (45%)	-
I will catch no big fish if some fishers keep catching small ones.	27 (71%)	11 (29%)	2 (5%)

Table 8: Respondents' views on selected externalities

Typically, Mwasonge's fishers are affected by externalities, although some seem to affect them more than others. Strong majorities were obtained for the view that if there is crowding in the places fished, there will be little fish, and that if small fish keep getting caught, then there will be no big fish. Although the problems of tangling, or getting to the fishing grounds late, were considered problems by the majority of respondents, agreement was just over 50% of the respondents we interviewed. In the latter case, they argued that getting to the fishing ground late meant nothing. Fishing, they said, was like gambling, and it was the luck of the draw on the day, not the time one set out for the lake, that mattered. As for tangling, while respondents agreed that they would set their nets in the same areas as other fishers, they said that they would not set their nets in the same direction as the nets of others, nor the same depth. There will be some sort of indication that nets have been set in a spot, so it was easy to avoid tangling. In any case, they normally travelled to their fishing grounds together, so they could always see where nets were being set.

Collective activities

The largest proportion of respondents (47%, N=18) believed that the government owned their landing site, while others mentioned the BMU. The BMU and the state is much the same thing, given that the BMU represents the state in fisheries matters at the landing.

The majority of respondents (71%) knew everyone in the community by sight, and will go to the fishing grounds together with the same group of fishers every time (84%). 24% of respondents said that if they found a good fishing spot, they would try to keep it a secret from their colleagues. Most said that they would share this information with their colleagues, and several others said that, in any case, it was not possible to keep such information secret.

The majority of fishers (55%) said that the water adjacent to their community belonged to nobody or everyone, while 37% said that the state owned them. 74% of respondents said that anyone could fish in their

waters provided a letter of introduction was first shown. A person who failed to do this would be chased away, or seized and punished by the community.

Half of our respondents said that if they had a fisheries-related problem, they would first report it to the BMU, followed by 24% said that they would report it to the beach leader. 21% said that they would report it to fellow fishers first. It was later noted that those who said that they would first report to the beach leader referred to the head of the fishers. The fishers have nominated a leader to represent them at the BMU.

When asked whose instruction would they obey in fisheries related matter, the majority said Fisheries Department (63%) and the BMU committee (24%). Respondents said if they knew that a fellow fisher was using an illegal gear, they reported it to the BMU committee (32%), while others said that they would first confront him or her about it (18%). Six respondents (16%) said that they would first report to their beach leader.

Respondents said that if a fisher from their community were to accuse another fisher of stealing his nets, they would convene a '*baraza la wazee*', a meeting of the community's elders, in order to solve the matter. Others said that they would resort to the BMU to sort out the issue, which would then decide how the thief should be penalised: by forcing him/her to replace the net or pass him on to other authorities. They said that in most cases the course of action perused would depend on the situation and the effectiveness of the previous, similar, resolution. If they find that one institution is not strong enough to deal with the problem, they would forward the matter directly to a court of law.

If one fishing community were to accuse another of stealing its nets, then the leaders of the two communities would solve the matter. The leaders of the communities would have a full history of the offenders, and they would be able to solve the matter immediately. By having the village leaders deal with the problem, then they were better placed to deal with the problem according to circumstances.

Generally the community was knowledgeable about many fisheries management issues. They also recognised that without the co-operating with the government, things might get very difficult. They recognised and appreciated the role of the government in fisheries management and they wanted to know if the way they were doing things was the right way, and if it was viable for the future management of the fishery.

10. Conclusions and recommendations

This report shows that there exists a rich potential for setting up a viable fisheries management plan for Mwasonge community. The community retains clear perceptions about right and wrong, is aware of trends within the fisheries resource base and how its BMU is coping. The community at Mwasonge is aware that problems exist in the fishery are worried about its future sustainability.

The fishers who are not part of the BMU committee do not recognise themselves as members of the BMU. Instead, the community sees the BMU as independent body monitoring fisheries activities on behalf to the government.

We recommend that all fishers within their fishing communities should have legal and recognised membership with their BMUs. This can be achieved by having a BMU constitution arrived at through intra-community consultation. Having a membership fee may also be of benefit for it may create a sense of belonging and identity, as well the feeling of having 'bought into' the BMU, providing openings for decision-making opportunities and participation in various activities.

The team noted that there was some antagonism between the fishing community and the BMU. For example, some complained that some people, like farmers and government leaders, could become members

of the BMU committee without having any relationship with the fishery. Fishers felt that they should be the key people in the BMU.

We recommend that communities be educated on how the resources can be managed jointly by various people. They need to be sensitised on how non-fishers benefit from the resource, how they can be the main causes of environmental damage and how involving non-fishers in the BMU can be a solution to various problems. The relationship between fishers and the rest of the community needs to be better understood.

There is a lack of a well-defined community membership. If membership is well defined and recognised, other community members such as farmers and cattle keepers could legally join the BMU and contribute towards the effective management of the lake.

The team also noted that the BMU committee members had no morale at all, and they felt that they were inefficient and had lost hope. They worried about the magnitude of their responsibilities, whether or not they had the capacity to deal with these, and whether or not the BMUs were sustainable on the long run. They did not believe that they could manage the lake on their own without external financial and material support.

In order to bring confidence and sustainability to the BMUs, their constitution should clearly indicate the benefits of being a BMU member versus non-BMU members. The constitution should clearly state the BMU's capacities and the mode of operation. Creativity for the benefit of the sustainability should be encouraged.

Respondents reported increase in the number of hook and line fishers as a result of the long dry spell. The main participants were old and young people. The team suggests that, for the future management of the fishery, all actors should be included in the management structure. The youth are tomorrow's beneficiaries, and they should also be involved in the fishery's management, if only to prevent them from being left behind and causing rifts within the community.

There is a need to establish a fisher's co-operative society at Mwasonge and BMU members could be amongst its founder members. A co-operative would enable members to borrow money while, at the same time, help to raise funds for the running of the BMU. The community would need to be encouraged and trained in how to run a co-operative. Precaution should be taken to avoid seeing economic benefits outweighing management benefits. The community should take management seriously for the future sustainability of their economy.

Appendix: glossary

Word	Language	Translation
<i>Aluru</i>	DhoLuo	Unknown bird species.
<i>Awanga</i>	DhoLuo	A disease, possibly the tropical ulcer.
<i>Bacwezi</i>	Lusoga	A with doctor.
<i>Banda</i>	KiSwahili	A shed, often used to sell fish from.
<i>Bhang</i>	KiSwahili	Marijuana.
<i>Babanja</i>	Luganda	'Mailo' land ownership.
<i>Binda</i>	DhoLuo	Unknown vegetable.
<i>Bodaboda</i>	Luganda/Lusoga	Public transport based on bicycles or mopeds.
<i>Bombwe</i>	DhoLuo	Unknown plant species.
<i>Boyo</i>	KiSukuma	Unknown tree species.
<i>Butanda</i>	KiSukuma	Locust breeding areas.
<i>Buyolwa</i>	KiSukuma	Name given to a species of small Haplochromines.
<i>Chirungu</i>	Luganda	Unknown tree type.
<i>Dagaa</i>	KiSwahili	A small, pelagic sardinella, <i>Rastrineobola argenta</i>
<i>Dala dali</i>	DhoLuo	Unknown tree species.
<i>Dhot</i>	DhoLuo	A lineage.
<i>Diere</i>	DhoLuo	Middle.
<i>Dimadima</i>	Lusoga	A fishing method similar to 'sekeseke', which see.
<i>Dona</i>	KiSukuma	Maize meal
<i>Dwele</i>	DhoLuo	The Neem tree, <i>Melia azedarach</i> (<i>Meliaceae</i>).
<i>Enkwira</i>	Lusoga	A stockade trap.
<i>Fulu</i>	DhoLuo	Generic name for a fish of the <i>Haplochromis</i> species.
<i>Furu</i>	KiSwahili	Generic name for a fish of the <i>Haplochromis</i> species.
<i>Gabunga</i>	Lusoga/Luganda	The beach leader.
<i>Gogogo</i>	KiSwahili	A fish species of the genus <i>Synodontis</i> .
<i>Gomasi</i>	Luganda/Lusoga	Type of traditional dress for women.
<i>Gombolola</i>	Lusoga	A chief.
<i>Hongwe</i>	KiSukuma	A fish species, <i>Bagrus docmak</i> .
<i>Isabirye</i>	Luganda	Name by which the father of twins is known.
<i>Jagoro</i>	DhoLuo	The person who accepts payments for fish sold, and supervises the sale.
<i>Jamna</i>	DhoLuo	A tree, <i>Syzygium cuminii</i> (<i>Myrtaceae</i>).
<i>Jochan</i>	DhoLuo	The poor.
<i>Jomoko</i>	DhoLuo	The wealthy.
<i>Kabaka</i>	Luganda	The king of the Baganda.
<i>Kabigo</i>	Luganda	A stockade trap.
<i>Kamongo</i>	DhoLuo/ KiSukuma	A fish species, the lung fish.
<i>Kanjwele</i>	DhoLuo	A name for juvenile fish.
<i>Kanzu</i>	KiSwahili	Traditional dress worn by Arab men.
<i>Kasorombete</i>	KiSukuma	A fish species, probably of the <i>Mormyridae</i> family.
<i>Kasuru</i>	Luganda/Lusoga	A fish species, <i>Mormyrus kannume</i> .
<i>Katuli</i>	KiSwahili	A fishing method involving the beating of the water to scare fish towards a net.
<i>Kiboko</i>	KiSwahili	A hippopotamus; name also given to a whip.
<i>Kikoi</i>	KiSwahili	A wrap around cloth, mainly worn by men in Kenya and Tanzania.

Word	Language	Translation
<i>Kira</i>	DhoLuo	A stockade trap.
<i>Kirundu</i>	Luganda	Type of planked canoe.
<i>Lutende</i>	KiSukuma	Papyrus.
<i>Mamba</i>	KiSwahili	A fish species, the lung fish.
<i>Masambo</i>	Luganda	Type of beach seine.
<i>Matatu</i>	KiSwahili	A form of public transport using mini-buses.
<i>Mathar</i>	DhoLuo	The boat skipper.
<i>Matoke</i>	Luganda	Plantain.
<i>Mbahazi</i>	DhoLuo	Unknown tree species.
<i>Mbete</i>	KiSukuma	A fish species, probably of the <i>Mormyridae</i> family.
<i>Mbiru</i>	DhoLuo	A tilapia species.
<i>Mbuta</i>	DhoLuo	The Nile perch <i>Lates niloticus</i> (Linne).
<i>Mgambo</i>	KiSwahili	A village level guard appointed by the government in Tanzania.
<i>Migoni</i>	Lusoga	A shrub, used to make fish traps.
<i>Mihale</i>	KiSukuma	A type of thorn tree.
<i>Minya</i>	DhoLuo	A reed plant, <i>Cissus rotundifolia</i> (<i>Vitaceae</i>).
<i>Mito</i>	DhoLuo	A vegetable, <i>Crotalaria brevidens</i> var. <i>intermedia</i> (<i>Papilionaceae</i>).
<i>Mkuyu</i>	KiSukuma	Unknown tree type.
<i>Mukene</i>	Luganda/Lusoga	A fish species, <i>Rastrineobola argentea</i> .
<i>Mukoko</i>	Luganda	Unknown tree type.
<i>Mulindi</i>	Luganda	Unknown tree type.
<i>Musambya</i>	Luganda	Unknown tree type.
<i>Musita</i>	Lusoga	Unknown tree type.
<i>Musonge</i>	Luganda	Type of planked canoe.
<i>Muyirikiti</i>	Luganda	Unknown tree type.
<i>Muziru</i>	Luganda	Unknown tree type.
<i>Mvule</i>	DhoLuo/Lusoga/ Luganda	A tree, <i>Milicea exce</i> .
<i>Mzirikiti</i>	Luganda	Unknown tree type.
<i>Nabirye</i>	Lusoga	Name by which the mother of twins is known.
<i>Ndiba</i>	KiSukuma	A type of fish trap.
<i>Ndimula</i>	KiSukuma	A pair of specific stars.
<i>Nembe</i>	KiSwahili	A type of fish, <i>Schilbe intermedius</i> .
<i>Ngere</i>	KiSukuma	A fish species, possible <i>Schilbe</i> .
<i>Ningu</i>	KiSukuma/ DhoLuo	A fish, <i>Labeo victorianus</i> .
<i>Ngege</i>	DhoLuo	A tilapia species.
<i>N'Gou</i>	DhoLuo	A tree, <i>Ficus capensis</i> (<i>Moraceae</i>).
<i>Njusi</i>	KiSukuma	A fish of the tilapia species.
<i>Nkone</i>	Lusoga	Unknown tree type.
<i>Nongo</i>	Luganda	Unknown tree type.
<i>Nsambya</i>	Luganda	Unknown tree type.
<i>Nsoke</i>	Luganda/Lusoga	Mythical snake that lives in the lake; a water spout.
<i>Nkolonkolo</i>	Luganda	Type of basket trap.
<i>Nyolworro</i>	DhoLuo	A revolving credit scheme.

Word	Language	Translation
<i>Nyoyo</i>	DhoLuo	A maize and bean food.
<i>Obuya</i>	DhoLuo	A medicinal herb, <i>Gladiolus psittacinus</i> (<i>Iridaceae</i>).
<i>Ochuado</i>	DhoLuo	A fishing technique: one end of a long, large-mesh gill-net is attached to the shore and the remainder set parallel to the shore, forming an enclosure with the shore on one side and the net on the other. From a boat in the mouth of the enclosure, and fisher beats the water to scare fish into it.
<i>Ododo</i>	DhoLuo	A vegetable of the <i>Amaranthus</i> spp.
<i>Odundu</i>	Dholuo	A reed plant, <i>Phragmites mauritianus</i> (<i>Gramineae</i>).
<i>Omusipi</i>	Luganda	Type of belt worn with a 'gomasi', which see.
<i>Omweny</i>	DhoLuo	Unknown plant species.
<i>Ondilo</i>	Dholuo	A name for juvenile fish.
<i>Orindi</i>	DhoLuo	Ambach wood: <i>Aeschynomene elaphroxylon</i> (<i>Papilionaceae</i>).
<i>Osuga</i>	DhoLuo	The egg plant, <i>Salanum nigrum</i> (<i>Solanaceae</i>).
<i>Otangire</i>	Dholuo	Probably <i>Langenaria sphaerica</i> (<i>Cucurbitaceae</i>) a climbing herb.
<i>Otiep</i>	DhoLuo	A tree, <i>Acacia senegal</i> (<i>Mimosaceae</i>).
<i>Otho</i>	DhoLuo	A tree, <i>Balanites aegytiaca</i> (<i>Balanitaceae</i>).
<i>Owino</i>	DhoLuo	A medicinal shrub, <i>Cassia dydimobotrya</i> (<i>Caesalpinaceae</i>).
<i>Oyieke</i>	DhoLuo	Medicinal plant, probably 'oyieko' which see.
<i>Oyieko</i>	DhoLuo	A tree, <i>Sesbania sesban</i> var. <i>nubica</i> (<i>Papilionaceae</i>).
<i>Oyongo</i>	DhoLuo	Unknown weed.
<i>Pow</i>	DhoLuo	A tree, probably <i>Grewia trichocarpa</i> (<i>Tilaceae</i>).
<i>Sangara</i>	KiSwahili	A fish species, the Nile perch.
<i>Sato</i>	KiSwahili	A fish species, the tilapia.
<i>Sekeseke</i>	DhoLuo	A fishing method: a gill-net is placed in a circular fashion, and the fishers wade into its centre, ferreting fish out from beneath rocks.
<i>Sekova</i>	Luganda	Unknown tree type.
<i>Set</i>	DhoLuo	A fishing technique similar to the 'sekeseke' which see.
<i>Shamba</i>	KiSwahili	A farmed plot of land.
<i>Soga</i>	KiSukuma	A fish of the <i>Alestes</i> species.
<i>Sogo</i>	KiSukuma	A fish species, probably of the genus <i>Brycinus</i> .
<i>Sonda</i>	DhoLuo	The codend of a beach seine.
<i>Sukuma wiki</i>	KiSwahili	Kale
<i>Sungusungu</i>	KiSukuma	Name given to a government sanctioned vigilante group.
<i>Tupa-tupa</i>	KiSwahili	A cast net.
<i>Ugali</i>	KiSwahili	A thick, starchy porridge made from maize meal.
<i>Uhuru</i>	KiSwahili	Freedom/independence.
<i>Ujamaa</i>	KiSwahili	'Togetherness', 'unity'.
<i>Yugni</i>	DhoLuo	A constellation, said to fall from the sky once a year. The descent occurs in two cohorts, the first being the male <i>yugni</i> in early May, followed by the female <i>yugni</i> two weeks later. The males render the water cool, while the females make it distinctly cold, driving fish into deeper waters. Fishing at this time is said to be poor, and those fish caught have a milky film over their eyes. The time of <i>yugni</i> is also associated with the arrival of certain diseases.

