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**WATER, HEALTH AND THE COMMUNITY
IN KIBWEZI**

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INTRODUCTION

The provision of safe drinking water in adequate quantities has been recognized by international health agencies as being crucial to health. WHO and UNICEF identified it as one of the major components of primary health care, the attainment of which is essential to the achievement of Health For All by the year 2000 (HFA 2000).

A further recognition of the importance of adequate supplies of safe drinking water was given by the United Nations General Assembly in launching the International Drinking Water Supply and Sanitation Decade (IDWSSD or the Decade). The Decade was regarded as 'an essential first stage in the global programme of health for all by the year 2000. By increasing the quantity and quality of water supplied it will help to reduce the incidence of many diseases among the people at risk. By improving sanitation and hygiene it can greatly increase the health impact of investments in water supplies'. *

Having established in Kibwezi, on the basis of primary health care principles, a community-based health care programme, AMREF proceeded to look for ways in which it could make a contribution to the community water supply efforts to increase the health impact of the programme. An understanding of the nature of water sources used and water handling practices was needed in order to understand the health problems that need to be addressed. Knowledge of the community initiatives and programmes in obtaining water was also necessary if AMREF was to make a meaningful contribution to communal efforts. It was important that AMREF defined for itself a participatory role that would at once be meaningful and enhance the community's confidence and self-reliance.

This study, done in the context and in support of the community based health care programme, is itself a first step in what is expected to be a continuous process of learning from the community and responding to its needs, not by donating aid, but by supporting its initiatives and bolstering its self-reliance.

* Drinking-Water and Sanitation 1981-1990, A Way to Health. WHO, Geneva, 1981.

PREFACE

'Water, Health and the Community in Kibwezi, is based upon field visits by Ayuka Oendo in the last months of 1982 to the villages of Makindu-Kibwezi Division of Machakos District. In this area of notoriously limited and erratic rainfall AMREF has from 1978 been endeavouring to work with the people of the small and dispersed settlements who, however, number 100 000 and with them to initiate a health care scheme based upon selected volunteers.

From the initial 1978 studies of Lucas Owuor-Omondi * we have known that for Kibwezi people the availability of water impinges at point after point upon their health and also determines their settlement patterns. In the drought of 1981 many families moved out. With the more recent good rains they have been moving back. So, that 'water is life' is strikingly true in Kibwezi not only for the life of the people but also for the life of the animals that form part of their total support system.

Whilst we have known water was Kibwezi people's first priority, it is only in the last two years, as this study shows, that AMREFs Kibwezi staff - especially the Project Co-ordinator S A Muli and the Public Health Technician, Eric Wambua - have been able to make a significant contribution. This intervention has been made possible firstly by assistance from Kenya's 'Water for Health Organization' under the leadership of Mrs Margaret Mwangola, followed by further timely assistance from the Rotarians of Nairobi North. The progress made possible is here reported.

Now, strengthened by this report, AMREF is able to intervene more skilfully and circumspectly. Ayuka Oendo brings out with unusual clarity the dangers and pitfalls of clumsy intervention. He shows that there is a judicious mix of technical and financial assistance, and a resourceful combination of discussions and positive suggestions, and also a timely intervention in each area of community concern - a skill in what he calls 'agency participation'-that can yield optimum progress in the self development of the community. And that this is the 'philosopher's stone' that we - and all who follow us - must seek.

Norman Scotney
Head - Health Behaviour and
Education Department.

* 'Kibwezi Rural Health Scheme - Baseline Survey'. Owuor-Omondi, AMREF, 1978-9.
(Seven other publications are available).

Objectives

The objectives of this study included :

1. a survey of the water sources in Kibwezi area and their fitness as sources of water for domestic use,
2. to observe the water handling practices at the sources and in homes to see at what points pollution was likely to take place,
3. to study the community initiatives and programmes in water supply and their impact,
4. to explore ways in which community initiatives could be used to maximize benefits from participation by external agencies,
5. to observe the technical, social and economic problems that the communities encounter in their independent or joint efforts to find solutions to water supply problems.

Method

The methods used in this study were :

1. Unannounced visits to water sources and observing the general state of water handling practices there. As the water sources in this area are few, an attempt was made to visit the great majority of them.
2. Impromptu interviews with people at the water sources.
3. Unannounced visits to homes, observing water handling and water use practices and conducting informal interviews with them.
4. Visits to water project sites and having informal interviews with project leaders and members of the groups involved.
5. Discussions with various government officials including Divisional Agricultural Officers and extension workers, Chiefs and Assistant Chiefs, Locational Community Development Assistants and the Water Bailiff.
6. Discussions with the health staff at Kibwezi Health Centre, the Project Co-ordinator and the community health workers of the community-based health care programme.

Section 1.THE AREA

1.1

General Features

Kibwezi is a division in Machakos District bounded by Chyulu Hills on the South-west and the Athi River in the North-east. It stretches from Kiboko river (Hunters Lodge) to Mito Andei on the Mombasa Road. The altitude ranges from 750 m to 1 500 m above sea level. The slopes and foot of Chyulu Hills are covered by volcanic rocks while most of the lower areas away from the hills have predominantly loose sandy soil.

Rainfall in the area ranges from 510 mm to 750 mm and varies drastically from year to year. Temperatures are high and the rate of evaporation very high - from 30% to 80%.

1.2

Water Resources

The Athi River is the most important and reliable source of water in this area. The other perennial streams, the Kiboko, Kiumbe, Kibwezi, Thange, Kambu and Mangelete, are useful sources though most of them are reduced to mere trickles during the dry season. The usefulness of the Kiboko and Kiumbe were severely reduced after their waters were impounded and diverted to some farms.

The scant and irregular rains, coupled with the high rates of evaporation and seepage, reduce the possible impact of water that gathers in depressions, ponds and dams.

Most of the wells that have been dug by the community dry up during the dry season. Wells dug in depressions, basins and river valleys are flooded during the rains but do have some water through the dry season.

1.3

The SourcesWet season sources

Both the number of sources of water and the amount of water in them varies drastically with the seasons. In the rainy season there is plenty of water in the streams, ponds and dams, wells, spring and water tanks. Many of the wells that are not protected are flooded with run-off from the heavy rains. As such they are mostly abandoned and resort is made to other sources. The well at Nziii which is at the bottom of a dry valley, and the two wells at Utu are filled with dirty

water from runoff. Protected wells have more water at this time and their use continues although with less urgency. There are usually no livestock at well sites. The ground around the well is, however, wet and muddy both from rain water and from the surplus water from the well.

Streams at this time are overflowing with water and the hitherto dry valleys also turn into rivers with much water. Springs also turn into streams being fed by rain water and other new wet-season springs. Water is collected at several spots along the streams. Ponds and dams fill up but are rarely used except by people living nearby. Livestock, however, use these frequently because they are often surrounded by grazing land.

Water tanks, though rare, are used in some homes to catch water from roofs. This source, however, lasts only a short period as the demand for water far exceeds what can possibly be collected in the water tanks. Houses with iron-sheet roofs are few, and not all have got water tanks. Even those houses with iron sheet roofs are small, so that if the tanks were large, still not much water could be collected because the catchment is small.

Water collection from the railway owned piped supply reduces considerably with the coming of the rains. People close to the railway stations, however, still use this source, and some of those farther away still prefer it for domestic use. The water peddling business comes to a standstill at this time as most people have water nearby so that they can collect it instead of spending money to obtain it from vendors.

Livestock watering is almost exclusively at dams, ponds and streams because these are sources which have the most abundant supplies of water. Whilst collection remains almost indiscriminate, there is a clear preference for wells, streams and the railways supplies for those close enough. Use of community water supplies, like Komboyoo, is mostly constant.

Dry Season Sources

Many sources of water dry up during the dry season, and the others usually have little water. The streams that come into being with the rains dry up and the more permanent ones are reduced to trickles. Athi River is the most reliable source in this category. The Mangelete is reasonably reliable while the volume of Kibwezi, Thange and Kambu streams is greatly reduced. Reliance on these streams is overwhelming. People travel up to 15 kilometres to collect water, sometimes using

public transport. Some streams become patchy - having springs which supply part of the course before they disappear from evaporation and seepage. The Kiumbe, after losing much water this way, and much more to irrigating farms, becomes patchy. Water is available at Kisingo and then some kilometres downstream at Katulini. Though some sites are set aside for water collection, the sites for bathing, cleaning laundry or watering livestock are sometimes upstream from this site, or so close that this arrangement amounts to one of convenience rather than a precaution against pollution. On the Kiumbe at Kisingo, the bathing site is about twenty metres upstream from the collection site while the place for washing clothes is less than 10 metres higher up.

Unprotected wells are again used when the dry season starts to set in. They are unprotected, we feel, because since they dry up as the dry season progresses they are considered of less importance. By contrast the wells at Kithayoni (main well), Ivingoni and Utu supply water through the dry season and are protected.

Springs in dry river beds become useful at this time. Mud is scooped out at spring heads where water accumulates. Larger sections are scooped out elsewhere where animals are watered. Dams and ponds which dry out as the dry season progresses often become the sites of shallow wells. At this time water tanks depending on roof catchments are also dry.

The railway water supply is heavily used at this time not only by the communities immediately surrounding the stations, but almost as much by the people living far from any other water source. This source is preferred not only because the water is believed to be clean but also because collection is easy and quick.



- 1a Dry riverbeds are a source of water during the dry season. This is a pool in a dry riverbed at Nzwii which provides water for domestic use.



- 1b This pond near lia Itune is used only by livestock because there are shallow wells nearby which provide water for domestic use .

- 1c The pond below at Maia Atatu is used both by livestock and for collecting water for domestic use .



Section 2COLLECTION, TRANSPORTATION, STORAGE AND USE2.1 Family Division of Labour

Most of the tasks in anyway connected with water have mainly involved women and girls. This is largely due to the traditional division of labour which designated water collection as a domestic function and therefore the exclusive concern of women. However, this pattern is now changing in Kibwezi partly because the attitudes are changing, and partly because of the particularly harsh conditions prevailing in this area.

Women do all the water collection when the source is not far from home (less than 4 kilometres). At greater distances men may also collect if they have got bicycles, donkeys or ox carts. At such distances women also use these means. Men very rarely carry water on their backs, no matter what the distance is to the source.

In the normal 'short' distance, water collection a woman carries only a single debe (20 litres) of water strapped to her back. Young girls may carry small plastic containers, or gourds of varying sizes depending on their ages. Sometimes young boys collect water using the 5 lit. plastic containers. Male heads of households otherwise assist by purchasing water from vendors, if they can spare the money.

Animals are watered only at sources with more abundant water supplies. Depending on the distance to these sources, animal watering may be done once a day, every other day, or after every two days. Here again, men only do this when the distances involved are long. Otherwise the women, girls or young boys do it.

2.2 Water Collection at Sources

Water collection at most wells is done by lowering a container (a 2 to 5 litre metal or plastic container) into the well. The container is tied to the end of a long rope. In some wells e.g. at Ivingoni, there is one container for raising water from the well which everyone uses. In other wells, like Utu and Kithayoni, everybody comes with their own containers and, at any given time there are several being lowered simultaneously into the well.

At springs water is usually in short supply and people have got to take turns to scoop it out of the small depressions that are made for the water to gather.

Collection is slow and laborious and it is not unusual for a person to wait for several hours for her turn. A calabash or plastic bowl is used to scoop water and transfer it into the debe. The majority who come for this water are women, except at the Nooka spring where we found several men also in the queue.

Streams, pools and dams are the most heavily used sources. Because supplies are more plentiful there, animal watering, bathing, cleaning laundry and collection of water for construction is also made there. In some places water for domestic use is also collected from such sources. Collection at these sources is done with much less care. People wade into the water and simply dip in their debes or buckets. These are also sources of water for the water vendors.

2.3 Transportation

Much of the water used in the homes is carried on women's backs. 20 lit. debes are carried on the backs with straps supporting these from the forehead. This way only one container can be carried at a time.

Those homes which have donkeys can carry more water over longer distances. One donkey normally carries two debes of water on one trip. Bicycles are also used when there are usable roads or paths. Normally a bicycle carries one debe, although sometimes one can see two debes hung across the rear carrier of the bicycle.

Oxcarts are another frequent means of transport for water. The better-off homes use them to carry home large amounts of water at a time. More often, however, they are used to transport water to construction sites, or by water vendors to transport water to more distant villages. One oxcart may carry up to 20 debes or 3 (25 gallon) oil drums of water.

Tractor trailers are used in much the same way as oxcarts although they carry a lot more water. These are, however, owned only by the wealthy in the community. Public means of transport are also used to transport water to homes. It is common to see women packing several debes of water into matatus and buses in Kibwezi and taking it to their homes.

2.4 Storage

Containers used for storing water at home include :

- (a) debes
- (b) large plastic containers (up to 100 lit.)
- (c) clay pots
- (d) oil drums.

The debes used are normally those the water is transported in, otherwise the water is transferred to the large plastic containers, clay pots or drums. Retrieval of water from the debes and plastic containers is normally by tipping them, while from the pots and drums a cup, bowl, calabash or other container has to be dipped in. While the debes and plastic containers normally have lids and are usually securely sealed, the pot is often only loosely covered by a plate or gourd. The drums, which are kept outside the houses, are usually left open. The drums which are used for transporting water have smaller openings which can be closed.

2.5 Water Use at Home

The main uses of water at home are :

- (a) drinking
- (b) cooking
- (c) washing household utensils
- (e) bathing
- (f) laundry.

Not all of these are done in every home. The first three take place at home using water that has been brought in. Bathing is done at home by older members of the family only if the source of water is close enough to permit several trips per day, or there is the means to bring in a quantity of water at a time (like the oxcart). Otherwise bathing takes place at the water sources. Children are, however, bathed at home by their mothers and older sisters. When the source of water is far and the water is scarce, bathing consists of wiping the child with a damp cloth.

Laundry is the function least frequently done at home. Clothes are usually washed at the water sources when women go to collect water. In the rare cases where there is plenty of water at home, either because of close proximity to the source or available means of transport, then clothes washing is done at home.



2a Shallow wells in dry river valleys or on their banks at Ituumo are often the focal points of water searches during dry season. For the dozen women present at the well, it will take most of the day to collect water. The woman in the well carefully scoops water, using a small bowl or calabash, then transfers it into a bigger calabash which she hands to another woman who pours it into a gourd or other container. The well below (b) has much less water, but the process is the same.

These wells are exposed to pollution. Dogs and livestock have access to both water and containers.

2b





2c Ponds, such as this at Maia Atatu (above) are used for watering livestock, whilst at the other end people collect water for domestic and other uses. This assignment of sites to different functions is not always strictly adhered to because it is quite informal. In many cases, no such an assignment exists.

2d This pool on the drying Kiumbe river at Kisingo (below) is used indiscriminately and simultaneously by livestock and people, for collection, bathing and for washing clothes.



Section 3WATER AND HEALTH3.1 Water Pollution

Pollution appears likely to be taking place both at the water sources and in the homes. This happens, firstly, as a result of the insanitary state of the sources and secondly, from the way in which the source is used. Further pollution occurs from the method of collection of water.

3.1.1 Indiscriminate use of a water source

The unplanned use of a source results in indiscriminate bathing, washing of clothes, watering of animals and also collection for domestic use. The Kiumbe stream at Kisingo is a case in point. At a secluded spot upstream the men bathe while twenty yards down-stream water for domestic use is collected. Another twenty yards down-stream more water is collected and animals are watered. This problem exists where streams, springs, dams and pools are the major source of water, including the pools at Maia Atatu (Mangelete), the dam at Kyaani (Utithi) and the Kiumbe Stream (Kisingo).

3.1.2 Unhygienic handling of water at source

More pollution may take place on collection. At streams, springs and dams, both people and animals wade into the water that is to be collected and used in the homes. Scoops and containers are dipped in the water uncleaned, or are 'cleaned' in the water before it is collected.

At most wells people come with their own scoops attached to long ropes. At Kithayoni (Utiithi) we noticed people simultaneously lowering their scoops into the well and some also collecting water. The water for rinsing the scoops is obtained by dipping the uncleaned scoops into the well.

3.1.3 Unhygienic storage and handling at home

Stored water at home is often exposed to contamination especially when the containers are open topped, and water is obtained by dipping the scoops into it. A further factor is that since such containers are often large and static, they are less frequently cleaned. Unlike the plastic debs whose lids can be tightly screwed down, these large containers are either left uncovered or only loosely covered.

3.1.4 Lack of knowledge of connection between unclean water and disease

In the areas where the AMREF community-based health care programme is operating there appears to be general knowledge of the association between unclean water and disease. In Kikwasuni and Kamunyuni, where water from Kambu river is readily available, reports from community health workers (CHWs) indicate that there is now more hygienic handling of water. They also report considerable reduction of diarrhoea incidence in their villages.

In other areas where water is more difficult to get, like Nooka, Nthunguni and Ngiluni, CHWs report that though there is knowledge of the connection between unclean water and disease, there is more preoccupation with efforts to obtain water than with ensuring that the water used is clean and is handled properly.

In the other areas where there is no community health programme we found a large percentage of people who did not realize that there could be any connection between dirty water and disease. Many refused to believe that such an association is possible. A primary school teacher in Syumile Primary School insisted that in other areas water could probably cause disease, but not the water from Kisingo (Kiumbe)

In most cases, water that looked clean (clear) was believed to be uncontaminated. Ideally, people feel, water is best when it is clear, tasteless and does not smell. But it appeared that water from many wells with a heavy mineral taste did not seem to elicit any reservations about its fitness for use.

3.2 Implications and consequences of water shortage on health

Lack of, and difficulty in obtaining, sufficient clean water for domestic use has significant consequences for the health of the community. This occurs both direct through transmitting diseases and indirectly in the social and economic costs that follow from the poor general health of the family.

Inadequacy of clean water in sufficient quantities results in various diarrhoeal diseases. This is reflected in Kibwezi in the high incidence of diarrhoea, and other excreta related diseases, the incidence of which rises significantly during the rainy season. During the dry season when water is scarce skin disease become predominant.

Besides the debilitating effect these diseases have on the members of the community, another consequence is the time that people take to recover. This is significant in Kibwezi where rains are not only scarce but also erratic. The rainy season, which brings with it the rise in excreta related diseases, opens a period of preparation of land for planting, actual planting and then weeding of crops. The importance of this period is seen in the fact that for as long as it is raining practically all other activities come to a standstill and everybody spends most of the daylight hours in the fields. Sickness also reduces people's limited financial resources when they have to seek treatment. Health facilities in this area are few and far between, necessitating expensive transportation to reach them. Some villages are long distances away from the roads and any means of transport. Then the only option left is to carry a patient on a makeshift stretcher, sometimes for distances exceeding 20 kilometres.

A further consequence is that much time is taken because long distances have to be covered to obtain water. The time and energy expended to obtain water affects not only the frequency of collection - and consequently the amounts of water available for domestic use - but also the ability to perform other essential domestic tasks. As noted earlier, water collection is primarily a function of women. If a woman at Nooka spends one day walking 15 kilometres to Komboyoo to collect a debe of water or spends two or three days at the Nooka spring waiting her turn to scoop enough water to fill the debe, this means she has :

- (a) an exhausting task which leaves her less able and less motivated to fulfill other important domestic functions, and
- (b) time is taken away from home and particularly from the young children who need her.

This is the decision the woman of Sinai and Syumile, amongst other distant villages, has to make. Even when the water vendors bring water to the villages, the decision is still whether to make the journey which will take the better part of the day (if not the whole day) or part with the family's limited resources to purchase one debe (20 litres) of water for as much as KShs 6.

Women often spend more time than men working at water projects. At Mathayoni, Utu, Kithayoni more women are present at the site on the days the groups are working. At Kai and Katuluni the work of well digging is done almost exclusively by women. This situation has serious implications for the welfare of the community and the health of the family.

3.3 Possible Interventions

3.3.1 Water Sources

A major improvement will result in the quality of life of the community if water is made available in greater quantities and close to the homes. The resources, time and energy that are expended to bring water home for domestic use, or to water animals, could be used to improve family welfare and enhance overall community development. Encouragement and support of existing community water projects will, therefore, result not only in increased social and economic development, but also in better health for the community.

3.3.2 Health Education

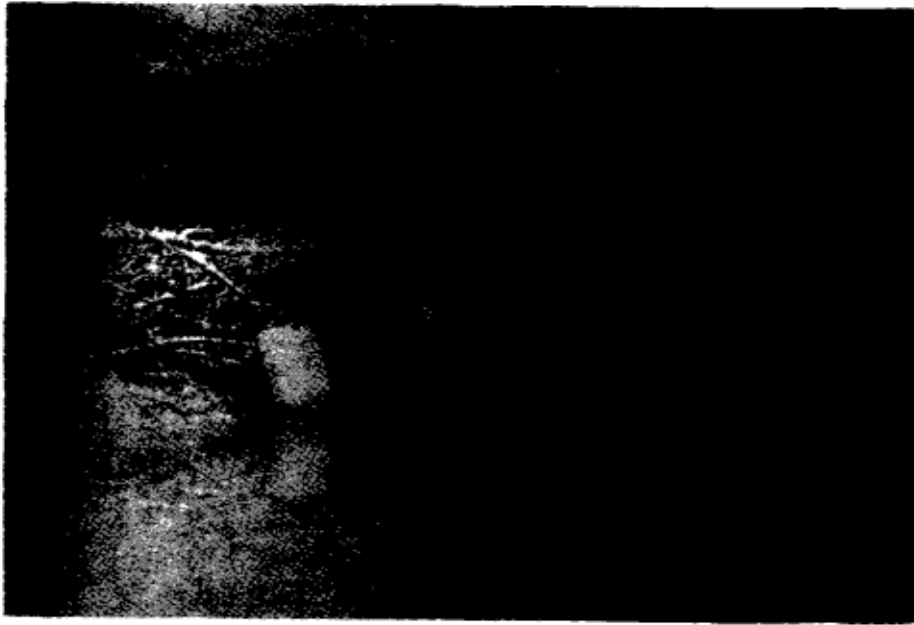
Health education of the community is another measure that is likely to help improve people's health. Instructions in better and more hygienic methods of :

- (a) water handling at home - especially scooping water out of pots, debes or drums;
- (b) boiling of drinking water;
- (c) storing water, and the risks of stagnant water, will be helpful.

3.3.3 Community Organization

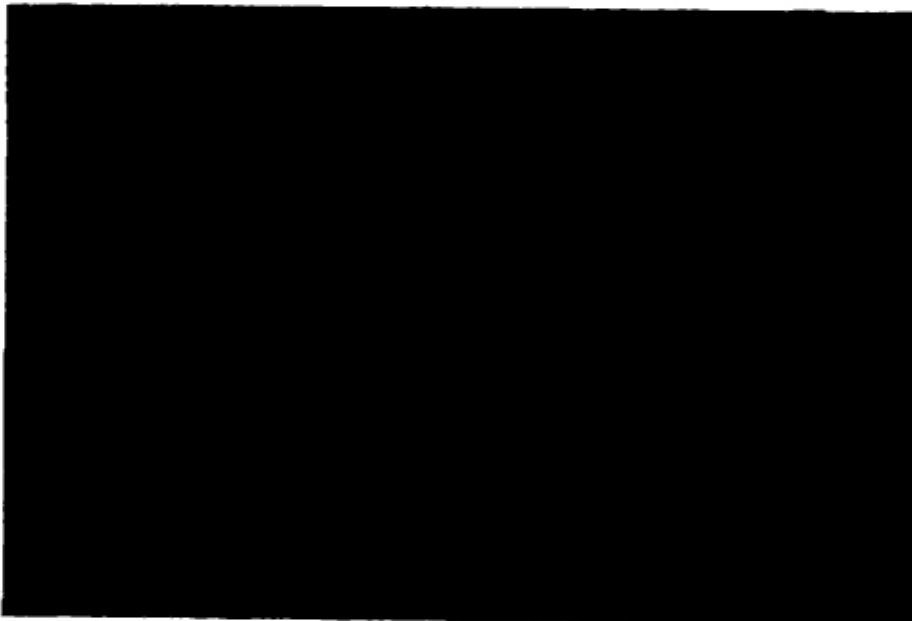
An important way in which the community can be helped to better health is by organization. Consistency in working through and assisting local self-help groups will enhance the ability of the CHWs to mobilize the community in water projects. More order could also be instituted in the use of water sources if such groups were involved. At Kaunguni and Utu, for example, there are animal watering spots a reasonable distance from the wells. With proper organization, sites could be set aside for animals, so that they do not trample into the water that is collected for domestic use. At Ituumo structures have been built in such a way that the animals cannot trample even their own water. Similarly sites could be set aside for bathing, cleaning laundry and for collecting water for construction.

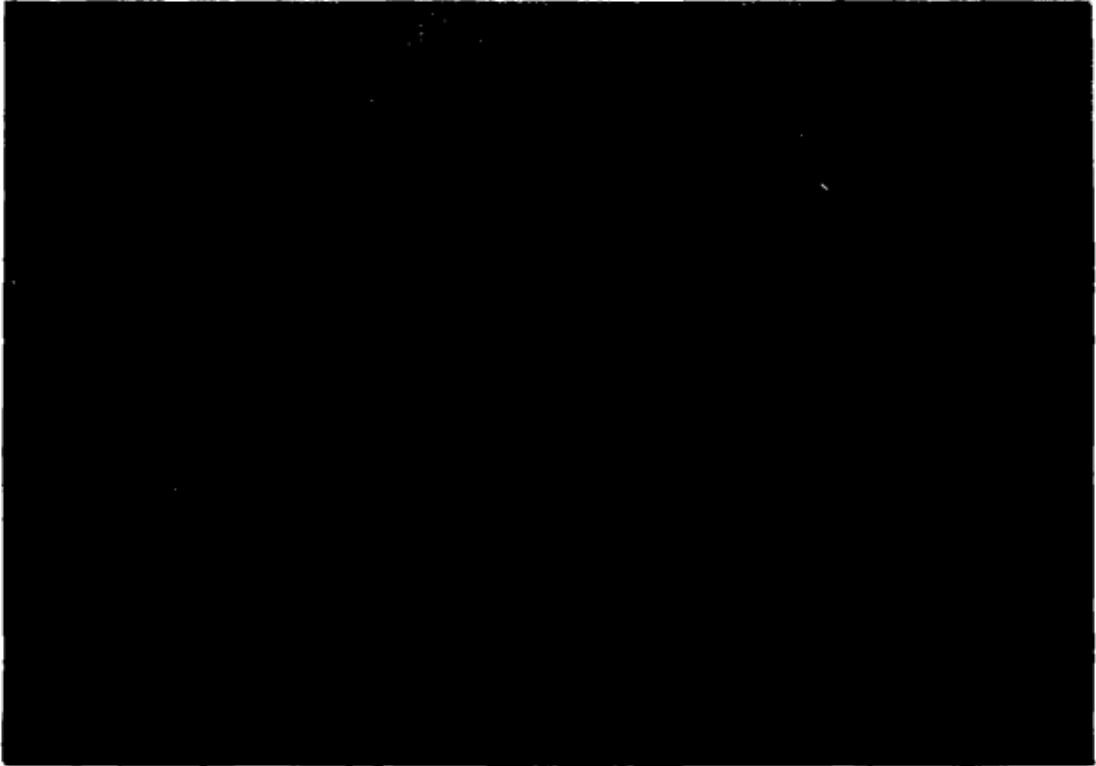
Water projects and health education, in the context of general community development efforts, utilizing existing structures and building on local initiatives are likely to result in successful intervention in the water-related problems of the community.



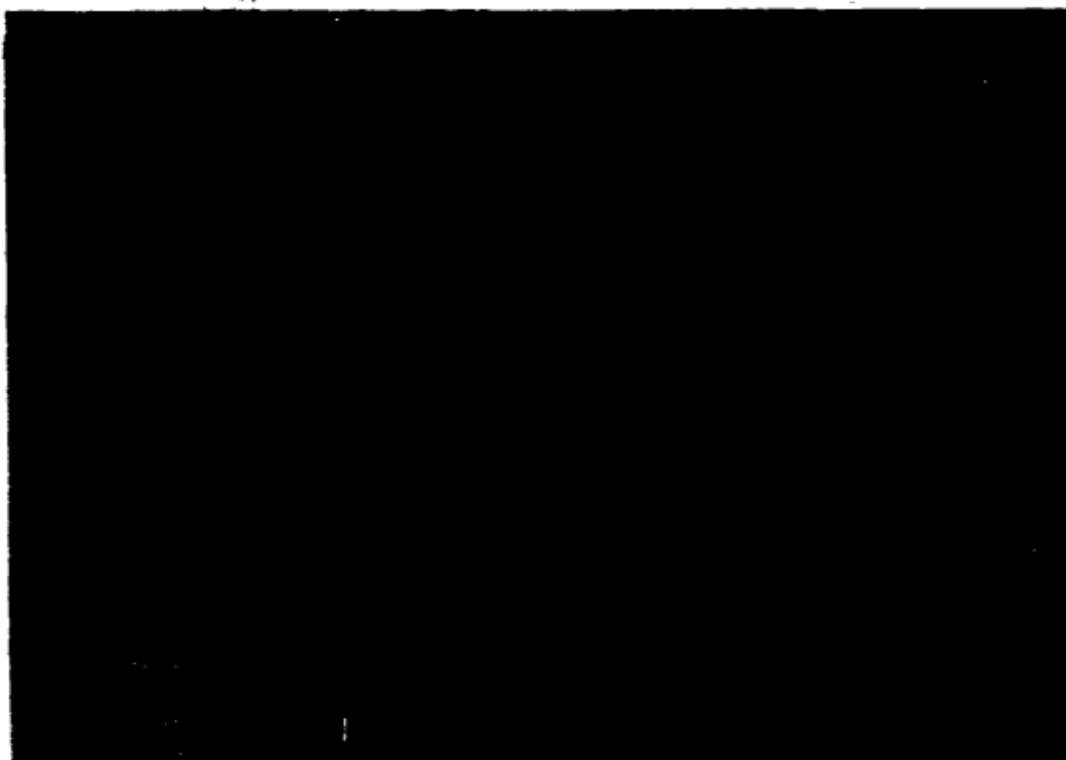
3a Small mud enclosures are sometimes made in or on the edges of patches of stagnant water. Water becomes clear after filtering itself through the sand and mud wall. Painstakingly, relatively clear water is scooped out from these enclosures. When the water required is for domestic use such care is taken.

3b To prevent human misuse of some pools shallow wells are sometimes dug some distance away. These are used exclusively for watering animals. At Ituumo, wooden structures have been built round some shallow wells to protect the water from trampling by animals. (See below). Small spaces are left through which the cows and goats can push their heads to get to the water.





- 3c This well at Utu is flooded during the rainy season. The fence around it is meant to keep out livestock but in its present state of disrepair, cows manage to get in. The well is not now used because another well nearby has been developed and protected to be used as a source of domestic water supply.



- 3d The well at Kyaani (above) is dug about 20 metres down stream from a dam. During the dry season it is the sole water supply for a large area. During the wet season when the dam is full, the well is used mostly to provide water for domestic purposes, other needs being supplied by the dam.

Collapsing walls have resulted in a wide open well into which people must climb in order to collect water. The site is so unprotected that at the time of the visit there was dung, and both dog and human faeces on the edge of the well.

Section 4WATER PROJECTS AND THE COMMUNITY4.1 The problem & the response

The community's view of the urgency of the water problem is not only to be assumed from the efforts that have to be expended to obtain water but also from the steps taken to try to make water available both in greater abundance, and closer to the homes. Many wells have been dug, but those that have resulted in water that the community uses are few, (like Ivingoni, Kaunguni, Utu and Kithayoni). The wells dug that can yield water but are not yet functional are also few (Miamba, Nzwii and the wells at Kithayoni). However, those wells which have been dug at great community sacrifice and commitment but have not yet reached water stand out as the more convincing reminders of the water problem in this area. The well at Wikiamba is now about 50 feet deep and without water but is still being dug. The six wells in Kai, dug to various depths, are all without water.

The dams that have been constructed also indicate the severity of the water situation. The planned dams at Kambu, the dams under construction at Nooka and Utiithi, and the completed dams at Kyaani and Mangelete show the community's commitment to alleviating the water problem.

Community efforts to solve the problem consist of :

- (a) construction of dams and ponds,
- (b) digging of wells,
- (c) obtaining water from existing water supply systems,
- (d) using pumps to obtain water from streams and springs, wells and boreholes and dams.

Various types of projects have achieved different degrees of success.

4.2 Types of water projects

Water supplies fall into four categories according to whether initiation, ownership, management and operation is by the community or by an agency. We consider :

- (a) projects that are initiated, managed and operated by agencies;
- (b) projects initiated, managed and run by communities;
- (c) projects initiated, managed and operated by the community but with substantial inputs from external agencies, and
- (d) projects initiated by external agencies but managed and run by communities.

4.2.1 Projects owned by external agencies

In this category are the water supplies owned by the Kenya Railways and by the government through the Ministry of Water Development. The railway supplies consist of :

- (i) supply to individuals who collect water from the public taps at the stations and pay a fee,
- (ii) individual connections to homes of people who can afford these, and
- (iii) supplies to groups of people who form water projects.

The Ministry of Water Development supplies consist of the Kikumbulyu Water Scheme. The scheme, which is not operational yet, is expected to distribute water after pumping it to a tank on a hill at Mbui Nzau.

- 4.2.1.1. The railway water supply operates from the railway stations and has done much in alleviating the communities' water problems. It is the cleanest water available in the area. People living near the railway stations benefit most from the supplies, but, however, the vast majority live at considerable distances from the nearest railway station. Community members collecting water at the stations usually pay between 10 cents and 15 cents for a debe (20 litres) or Shs 1.20 for a drum of water. Individuals who have pipe connections to their homes have to pay a small fee to the railway authorities; and in addition pay a fixed standing charge and meter fee (total Shs 33.50).

For a fee (normally more than Shs 2 000.-), groups whose applications have been approved by the railway authorities take water which is used by the group members. They also pay regular standing charges in addition to charges based on the water used.

The problems that arise from the use of railway water supplies result mainly from the fact that Kenya Railways is not a water supply agency. Water has therefore to be taken from the railway stations. Although these supplies alleviate the problem of water scarcity, most people who want the water have to walk long distances. This explains the situation which has resulted where water vendors, with donkeys or oxcarts, purchase water at the railway station at very low rates (see above) and then sell it to the more distant villages at exorbitant prices. At Sinai and the Chyulu, one drum can cost as much as Shs 70.-

4.2.1.2 The Kikumbulyu Water Scheme is a government scheme which was started in 1980. When completed it is expected to supply water to the major centres along the Mombasa road and away from the main road. At present construction of the first phase of the project is complete but disagreement between the government and the contractor on the equipment and materials used are, it is claimed, causing delays in its inauguration. Water for this scheme is drawn by gravity from Umani Springs to the treatment installation at Mbui Nzau. From there water will be pumped to tanks on nearby hills and again distribution will be by gravity.

Initially, it is planned that there will be a number of communal standposts. These, however, it is expected, will be removed and people will then be expected to pay for individual connections to their homes.

From the community's point of view, this scheme has been so long delayed that it cannot be counted on. Indeed, if the alleged delays from disagreements with the contractor are an indication of what may happen when the scheme has started operating, then the feeling that government water supplies cannot be depended on may be justified (See also Thange Water Project 4.2.4.2).

It would also appear that failure of the community to identify with the scheme has resulted in various acts of vandalism which may further delay or cripple efforts to deliver water. Items of equipment (pipes, valves, etc.) are alleged to have been broken or stolen even before the programme starts operating.

The government stipulation that individual home connections will be the ultimate permanent feature may also reduce the usefulness of this programme. Homes in areas to be served are still mostly temporary and the periodic shifting of homesteads will not be compatible with piped supplies to the homes. Besides, only a few people will be able to afford the pipes needed (distances between homesteads are long) and the labour to dig the trenches.

4.2.2 Community owned projects

There are more projects in this category than can be discussed in this report. They are initiated by informal groups working together to obtain water, or formal self-help groups. The efforts including digging of wells, construction of dams and obtaining connections to railway water supplies.

4.2.2.1 Mathayoni Water Project was started in 1972 with the digging of a well at Kaunguni. The well was dug by the community on self-help basis, until water was reached at a depth of about 15 feet.

In its early days, the committee that was in charge of the development of the well was alleged to have mismanaged group funds and consequently was ousted. A new committee was elected which is still managing the affairs of the project.

Members of the group contribute labour on a regular basis and funds as they are required, but non-members have to pay a fee for using the water. Funds raised in this way are used :

- (a) to pay the attendant at the well,
- (b) to pay fundis who are hired to work on specific tasks at the well,
- (c) to purchase and transport materials for the construction of the tank,
- (d) to purchase fuel for the pump they have bought.

They bought the pump in 1982 and constructed a tank with a trough for watering animals. The attendant's functions include :

- (a) ensuring that there is orderly collection of water and watering of animals,
- (b) ensuring that there is always enough water in the tank,
- (c) collection of fees from non-members.

The problems that have been encountered include the initial mismanagement of funds which resulted in considerable dampening of enthusiasm. Since the members did not know how to support the walls of the well, repeated incidents of collapsing walls not only required additional resources to make the well usable again, but also resulted in an open well such that for several years water had to be collected by climbing down to it. Nor was any attempt made to protect the water from contamination.

For the past year, however, much of this has changed as a result of the increased involvement of AMREF's public health technician at Kibwezi, and the cooperation of the Chairman of the project committee who happens to be a Community Health Worker, and has received AMREF training. Contributions of materials and tools by the Water for Health Organization and the Rotarians of Nairobi North have also had a positive impact.

4.2.2.2 Miamba Water Project - was started in the middle of 1982. The Miamba self-help group which initiated it was originally set up to carry out other development tasks (construction of cattle dip, permanent building for the local primary school, etc.). They decided to dig a well in the middle of last year and by August they had found water at a depth of 15 feet. Within the next two months they bought cement, baked bricks and lined the inside of the well to a depth of 6 feet and built the wall to a height of 4 feet above ground level. There was much water and when we visited in October it was believed that at least 400 families were getting their drinking water from the well.

But the well was sited in a river-bed which floods during the rains and adequate steps had not been taken to protect it. In November the structure was washed away and the well filled with silt. By the month of March 1983, however, the community had removed the silt and the blocks which had washed into the well and started to build an embankment around it.

4.2.2.3 Nthunguni Water Project was started in 1981 by a wealthy businessman resident in the area. He mobilized community members and using his influence in political, administration and industrial circles to obtain materials, started a water project to take water from Kathekani Railway Station to Nthunguni Secondary School. The community nearby will also get water and those not near enough will make connections from the Nthunguni supply. Water supply is by gravity. Money collected from the community has paid for the connection to the railway supplies and bought pipes. Labour is supplied by the community, who also arrange to guard the installations. Pipes have so far been laid for about 4 kilometres, and at the point where they have currently reached there is a tap where water is collected. This, however, is a temporary arrangement as the tap is expected to be transferred with the pipes to Nthunguni.

4.2.2.4 In contrast, Kiange Water Project, which was started at about the same time has not made comparable progress. The initiator of the project who is a shopkeeper at Kativani, is not as wealthy, influential or resourceful as the leader of Nthunguni Water Project. The project will take water from Ngwata Railway Station, and is expected to serve at least 4 000 people, but work on it is slow and disorganized. Records on labour and funds contribution are neither accurate nor systematic.

In both projects, lack of funds for pipes and materials for building tanks presents the most immediate problems. In Kiange, lack of explicit leadership and organization have been a serious hindrance to progress. Basic skills in bookkeeping are also needed. Though the fee to the railway authorities at Ngwata Station has been paid no pipes have been bought yet, nor have any materials been obtained for constructing the planned tanks. Trenches for laying pipes have, however, been dug for two kilometres from the station. These will deteriorate, especially during the on-coming rain season.

4.2.3 Community Projects with External Inputs

In this group are projects that were initiated by the community and still belong to them but have had substantial input of materials from outside agencies.

4.2.3.1 Komboyoo Water Project was started in 1976 and was to be based on a borehole which is said to have been made by a European in 1936 and later abandoned. The group contributed Shs 5 000 and applied for assistance to the District authorities through the local development committee. The District Development Committee supplied a pump and pipes. A request for assistance from CARE (Kenya) resulted in more pipes and building materials for the tank. The first tank at Mbenuu marked the completion of phase one of the project, and water supplies started in 1977. The community contributed all the labour that was needed and funds to meet fuel expenses and the payment to fundis and attendants.

The second phase of the project, which was started in 1980, involved building a tank at Nzeveni and laying pipes to it from the borehole. The bulk of the needed materials was supplied by CARE (Kenya) and were supplemented by Maendeleo ya Wanawake.* The community again supplies labour and funds to pay for fuel, the fundis and attendants. This phase was completed in 1981. Connections have been made to the nearby Nzeveni Primary School, the shopping centre and a few homes. Costs of maintenance and operation of the system are met by regular contributions by members, fees from non-members who collect water and payments from people wishing to have individual connections.

*"Women's Progress" - a powerful national organization concerned with the progress and welfare of women.

The community here seems to have made exceptionally good use of assistance that has been given to it. Unlike Mangelete (See 4.2.3.2 below), they seem to have retained their initiative and self-reliance despite the aid received. The fact that there has been settlement in this area longer than in Mangelete has resulted in better organization and stronger community structures which effectively supported the pioneering and enterprising spirit that characterizes the whole area.

4.2.3.2 Mangelete Water Project was started in 1976 after the community contributed Shs 4 000. The project was to be based on a borehole which had been made and later abandoned by the Ministry of Works. Applications were made for assistance which was received at the same time and in the same manner as for the Komboyoo Water Project. However, in contrast to Komboyoo, problems started immediately the pump was installed, the pipes laid and the first tank built. First, the pipes from the pump to the tank had a 2 inch diameter while the pump intake pipe had a 6 inch diameter. Attempts to pump water therefore resulted in burst pipes and frequent stalling of the pump. Water did not reach the tank which was about 6 kilometres away at Nzayo.

In 1978 when it was decided that water would be pumped from the borehole into a tank nearby and a booster would be used to push it to the tank at Nzayo, CARE (Kenya) donated a booster. The booster arrived but before it could be installed the pump was stolen and has never been recovered.

The community are now seeking assistance either to buy another pump to implement their original plan or to buy materials to use for building a dam on the Mangelete River and then to use the booster to get the water to the tank at Nzayo.

It seems as if the prominent role that aid from outside played in this project has had a negative effect. The fact that in other aspects of development there still is satisfactory community initiative and self-reliance leads one to believe that the intervention in this particular water project was such that it deprived the group of the initiative and alienated the project from them. The technical mistake in the selection of the pipes seem to be a relatively minor one. There is evidence to suggest that in the absence of this project, smaller, less sophisticated but more effective water projects would have been started by the community.

4.2.4 Community Projects Initiated by Agencies

Projects in this group are those that were initiated by outside agencies, (usually) the government through local authorities) and later handed over to the communities. Control by the community may be complete, as in the case of Syumile, or the authorities may maintain an interest in its running as in the case of Thange.

4.2.4.1 Syumile Water Project was initially owned and operated by the County Council. The project consisted of a borehole, a pump, one tank by the borehole at Kisingo and another at Wayona. When the project was handed over to the community, problems arose from contributions of funds for fuel and payment to the attendants. Some members also started to make illegal (secret) connections to their homes and would use water at night to water their farms. The result was that not only was there insufficient money to pay for fuel and the attendants, but the water was itself not sufficient because of the illegal connections.

The people of Syumile being furthest away from Kiumbe stream, and the most consistent contributors eventually decided to build their own tank. In the running of the project, they had suffered most from the illegal connections and the non-cooperation of the other members. The crisis came to a head when the pump broke down in 1980. The people of Syumile, after meeting all the expenses of the pump's repair, took over the borehole and pump and laid pipes directly to their own tank, by-passing the other two tanks. Later the same year, the pump was stolen and was not recovered for two years. It was reinstalled in December 1982.

It appears that when the County Council handed over the project, the community structures were not strong enough or sufficiently involved to continue with its effective management. In addition, the people at Kisingo and Wayona, after several years of receiving free water, appear to have been unable to suddenly accept the heavy financial and organizational responsibilities that the running of the project involved. Their relatively easier access to the Kiumbe stream, albeit unclean water, reduced the motivation to take on this responsibility.

4.2.4.2 Thange Water Project was started in 1973 by the government jointly with UNICEF. The project consists of a water pump at Thange stream which pumps water to a tank on a small hill near Ngwata shopping centre. The first phase of the project, which was to take water to the shopping centre, was completed and for some time the community was able to collect some water. The community input into the project was in labour (digging the trenches), purchase of fuel, and payment of the attendant. To raise the needed money, the community was required to pay 20 cents for every debe of water collected.

The pump broke down in 1980 and the government which was in charge of its maintenance promised to repair it. It is, though, still unrepaired.

Community involvement is practically non-existent in this project. The trench digging was compulsory and the community took part without knowing or caring much what was to emerge from their labour. They purchased water from the tap in the same way they purchase from the railway authorities. When the pump broke down they were neither required nor did they feel that there was anything they could do about it. The local committee in charge of the project does not do anything more than supervise and enforce trench digging, supervise the sale of the water, the purchase of fuel and payment of the attendant.

4.3 Technical & Organizational Problems

The extent to which the need for water is felt is shown in the efforts that are being made by the community to obtain it. Sometimes, as in Nthunguni, an individual takes the initiative and then mobilizes the other members to start a water project. Often, however, a self-help group is formed with water as the major objective, as in Kaunguni, or as one of its objectives, as in Miamba.

Regardless of how a project comes into being, problems arise which complicate, delay or severely reduce the prospects of its successful completion. Principal among these are problems of a technical and organizational nature.

4.3.1 Technical Problems

Lack of technical advice at the beginning of, or in the course of carrying out a water project, can lead to frustration for the community and considerable loss in terms of resources, time and energy. Siting, protection and reinforcement of wells, construction of dams, and operation and maintenance of pumps, are some of the areas where lack of such skill has led to frustration and despair.

- (i) Sites of wells have been chosen in a rather haphazard manner, resulting in much waste of resources, time and effort. The dry 'wells' of Kai and the Wikiamba well in Kaunguni are cases in point. On the other hand, wells are sometimes situated in swamps (one well in Kai), or in dry river-beds (Nzwii, Kai and Miamba). While it may be easier to find water there, problems arise in actual use and protection from pollution and against flooding are also difficult to ensure. The Miamba well (above) is an illustration of this point;
- (ii) lack of protection of well water from contamination is a problem that applies to every well in the area. It arises, not from the community's unwillingness to protect wells, but from lack of knowledge of both what needs to be done and how it could be done. Lack of knowledge on means by which the walls of wells could be lined and so prevented from collapsing, causes much frustration. The Kaunguni (Mathayoni) well and the Katuluni well are among those that have suffered in this way;
- (iii) construction of dams has also been done without sufficient technical advice. The small dam at Mangelete was washed away, whilst the dam at Muliluni (built with the assistance of the Ministry of Agriculture) developed a leak at the base which rendered it useless.

4.3.2 Organizational Problems

The organizational problems arise mostly out of the absence of experienced and skilled leadership. This leads to lack of consistency in mobilizing the community on a systematic and regular basis. Between the Kiange and Nthunguni water projects, which are otherwise similar, this is the major difference. When large groups of people are involved, the traditional dependence on moral pressure is sometimes ineffective, requiring more sophisticated means of social organization. Mathayoni self-help group has reached the stage of organization where non-members do not have free access to water and defaulting members are fined. On the other hand, the Utu water project, which is also making significant progress, depends more on moral pressure to enforce compliance.

Small groups are easier to organize and are more effective in water projects, as the number of wells dug by small groups shows. But projects undertaken by such groups have to be small, simple and inexpensive. The organization of the

people living around Maikuu into 'stakes' (with the assistance of personnel from the Institute of Cultural Affairs) resulted in small but very effective groups. The 14 wells at Kithayoni (all in the space of 1 hectare), however, reflects the kind of duplication and unnecessary waste that can result from lack of leadership and coordination on a wider scale.

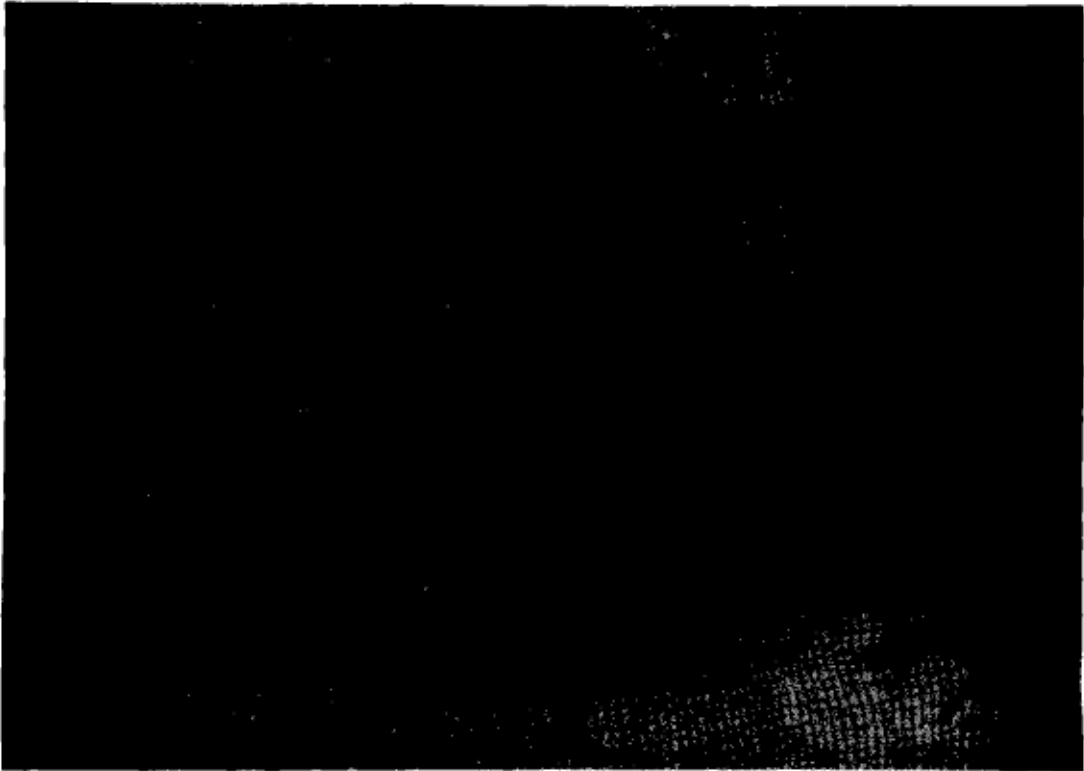
Lack of basic skills in book-keeping and management of funds can also result in frustration of community efforts as the Mathayoni case illustrated in the early stages.

Technical and organizational problems have to be tackled simultaneously and each interacts upon the other. For success the organizational form must match the technical demands of the project.



- 4a Women not only carry home the needed water but also do much of the work of digging wells to have more plentiful supplies closer to their homes. At Kai, the work was done almost exclusively by women until money could be raised to hire diggers. At Katuluni, only women were digging wells. At Kathayoni (above) as many women as men were involved in digging the many wells there.
- 4b The well at Wikiamba (below) has been dug to a depth of over 50 feet. Even if water is eventually reached it will be difficult to use the well.





- 4c. Situated at the bottom of a dry riverbed, this well at Nzwii is susceptible not only to human and animal pollution but also to flash floods. The steep valley sides reach up to the edge of the well so that as it is unprotected above ground level, rainwater easily flows into the well. Notice also the path along the riverbed from upstream and passing by the well. The work needed for this well is both (a) protecting it from collapse during the rains and from being flooded, filled with silt or even being washed away and, also, (b) protecting it from pollution by dirt from the valley sides, upstream and from the path on the riverbed beside and just above the level of the well.

Section 5AID, COMMUNITIES AND PARTICIPATION5.1 Agencies and the Community

Two important factors appear to have a bearing on the community's attitude towards communal efforts in Kibwezi. Firstly the area was a game reserve when the people started to settle. It needed much cooperation not only to fight against wild animals and a hostile environment, but also to confront the game wardens and administrative authorities who wanted the settlers to move out. The second, but also connected with the first one, is that facilities of any kind have been conspicuously lacking in this area. The people, having moved from the more heavily settled areas of Machakos and Kitui, were accustomed to such facilities as feeder roads and primary schools. Before the settlements were recognized by the authorities and served - and even afterwards when the area continued to be underserved - the people started catering for their own needs.

This dire need for services motivated various aid agencies to step in and attempt to alleviate the difficulties. In this section we examine just one aspect of the intervention of aid agencies in these communities: the effect of aid and the attitudes of the donors on the communities' attitudes towards communal effort.

5.1.1 DANIDA and Kai Wells

Kai is a very dry area adjoining Makindu. The main water sources are the railway station at Makindu, the Kiumbe stream at Kisingo and the Ministry of Water Development tank at Mbuhi Nzau.

In 1980, DANIDA donated well-digging tools and Shs 20 000. to be used for digging wells. The tools and funds were shared out among the self-help groups who embarked on digging six wells. When the money ran out the people who had been hired to dig the wells stopped work until more money was made available. After a long period of waiting and no more money was forthcoming either from DANIDA or from any other donor, the community (women) took the tools and decided to continue with the digging.

When the wells were between 15 feet ^{and} 30 feet deep, before water was found in any of them, digging was abandoned. Principally this was because there were then few people prepared to dig further, and those that were available (mostly women) were increasingly reluctant to get into the wells as they got deeper.

The general feeling in the area was that either DANIDA or another body will donate more funds so that people could be hired to continue with the digging. No community structure appears to have existed before the decision to dig wells was reached, and the tools and funds donated. When the money had 'done' its work and ran out, there was not sufficient community involvement to enable the people to look to their own resources to continue with the project. So, after spending the money offered by DANIDA, there are wells which have no water, and additionally, the people who still have no water are frustrated and more circumspect about getting involved in water projects.

5.1.2 CRS and the "Food-for-Work" Scheme

Food for work is a scheme which has been used in various famine stricken areas. Instead of simply handing out food to the starving people the idea is that they are asked to perform certain community development tasks in return for which they will be given food. Roads, schools and other facilities have been built in this way.

At the time of this study, the scheme was operating in the Kisingo area. There was no drought and certainly no famine. The programme seemed to have started more than two years before when there was actual drought and famine in the area, but was not discontinued when conditions changed.

The issue here, however, is the justification for giving relief food in return for community work. Even in times of famine when there is a genuine need for relief, when food is given in return for community work, it has the effect of killing the voluntary spirit in community work and removing the social sense of commitment. This arises because a non-participant in this programme only foregoes the food, and not the more important sense of belonging and social acceptance. It also introduces an attitude which suggests that this kind of work is for those who need the food. Those who can either afford to eat their own food or are too proud to take relief food soon abstain from taking part in any community work whatsoever.

At times when conditions are better, this scheme has the additional and worse effect of :

- (a) obviating the need on the part of the community for rigorous planning and for aiming at self-sufficiency in food production,

- (b) removing the incentive to better farming because so much free food ruins the market for local agricultural products just when prices should be high.

The idea of 'food-for-work' is stunting, subversive and depraving in every aspect.

5.1.3 AMREF and the CBHC Programme

AMREF presented the CBHC programme as an inexpensive, simple, preventive approach to health care depending on local resources and voluntary 'community participation'. But the manner in which it was presented was inconsistent with and in sharp contradiction to the basic principles of PHC. The high handed and prescriptive manner in which the programme was introduced and run resulted in the first groups of community health workers feeling like unpaid employees of AMREF rather than volunteers working for their communities. The result was mass defections of community health workers, particularly in Kai and Kaunguni, and incessant demands for remuneration from the majority of those who remained. The predominance of the Kibwezi Health Centre in the programme and of the 'disease entity' approach to the training of community health workers were also inconsistent with the self-care, preventive approach to health care. The persistent requests for uniforms and demands for drugs are expressions of this anomaly.

It appears that the fact that the programme was both suggested to the community and then defined for them resulted in a feeling that it belonged to AMREF and not to them. Consequently whatever part they took in it was in the service of AMREF. That explains why the programme in Utithi is promising (See 5.2.1.1 below). The level of involvement, the confidence and self-reliance displayed, are already more apparent than is evident in the other areas where the programme has been running for three years.

5.2 Participation - by Who?

An adequate supply of safe water and also basic sanitation have been stressed as important components of PHC.* In this context the aims of the IDWSSD support and complement those of the WHO/UNICEF in promoting HFA 2000. Community participation has been recognized as 'vital to the Decade approach'** and as an

* Alma-Ata Primary Health Care WHO/UNICEF, 1978.

** Drinking - Water and Sanitation, 1981 - 1990. A way to Health, WHO, Geneva, 1981.

essential element in HFA 2000. In practice community participation has often meant assignment of a role to the community in a project. For example, in water projects the requirement is commonly to dig trenches or to make contributions for fuel. Involvement of the community in planning and selection has reached further than mere information giving. Lack of enthusiasm is taken to be due to ignorance that can be 'educated' away. Non-opposition and acquiescence is then taken for acceptance. What is not recognized is that people expect certain services to be provided by authorities without their active involvement. (One source is politicians who promise provision of such services, especially during election campaigns). Any service offered is, therefore, accepted with a level of enthusiasm corresponding to the urgency of the need for it.

The practice of community participation, however, raises logical questions concerning responsibility for the project and the meaning of participation. These logical questions have psychological implications which may be generated by paternalistic attitudes.

Development agencies, after correctly recognizing that projects not involving the community have poor chances of success, have often made token gestures towards involving the community. The illusory benevolence involved in these gestures is apparent and the lack of conviction concerning the communities' ability to plan and execute programmes remains obvious. An attitude of 'benefactors-who-know-what-is-best-for-the-community' is maintained. What is displayed is, at best, tolerance for what the community has to say. Sometimes the community 'plays along' whilst benefits accrue. Usually this 'community participation' fails to work.

The self reliance and resourcefulness shown by groups involved in water projects that are wholly community initiated, managed and controlled, supports our belief that what is needed is not community support for (or participation in) 'outsiders' projects, but rather agency support for (or participation in) community originated projects.

5.2.1 Agency Participation : An Alternative Approach

'Agency participation' is not a new concept except as an alternative suggestion deviating from the established idea of 'community participation'. Though it may be viewed simply as a shift in emphasis, the logical implications will, we believe, prove significant. Our hope is that 'agency participation' will be accompanied by attitudinal changes on the part of agencies which will lead to more meaningful cooperation between agencies and communities. It will, we hope, at least at the philosophical level, establish the appropriate roles for the various parties in development programmes. It may also obviate the need for 'sensitization' of the community to its own needs and permit more meaningful use of studies into the community's values and its perception of its own needs.

The introduction of the community-based health care programme in Utithi Sub-location is an experiment in 'agency participation'.

5.2.1.1. CBHC Programme in Utithi : An experiment in 'Agency Participation'

The community first heard of the CHW programme from the neighbouring Muthingiini Sub-location where it has been running for two years. They also know that the programme exists in the other sub-locations. In September 1982, the Assistant Chief, accompanied by a group of elders, approached us about starting a programme in their area. We responded by telling them that we would think about it and let them know in due course.

When it was decided that a CBHC programme in Utithi was timely, the first reaction was to meet with the Assistant Chief and have him arrange meetings with community leaders. In these meetings our aim was to :

- (a) 'sensitize' the leaders to the community's health needs,
- (b) define the programme to the leaders,
- (c) present a rough time-table for the development of the programme.

In preparation, a list was made of the points that were to be stressed in these meetings so that there would not be any misunderstandings, and so that 'mistakes' that we thought have made the programme in the other sub-locations less successful, would not be repeated.

At this point, an attempt was made to find out errors in the programmes in the other sub-locations. This revealed that the basic misunderstanding concerns what constitutes a community-based health care programme. The fundamental mistake also turned out to be lack of a clear understanding of the essential elements of PHC, which led to the presumed need to 'sensitize' the community, to 'define' the programme and to 'present' a time-table. It was decided that the community should not be mere 'participants', but the initiators and executors of the programme. Accordingly, they should express their need, define the 'programme' and themselves work out a time-table.

At the first meeting with the community leaders they were asked to express what it is that they wanted to start. After surprisingly fruitful discussions, we proposed that we meet with the villagers they represent and discuss with them what they think their problems were and what they would consider to be appropriate solutions. In subsequent meetings discussions dwelt on methods of implementation of those solutions, on the personnel required to do this, the community structures needed to support the programme and the overall coordination, direction and management of the programme. Each meeting consisted of dialogues, more between themselves than between them and us. At the end of each meeting we asked them to continue the discussions in the villages and report at the following meetings their decisions and suggestions, or raise questions which they were unable to answer themselves. Through such discussions the decisions they reached indicated:

- (a) What the most pressing health issues in the villages are.
- (b) What the solution ought to be, that is, the components of the programme.
- (c) What measures are to be taken to implement the solutions.
- (d) The type of personnel that would be required.
- (e) The sub-committees which would deal with the various aspects of the programme e.g. water, sanitation, MCH, etc.
- (f) The nature of co-operation at village and sub-locational levels.
- (g) The supervision and support of the programme needed from the sub-locational development committee.

The programme, as they defined it, turned out to be more comprehensive, relevant and practical than that we had meant to propose. Actually they had a better grasp of what their needs were and we found were highly articulate in expressing them. The methods they proposed for organizing, supervising and

managing the programme were not only practical but also quite different from what we would have suggested. Moreover, they did not seem to see a need for a time-table.

The programme is not yet off the ground but the progress made so far towards assisting in the evolution of a genuine community-based health care programme is significant. The increasing confidence that the community is finding in its own ability to initiate, plan, organize and actually manage a programme is encouraging. We feel that this kind of progress can only be hindered if agencies, either through ignorance, false assumptions about the abilities of the communities, or through a desire to pose to the communities as their wise and benevolent messiahs continue to usurp leadership of communities and insist on donating aid, skills and guidance. What is required is :

- (i) the willingness and honesty to admit that the community knows what is best for it, and often knows better what solutions would work best;
- (ii) willingness to take the back seat in the development process while urging the community on to higher levels of confidence and self-reliance;
- (iii) courage to let the community venture into matters one is not familiar with, and permit development that will lead to one being dispensed with;
- (iv) the ability to initiate and participate in a genuine dialogue with the community; to give advice without 'talking down' to the community.

Agency participation then means accepting a role in community development projects, rather than offering the community a role (community participation) in projects that are supposed to benefit them.

5.3

Model for Agency Participation

Four general factors would seem to be important in making decisions regarding agency participation in community projects. The first decision should be on whether or not participation will result in community improvement, and the second, on what type of participation will be most effective. The four factors are :

- | | |
|------------------------------------|------------------|
| (a) need | (c) organization |
| (b) type of participation required | (d) integration. |

5.3.1 Need

This should be a major consideration in the decision whether or not to participate. If the expressed need is not the 'real' need, then it can serve as the basis for a dialogue that will lead the community to an appreciation of its real need. A favourable sign is that there is already some organized community action on this need. Then the question of whether or not the need is 'real' is less important than how community efforts can be focussed to serve the real need.

5.3.2 Type of participation required

The assumption here is that for participation to be genuinely appreciated and meaningful, it must be solicited. However, the participation most often solicited is frequently in terms of funds or materials. The need for technical advice is not often recognized, and even less the need for organizational and management skills. An invitation to participate in community projects is, however, a useful opportunity to start a dialogue which will enable the members to discern their need for technical and organizational skills. When development of such skills precedes or accompanies material participation, a more secure investment and more economical project results.

5.3.3 Organization

Participation in projects without adequate community structures and suitable leaders, either already in charge or ready and equipped to take charge, leads to 'take-over' rather than participation. The result is the alienation of so-called community projects - which may give rise to vandalism - and impotence of the community when required to continue running the project on the withdrawal of the agency. If there are no suitable existing structures in the community to take responsibility for a project, then an existing body needs to be encouraged and assisted to incorporate this into its normal functions.

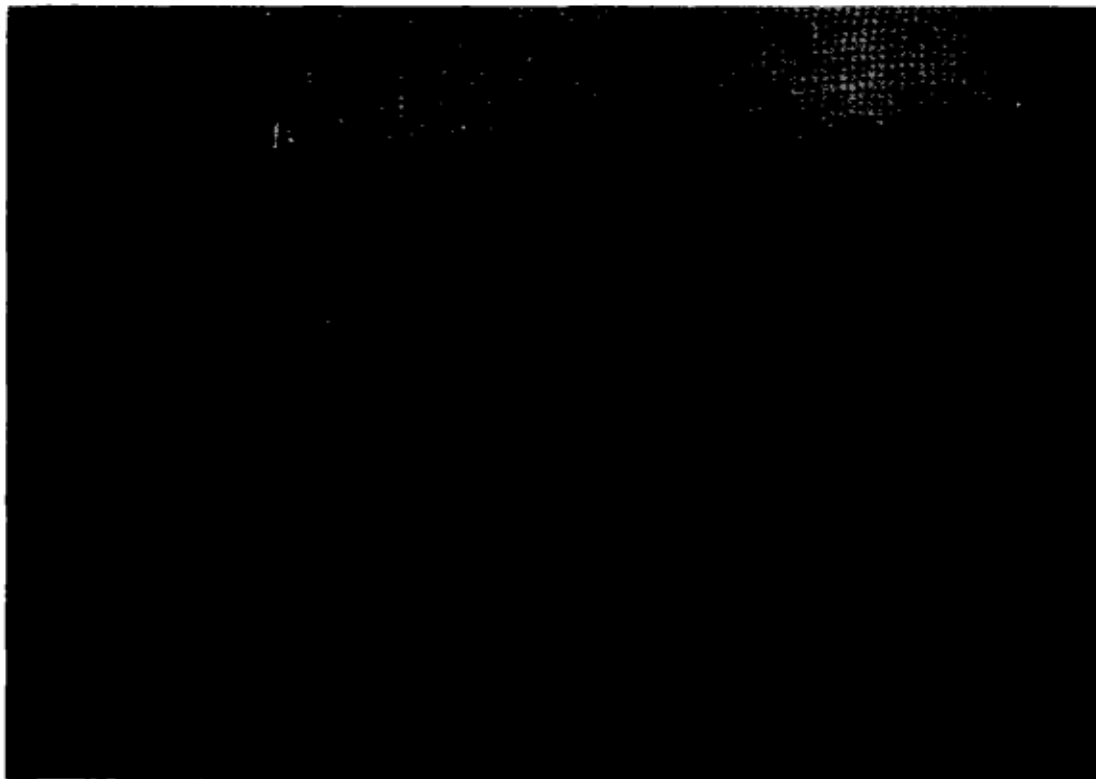
5.3.4 Integration

Existing project organizations whose functions can be expanded to serve other needs should be given priority. Discussions with the community about needs and methods of approach may seem time-consuming but will lead to the evolution of a strategy

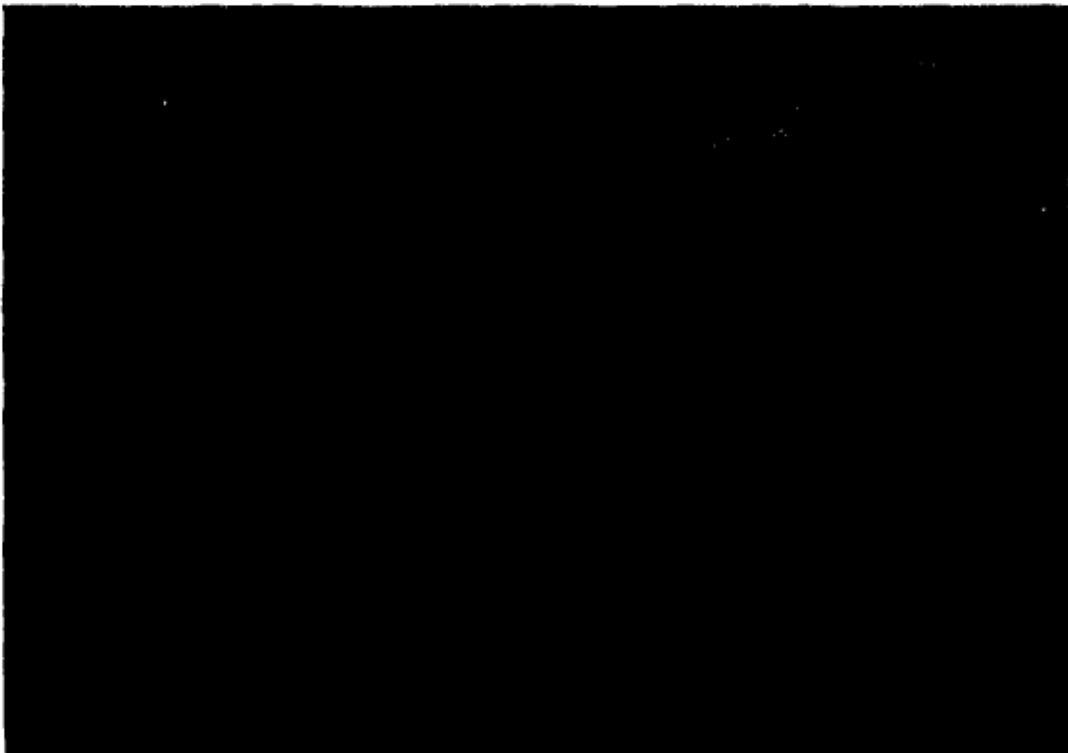
which will make the project neither isolated and therefore of limited impact nor lead to a duplication of efforts. It is even possible that there will be a considerable saving on resources when a project is accomplished just by adding it to or diversifying an existing project.

5a This well at Utu was originally meant to be used for water collection. A livestock watering trough was built nearby to be filled by water poured from the well. Although the fence round the well kept out animals, the water could not be protected from pollution as many people simply dipped their vessels into the water indiscriminately. The area around the well also became soggy and dirty from the water, the dung and the trampling by animals.

Eventually, when the rains came the well was flooded and became unusable.



- 5b The Mathayoni Water Project (4.2.2.1) group who started this well have now built a tank as part of this project. The well, dug in a kind of basin, started collapsing and became a large, wide and open pit. After several years of collecting water by climbing into the well the tank was built into which water is pumped for collection. The tap for collecting water (at which the lady is bending) directly from the tank extends slightly beyond the trough surrounding the tank. Into the trough another tap provides water for watering livestock. Plans are under way to construct another separate trough about 20 metres away from the tank. It is obvious that hundreds of cows and goats drinking every day from the trough surrounding the tank will quickly make the site very dirty, particularly in the wet season.



6. CONCLUSIONS

The water scarcity in Kibwezi is of the kind that characterizes most areas that have both few natural water sources, and also have a rainfall that is scant and irregular. The settlement of this area by a people with a sedentary - not pastoral - agricultural way of life has, however, created demands for water that are difficult to meet. What is needed immediately is more water both for domestic use and for livestock. Without this provision, social and economic development will be stunted mainly because of the disproportionate amount of time, human energy and resources that are required to obtain water.

Another problem is that any effort to introduce reforms in health, agriculture or any other aspect of social and economic life will meet with unsatisfactory results if due cognizance is not given to this burdensome pre-occupation. It will be to everybody's advantage to incorporate, or include, a water component in any contemplated social programme. Relating any programme to the people's need for water will be a positive step. PHC, which emphasizes preventive and promotive health, as propagated by AMREF in Kibwezi, depends for its success on availability of safe water in adequate supplies. In an area where even contaminated water is valuable, the need to be involved in water programmes becomes overriding.

The efforts to obtain water must be accompanied by health education if maximum health benefits are to be reaped. Disease results not only from inadequate water supplies, but also from use of contaminated water, or unhygienic handling and storage of water that was previously safe. Hygiene education, focussing on making and keeping water free of contamination, undertaken as a component of efforts to make water available to the community, will be effective in combating disease and ill health.

Significant efforts have been made at Kibwezi to overcome what the community sees as a major difficulty, that is, obtaining adequate water. Community projects, however, differ not only in their histories but also in the particular forces at work in the particular locality, the unique problems they face and the nature and amount of external involvement in the projects. An understanding of these factors is important to discern what role an agent can usefully play in any particular project.

Most community projects are fraught with technical and organizational problems. These problems not only delay the successful completion of projects, but frustrate and discourage

otherwise commendable efforts towards self-reliance. Assistance in solving these problems will be successful in the long run if it is given in the framework of the existing community structures and present projects leadership. All efforts must be made to leave the genuine leadership and management of projects in the hands of the community.

Agency involvement in community development is best limited to the form and degree that is compatible with the communities' needs. Available funds, the urge to test theories and 'appropriate technologies', or the desire for experience and improvement of ones curriculum vitae, should not be allowed to be such supreme considerations that interventions will be embarked on that will eventually destroy the community.



