# PATTERNS IN WATER USE

## Observations from the Manicaland Integrated Rural Water Supply and Sanitation Programme



Sidsel Saugestad

University of Tromsø, Norway, 1990

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# P A T T E R N S  I N  W A T E R  U S E

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PART THREE. PATTERNS IN WATER USE

PREFACE

This report deals with two aspects of the Manicaland Integrated Rural Water Supply and Sanitation Programme in Zimbabwe:
- the implementation of the programme as it is illustrated by a case study of progress in one ward, and
- some of the effects as they are documented through a study of community participation and water use in one village.

The main target for this report are the implementing agencies of the Water Programme. This means first and foremost the Ministry of Community and Cooperative Development, along with other participating-ministries and their extension workers, and the National Coordination Unit for Water Development. The research was commissioned by the Norwegian Ministry of Development Cooperation, through its representative in Harare.

This research does not have a Term of Reference in a very strict sense. The objective of the report is to provide information on the actual working of the programme, through a detailed case study. I was asked especially to look into the wider context of the programme: the possible effect on hygiene, the organisation of productive activities, the mobilisation on community level in general, and the role of women in particular.

As a guideline for my evaluation I look to the aims and objectives expressed in two set of documents:
- The Zimbabwe National Master Water Plan, as expressed in project documents, budgets, plans, and reports.
- The draft Plan of Action for Norwegian Development Assistance to Women in Zimbabwe.

An early, and still incomplete, version of this report was made available to the Hifab & Zimconsult team for the evaluation study on Support to Zimbabwe's Water Sector in January 1989.

I see my own contribution as that of an independent scholar, with a strong wish for my research to be useful. Probably the most important contribution of this report is the detailed documentation of the implementation and effects of the water programme in the area where I worked. There have been many opinions voiced on the assumed effects of the water programme, especially its component of 'community participation'. There is a great need for more empirical research on what has actually taken place.

The study was done between February and July 1988. I worked in Makoni District, using Rusape as base and travelling extensively in the project area, especially Chiduku Communal lands. I made one visit to Ndowoyo Communal lands in Chipinge District.

A draft version, dated April 1989, was handed over to the Ministry of Community and Cooperative Development and other interested parties during a visit to Zimbabwe in May 1989. The present version incorporates some of the comments I received, but otherwise it is not significantly changed.

A follow up of the water use study presented in Chapter 8 was repeated in May 1989, and will be repeated again in 1990. The results from this series of observations will be published separately.

Tromsø, Norway, March 1990.

Sidsel Saugestad.

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Takk for god hjelp! Mazvita!

# 1. INTRODUCTION

## 1.1 ZIMBABWE'S NATIONAL POLICY FOR WATER AND SANITATION

Part of Zimbabwe's colonial inheritance is an unequal development of regions. More than 3/4 of the country's population of 9 mill. live on communal lands, which constitute less than half (and the least fertile part) of the total areas. The communal areas are lacking in all service installations and infrastructure. Destruction during the war of liberation increased this discrepancy, and left the rural areas badly lacking in essential facilities. The government is giving high priority to the improvement of living conditions and production capacity in the communal areas.

A policy for the development of water and sanitation facilities is articulated in the National Master Water Plan for Rural Water Supply and Sanitation. (1986) The stated goal is to provide the entire communal and resettlement area population with access to safe and adequate facilities by the year 2000. The plan aims to provide a policy framework within which this can be achieved.

The policy priority is the development of domestic supplies in the communal and resettlement areas. This is expected to reduce the burden of water fetching on women and children, and to ensure health benefits. At the time the plan was formulated, only one third of the rural population obtained water from improved/-protected sources and it was estimated that time used for water collection could average from 60 minutes per day in the wet season to 152 minutes in the dry season (NMWP, Vol.4.2: p.45-59). Health studies have shown that water and excreta-related diseases are a major problem in Zimbabwe. The need for improved facilities is reinforced by the high population growth rate, with a projected 9.2 million people expected to be living in the communal and resettlement areas by 2005.

The NMWP recommends that the Water programme should be implemented as an integrated programme. This requires the co-ordination of government ministries and non-government organizations, and the involvement of local rural communities in all phases of the programme. The objective is to integrate the supply of primary water supplies with latrine building and health education programmes at Village, Ward, District and Provincial levels.

It is a common experience from water programmes all over the world that it is far easier to construct facilities in a water programme than to ensure their continued operation. The approach for dealing with this problem in Zimbabwe can be summarised under three headings:

- appropriate technology
- community participation
- the three tier maintenance system.

Fig. 1.1
Instruction material

The technological priority is for hand-dug wells backed up with boreholes where necessary . Such wells are low cost and can utilise local materials, labour and technology. They are fitted with hand-pumps which the community should be able to maintain themselves. The Water plan also includes a recommendation to construct auxiliary facilities such as washing slabs, soakaways and cattle-proof fencing.

Community participation is the chosen strategy for implementation. This means that the user communities are mobilised for
- participation in siting decisions
- contribution of labour and construction materials, and
- responsibility for village level operation and maintenance.

An elected Water Point Committee contributes to the implementation of the programme, by mobilizing workers for construction work. This Committee shall look after the installations, and report on cases of breakdown. While the technical aspects of maintenance are limited, it is seen as equally important to promote user responsibility in general: to encourage correct and careful use of the facilities, and to organise the users to keep the fenced-in surroundings clean.

The formation of such committees is expected to reduce some of the high costs of development, to minimise long-tern recurrent expenditure, and to ensure good user-identification with the facilities.

The Water Point Committees are the lowest level in a three tier maintenance system which is being built up. The second level is a network of paid pump-minders. They receive some three weeks of technical training, are equipped with basic tools and a bicycle, and are to be responsible for the repair of about 50 water points each. The third level is a skilled maintenance team at District level (under the District Development Fund) complete with spare parts, transport and heavy equipment.

Last, but not least, the programme aims at involving women in all phases. It is recommended that three out of the four members of the Water Point Committees should be women. The rationale behind

electing women to these committees is clear enough: They are the main users of the facilities, hence they are able to supervise the wells, to take the necessary steps without delay if something goes wrong, and to enforce any rules concerning the proper use of the well. Also, being the users of water, they are supposed to be the best motivated for keeping the facilities in good shape.

## 1.2 THE PLAN OF THIS REPORT

The first part provides background information. Chapter 2 outlines the process of implementation of the Water Programme from 1985 to 1988. Chapter 3 discusses the concept of community participation and the procedures for community mobilisation.

The next part introduces a local context. Chapter 4 is a presentation of Makoni District as the geographical and administrative setting. Chapter 5 outlines some aspects of modern and traditional leadership, and Chapter 6 describes local socio-economic conditions, stressing the importance of the household and the role of women in production.

The following section deals with patterns in water use. Chapter 7 maps all water points in one ward, and the process of implementation. Chapter 8 reports on the water points studied, and gives details of water use at water point, community and household level. Chapter 9 discusses some cultural concepts about cleanliness and water use, while Chapter 10 present the composition and function of the Water Point Committees. Chapter 11 returns to a focus on women, and tries to assess the degree of involvement, and the benefit to women, so far, of the Water Programme.

The last part of the report takes up a couple of separate issues of relevance to the programme. Chapter 12 deals with the use of firewood, and Chapter 13 is a study of maintenance in six wards.

Chapter 14 sums up some of the main points.

# CHAPTER 2 : THE MANICALAND INTEGRATED RURAL WATER SUPPLY AND SANITATION PROGRAMME.

The Programme started up in September 1985. The programme is jointly financed by the government of Zimbabwe and Norway (NORAD), (see appendix 1). The operations started in Makoni District with borehole drilling, well sinking and VIP latrine construction. The area of operation was since expanded to include Ndowoyo communal land in Chipinge District, and (from July 1988) also Chimanimani District.

## 2.1 OBJECTIVES OF THE PROGRAMME

The overall objective of the Programme is to improve the living conditions of the poorer population in the rural areas of the Manicaland Province. This objective is detailed in project documents in different ways. The Annual Reports 1986/87 and 87/88 state the objectives as:

"(i) improving water supplies in term of reliability, quality, quantity and accessibility.
(ii) improving sanitation in terms of safe excreta disposal (VIP latrines), drainage and safe waste disposal.
(iii) introducing health education in order to improve hygienic practices, motivate behavioural changes, promote community responsibility and ensure distribution of benefits to all consumer groups." (4:1)

A 'Final Report', prepared by Interconsult March 1987 state the objectives as being:

"(i) to accelerate the provision of clear and reliable water supplies and sanitation to communities in Communal Lands in the three designated districts
(ii) to liaise with the local communities in order to involve them in the project and provide education in the provision and maintenance of improved primary water supplies and sanitation
(iii) integrate these programmes into district and village level health and general development plans" (2:S/3)

The two formulations are not mutually exclusive, and do in fact cover much of the same ground. Taken together, however, they

illustrate both the comprehensiveness of the programme as well as the problems of measuring achievements against such broad objectives. While the number of water points and latrines constructed can be documented easy enough, the more elusive 'behavioural changes' and 'community responsibility' cannot be observed directly, but must be inferred from a study of many aspects of behaviour. This report presents some possible procedures for studying behavioural changes, and contributes some findings.

## 2.2 A FORERUNNER: THE MASHONALAND 'CRASH' BOREHOLE PROGRAMME

A 'Crash Programme' in Mashonaland is seen as a forerunner for the Manicaland programme This Programme started 1984 as a drought relief programme, funded by NORAD and executed by Interconsult and Geotest.

In Mashonaland 'community participation' was tried out, following the recommendations of the NMWP. There was little community involvement initially. Over time, however, a gradual inclusion of components developed into a detailed schedule of community participation activities.

The Crash Programme was very successful in relation to those aspects where success is most easily achieved: in siting procedures and in a project organisation that achieved a speedy construction of the facilities: In less than a year (September 84 - August 85) 888 sites were surveyed, of these 424 were pegged for drilling. A total of 401 sites were drilled, of these 320 were successful. The total project cost was Z$ 4,005,000, which gave an average cost of Z$ 12,500 per water point (1:35).

The final report (1) states that "The Project has provided a borehole water source fitted with a handpump, cattle trough, fence and clothes washing stand to 320 communities in 9 1/2 months". Because of the low cost and the high efficiency of the construction team, the programme is generally considered to have been very successful.

The most difficult problems in water programmes, however, are not usually construction, but operation and maintenance. By its very nature, successful maintenance can only be assessed after some years. To date, no study has been made that provides information on how many of the 320 boreholes are still functioning. However, the final report on the programme (1) dated December 1985, refers to a preliminary evaluation study, and some of the observations from this can be of interest:

> "Borehole usage was found to be high, and 90% of wet boreholes were reported to have high levels of usage (in the dry season). Usage of cattle troughs was also high and, in the face of a high reported mean cattle population of 725 per community, the small cattle trough supplied was found to be inadequate. Even 3 months after completion 36% of troughs were beginning to silt up and 22% of borehole soakaways were already clogged. The performance of soak-aways for both boreholes and washing stands was poor...
>
> 93% of washing stands at working pumps are in use and 82% of these were reported to be in heavy use. This high level of usage greatly enhances the programme's potential health benefits: not only is the programme providing potable water to deprived communities (77% of sites did not previously have a potable dry season source), but it is also reducing disease (particularly schistosomiasis) transmission risks by limiting contact with river water.
>
> Short term community response to the programme appears variable and further evaluation studies are required to assess this properly. Indicators of a positive response includes:
> (i) the high community turn out for training and for community construction;
> (ii) early instances of community initiative in maintenance and repairs;
> (iii) the great many plans for auxiliary borehole projects developed by water committees;
> (iv) the close identification with the borehole project by many communities;
> (v) a comparison of the proximity of boreholes to communities in comparison with previous sources show that a very considerable saving in time and energy spent on water collection has been achieved in beneficiary communities.
>
> Short term impressions of less positive community responses are community frustrations at having to fit in with the accelerated nature of the programme and at the lack of consultation in siting. A comparison of actual distances to boreholes in communities which complained that the borehole was 'too far', shows that the actual distances were not excessive. The issue appears to be less concerned with actual sitings, and more with siting expectations. Without

adequate consultation expectations become exaggerated which inevitably results in disappointment.

Case-studies on water committee management demonstrate the complexities of community level organization and illustrate the need for a clearer definition of structures, the importance of detailed social planning for considered initiatives involving community participation, and the need for on-going training and support for community representatives to enable them to become effective agents for managing community water resources". (1:23-24)

"Community response to the programme after such a very limited time is very difficult to assess. Important indicators which could not be examined but need close attention in later evaluations include:
- community-level preventive maintenance activity;
- the functioning of water committees over time;
- and whether communities perceive a sense of local control over facilities". (1:210)

Based on the experiences from the Crash Programme, the report gives recommendations for the execution of future water programmes. Many of these are incorporated in the existing procedures for community involvement (see chapter 3). The Mashonaland programme differs from the subsequent Manicaland programme in that single water points were distributed separately over a large area. The present programme works after a principle of saturation of water points in a given district, before the programme moves on to a new district.

A proper evaluation of the Crash Programme has not taken place. There is no information available on how many of the boreholes that are still functioning, nor on the present state of community involvement. An independent study of the Mashonaland Crash Programme now some five years after its inception would give very valuable information.

## 2.3 PROGRAMME IMPLEMENTATION

The overall objectives of the Manicaland Integrated Water Programme (as stated in Chapter 2.1) are meant to be achieved through a broad range of activities:

- construction of boreholes, wells, and spring protection, each fitted with handpump, concrete apron, spillway, washing

stand, cattle trough, and fence.
- construction of VIP (Blair) latrines
- training of builders in latrine construction
- health education
- training of DDF maintenance staff, and upgrading the capacity of communities to maintain their own facilities.

From its start in September 1985, to June 1987, the Manicaland Programme was managed and coordinated by the Ministry of Energy and Water resources and Development (MEWRD). All funds were channelled through MEWRD, which provided drilling staff and contracted consultants for other tasks (siting, supervision, and community mobilisation from Interconsult, drilling from Whitehead and Jack, and well sinking from the Lutheran World Federation, a NGO).

From July 1987 onwards the Programme is implemented with an interministerial approach, in accordance with the NMWP. The objective is that the different activities shall be taken up as part of the regular responsibilities of the participating ministries, and be financed through the ministries, thus ensuring a sustainable development of the programme. After a transition period of six months, the Ministry of Local Government, Rural and Urban Development (MGLRUD) took over responsibility for project coordination (January 1988), and the following ministries and supporting agencies are now involved in programme implementation:

Ministry of Local Government, Rural and Urban Development (MGLRUD) is responsible for
- project co-ordination,
- monitoring and reporting on project implementation,
- preparation of district plans for water and sanitation projects.

The programme is coordinated by the Provincial Administrator and a Project Coordinator in Mutare, and a Provincial Development Water and Sanitation Sub-Committee. District Water and Sanitation Sub-Committees meet monthly, chaired by the District Administrators These meetings have taken over the function of the previous site-meetings.

Ministry of Energy, Water Resources and Development (MEWRD) is responsible for
- siting of boreholes and deep wells

- borehole drilling and test pumping,
- pump fitting and all headwork construction on boreholes.

Ministry of Health (MoH) has the implementation responsibility for all activities related to health and sanitation, including
- latrine construction,
- builder training,
- health education,
- shallow wells,
- spring protection.

The Provincial Environmental Health Officer in Mutare acts as manager for MoH.

Ministry of Community and Cooperative Development (MCCD) is responsible for
- community mobilization and participation in pre-siting, siting, construction and maintenance activities.
- establishment and training of Water Point Committees.

As the only ministry with a network of extension workers on village (VCW) and Ward (WCC) level, it has a special responsibility to mobilise for community participation (see figure 5.1). MCCD has only been part of the programme since January 1988, and is still in the process of developing procedures for mobilization.

District Development Fund (DDF) is responsible for the maintenance of all public works in the communal areas. Activities include
- well sinking (often by contractor),
- headworks at well sites
- rehabilitation of existing boreholes and wells
- training of pump minders, and village level care-takers,
- monitoring of pump minders in the field,
- deployment of pump maintenance teams at district level.

The three-tier operation and maintenance system is linked to DDF's organisation structure.

Interconsult A/S is consultant to the programme. Staff from Interconsult
assist MEWRD in hydrogeological assessments
  - recommend sites for boreholes and wells,
  - supervise drilling operations,
  - advise on test-pumping, water sampling, and headworks construction,

assist MCCD in community support activities
  - pre siting and siting,
  - liaise with communities and government extension workers
  - develop training and educational material and organise training courses,
  - participate in site and coordination meetings

assist MoH in sanitation:
- latrine construction, training of builders, health education.

The Lutheran World Federation (LWF) is a Non-Governmental Organisation and acts as a non-profit contractor for DDF in the field of well digging. LWF has also been running its own development programme, has financed additional wells in some parts of the project area, and has trained pump fitters and pump minders, later to be employed by DDF.

NORAD is funding the water programme, through allocations to all the participating ministries.
SIDA is funding the latrine and health education component of the programme, through allocations directly to MoH.

## 2.4 PROGRESS OF THE PROGRAMME

Throughout the period, the Water Programme has been implemented in the two separate district: Makoni and Chipinge. The same teams from Interconsult and drilling teams from MEWRD have covered the two districts. This has created considerable logistic difficulties and necessitated much travelling between the areas.

Due to the special conditions of soil in Chipinge, it has not been possible to work with heavy vehicles and borerigs during the rainy seasons. Accordingly, activities in this district have been concentrated in the dry periods of the year. Moreover, the boreholes were deeper than expected, with an average of 100 m. In the financial year 1987/88 a total of 122 were drilled, while the target 160. Soil conditions do not allow for wellsinking.

In Makoni, a total of 98 boreholes were drilled the same year, which should be compared with the target of 65. The average depth of boreholes in Makoni is 45 m. A total of 138 wells were dug during the financial year, compared to a target of 200. The low output in well-sinking was due to delay for several months in DDF signing a contract with LWF. Soil conditions are generally good, with an average depth of 18 meters.

The success rate in siting (wet wells and boreholes) is high, approximately 93%.

The table below showing physical progress conceals the considerable differences between the districts. We see, however, that from a slow start, the rate of progress has increased with all activities in the Programme:

Table 2.1 Physical progress.

| | 30/6-86 | 30/6-87 | 31/12-87 | July 88 |
|---|---|---|---|---|
| No of boreholes | 56 | 277 | 367 | 497 |
| No of wells | 72 | 247 | 299 | 385 |
| VIP latrines | 28 | 847 | 2 700 | 3 837 |
| Builders trained | 220 | 365 | 580 | 812 |

Moreover, while in retrospect the programme show a steady development, project documents reveal that the programme has been divided into several phases:

1) from mid 1984 to mid 1985,
2) Sept. 1985 to Aug. 1986,
3) Sept. 1986 - Feb. 1987,
4) March 1987 - June 1987, and finally
5) July 1987 to June 1988, to continue following the financial year.

Each phase had a given budget which determined the level of activities: i.e. the number of boreholes that could be drilled and wells to be sunk. As a consequence siting in several wards took place in two or more stages. First a given number of water points was spread out as fairly as possible according to the funds available, later, with new budgetary frames, additional water points were sited in between the first ones. This has not always given an optimal location of water point, as will be illustrated by the case material in chapter 7.

Interconsult has assisted MEWRD in carrying out the project from the very start. The consultant performed many of the tasks later to be assigned to the participating ministries. After the ministries took over responsibility, many of the actual implementation tasks were still assigned to Interconsult staff, on separate contracts.

## 2.5 ISSUES IN PROGRAMME IMPLEMENTATION: BYPASSING OR WORKING THROUGH THE SYSTEM.

Integrated Water Health and Sanitation Programmes of the kind advocated in the NMWR and implemented in Manicaland, pass from a stage of planning to a stage of implementation, and then to a stage of regular operation and maintenance. While implementation requires a substantial input of personnel and materials over a short period of time, the regular maintenance requires a stable and permanent provision of basic services, spare parts etc.

Donor funding can easily be used to set up special task forces and create supply channels to handle a concentrated construction period. Experience from other countries, e.g. Tanzania, (Therkildsen 1988) show that the temptation is great to bypass local, - often understaffed and inexperienced - administrative structures to achieve maximum immediate efficiency. The bypassing of local institutions is based on the assumption that the lack of recipient capacity to plan and implement can be effectively substituted by technical assistance staff in the short run without serious long-term consequences.

Experience, however, from donor funded and donor run projects show that sustainable operation and maintenance depend on the existence of local administrative structures. While bypassing the local structures gives a high production output in terms of number of installations, it also means that the structure needed to maintain these installations is not strengthened, maybe not even created. In the long run, it is not the number of water point constructed, but the number of <u>water points working</u>, that counts.

In the Manicaland Programme, the initial involvement of only one ministry (MEWRD), relying on a multi-purpose consultant (Interconsult) created an efficient structure. Interconsult provided a highly competent team of field-workers, with skills covering the whole range from hydrogeology to community mobilisation and latrine construction. Vehicles and regular radio contact provided a coordination between units which bureaucratic structure hardly can replicate.

The decision in 1987 to transfer responsibilities from one ministry to a multitude of ministries and agencies, resulted in a rather long transition period. This created confusion, impeded the deployment of personnel as well as the supply of construction materials, and probably reduced the general efficiency. My fieldwork, from February to June 1988, covered this period of transition. Still, the transfer was necessary. Even at the short time cost of reduced efficiency, a sustainable water supply can only be ensured by strengthening the local capacity for operation and maintenance.

However, it was encouraging to notice, on a brief visit in May 1989, that the running of the programme, especially on the district level, was becoming much better integrated in the regular activities of the district administration.

On the other hand, recognizing the need for institutional development as an integral part of a programme for water provision, should not lead to a neglect of the fact that the implementation/construction period necessarily requires a higher input of personnel than the subsequent continuation of the programme. This need for additional operational capacity, both on the technical and management side, has been demonstrated in each new district where water programmes along similar lines are being started up.

Whether this extra personnel should be recruited from consultancy firms or by other means is of course a question open for discussion. During the period of observation in Manicaland, Interconsult was carrying out a number of the activities involved

in the programme as tasks commissioned from several participating ministries. The special way that this firm organized its activities may at first glance seem difficult to replicate by regular extension personnel. The procedures, however, are 'regular' in the sense of being specified in the NMWP and programme documents (PLANOP, yearly budgets etc.). The accumulated experience will be of great value when starting up programmes in new districts.

The next chapter will outline the procedures for community mobilisation in an early stage of implementation. It is the stated aim of the programme that the user communities shall not be passive recipients of the installations, but actively participate in chosing locations, contribute during construction, and supervise the operation of the water points. To achieve this, 'community mobilisation' has become a key concept and a required skill in programme management.

# CHAPTER 3: THE CONCEPT OF COMMUNITY PARTICIPATION

A common experience from water programmes all over the world is that it is far easier to construct a water supply than to ensure its continued operation.

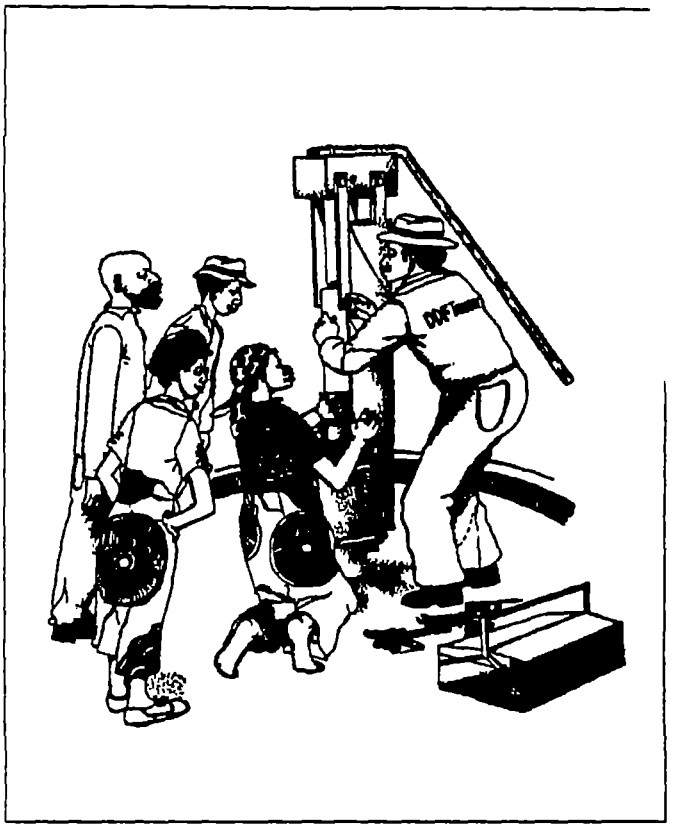
The problem is only partly a technical one: to establish perennial water sources and construct pumps that are reliable and hard-wearing. Operation and maintenance is more a question of organisation: to ensure proper user-identification and mobilise the user community for maintenance. It is also an administrative challenge: to identify the relevant personnel in government extension services, that can assist the communities. And, finally maintenance is a question of economy. In many water programmes, as is the case in Zimbabwe, the capital costs of construction are to a large degree covered by donor agencies. But the recurrent cost of maintenance must be covered by the recipient country, and must find its place in national budgets.

In 1985, the cost of operation and maintenance of rural water supplies in Zimbabwe was estimated to be one quarter of the development costs. These recurrent costs will assume a progressively larger proportion of total costs, and are projected to exceed development costs by the turn of the century (NMWP vol.3, p.107). The NMWP states that "Even now, recurrent finance tends to be an even greater constraint on the rural water sector than development finance" (Vol.1, p.40)

The National Master Water Plan recognises the need for effective and long term maintenance to ensure the efficient use of resources, minimise the recurrent costs and maximise the subsequent benefits. The approach to deal with this problem can be summarised under three headings:

- appropriate technology
- community participation
- a three-tier maintenance system.

The present report does not deal in detail with technological issues (although the report in chapter 13 on the state of repairs of installations in the project area certainly reflects on the appropriateness of the technology chosen). The main focus is on the scope of community participation and the functioning of the three-tier maintenance system. In this chapter I discuss some ideas and assumptions behind the concept, and outline the procedures for community mobilization. Later chapters (7-13) add empirical observations, and analyses.



## 3.1 COMMUNITY PARTICIPATION AND THE ROLE OF WOMEN.

The concept of 'community participation' has become a key term in water development programmes, in documents from agencies such as the United Nations and the World Bank,and in universal policy statements such as the Alma Ata declaration on Primary Health Care. A compendium paper prepared by the International Reference Centre in Hague for OECD sums up some of the present thinking about the concept:

> "Community participation, the organized involvement of a community in a development effort, is increasingly expected to reduce project costs, increase service coverage, encourage technical and administrative flexibility, improve operation and maintenance, and stimulate broader socio-economic development". (IRC 1986, summary)

'Community participation' is a conveniently amorphous term that may be interpreted and applied in a variety of ways. It has a very strong ideological component. However, it is easy enough to say that community participation is the aim, and then elaborate on the expected achievements of participation. In Zimbabwe, such expected achievements link in nicely with the stated political ideology of the government. But saying is not doing, and statements about intent must be distinguished from actual achievement.

A useful step towards defining what the term community participation may mean in practical terms, is to distinguish different levels of community involvement. The IRC paper referred to above outlines degrees of involvement (IRC 1986, p. 9):

| | |
|---|---|
| Low level of community decision-making | 1. Community is asked to contribute labour, local available material, land for wells, etc. for agency project. |
| | 2. Agency delegates certain managing and book-keeping responsibilities; trains local crafts men in basic water system maintenance and repairs. |
| | 3. Options are discussed during each phase of project but final decision-making power rests with agency. |
| | 4. Options are discussed and decisions made jointly. Compromises help to adjust project to realities of both agency and community. |
| High level of community decision-making. | 5. Final authority and decision-making rests with community. Agency technical support and advice is provided on request of the community organization. |

At present, the water programme in Zimbabwe seems to be at the middle of this continuum. The stated aim, and the thrust of the programme, is towards a high level of community involvement. In the same manner that the sustained implementation and running of the water programme is linked to the political representative system on district and province level (see chapter 5), the encouragement of community level decisions is linked to the wider issue of developing local level (VIDCO, and WARD) political institutions.

Involving women

A special objective of the Water Programme is to be of benefit to women. Like the broad objective of 'community participation', 'benefit to women' is an effect that may be difficult to achieve, and even more difficult to measure.

In a very direct and concrete way, the policy emphasis on the close involvement of women is achieved through the requirement that the water point committees shall have at least three female members. The argument for taking specific steps to involve women in maintenance is their traditional role as fetchers and carriers of water. Other studies, confirmed by the present one, show that very few adult men collect water for domestic purposes. This means that women play a crucial role in local learning systems related to water and sanitation. Their support is crucial to the success of water and sanitation programmes as they may act as acceptors of new technologies, users of the product, managers of the supply and agents for change (Wijk-Sijbesma 1985, Cleaver 1987)

Moreover, in rural areas of Zimbabwe there are a large number of effectively female-headed households, which in practice means that women are the major decision makers on a variety of issues. One of the first reports in the Water Programme suggests that

> "The selection of women pump caretakers is strongly advised: women as water carriers have the immediate incentive to keep the supply working, women are away less often; and maintenance generally has a better chance of being undertaken by women caretakers" (MEWRD, doc. 1, quoted from Cleaver 1987)

## 3.2 IMPLEMENTATION PROCEDURES

Implementation of the water programme is normally done in three stages. Each stage involves activities that must be repeated in each new district:
- a planning and initiation phase,
- a period of intensive project implementation, and
- an ongoing phase where the level of activity is reduced to a level which can be sustained by regular government activities. (doc.9,p.8)

Community involvement must be prepared during the initial phase, e.g. by training programmes for extension workers unfamiliar with project procedures, and the development of educational materials. The procurement of construction material, vehicles and equipment is also done at this stage.

However, seen from the perspective of the members of a community, they encounter mobilization efforts in the second stage: the intensive implementation. Since the programme started up in Manicaland in 1985, a procedure for sequencing a wide range of activities has been developed. In Manicaland Interconsult was initially responsible for community participation, and this procedure is sometimes called "the Interconsult way".

Mobilisation activities must be replicated each time the water programme start up in new districts, although the tasks required may be achieved by different strategies. If community mobilization is not to be performed by project consultants but by regular government extension workers, difficulties will arise due to shortage of personnel, shortage of transport, etc (or overburdened employees charged with too many different tasks). On the other hand, a close involvement of extension workers, particularly from MCCD, will facilitate the transition to the final phase three: the sustained running of facilities.

The precise procedures of implementation will, - and should - vary according to local circumstances. The following description, then, is based on observations in Manicaland 1988, and

mobilisation done by a consultant. Where MCCD is in charge of mobilisation, the position of Community Liaison Officer does not apply. Still, in either case, it is the same MCCD extension workers on Ward and Village level that are involved.

1) Contact meetings.

Meetings are held with local leadership at district, ward and village levels.

The DA introduces project staff to the District Council which is the executive body that monitors all development projects. The council prepares a priority list of wards.

At ward level, a contact meeting is called. The consultant's Community Liaison Officer informs about the objectives of the programme, and the contributions that are being expected from the community. The ward meeting is organised in collaboration with the local councillor, and the whole range of modern and traditional leaders are called upon to attend:

> The Councillor, the Ward Community Coordinator, Village Community Workers, Health Assistants, Ward and Village Development Committee members (WARDCOs and VIDCOs), Local party Leaders, the Chief (if resident in the area), Headmen and Kraalheads, as well as any other interested villagers.

2) Pre-siting activities.

After the contact meeting, the local leaders shall meet with their respective communities. A form must be filled in for each village, with information on population size and number of households, along with registration of cattle and other stock, and other economic activities that may require use of water. The contact meeting is followed up by visits (by the CLO) to the villages, to identify preferred water point locations. The alternatives available are:

- rehabilitation of existing well or borehole,
- establishment of a new site, either borehole or well, or
- no new site, if adequate protected source is close by.

3) Siting

Actual siting of a water point is done by a hydrogeologist, together with the Community Liaison Officer who presited the area. When a new site is selected, the CLO informs the community

(by whoever is present) whether the peg put in the ground is designating a well or a borehole site.

If all potential sites are rejected, the CLO must explain why the locality is not going to receive a water point. This means that the person who is in charge of liaison with the communities sometimes must explain rather complex technical and hydro-geological reasoning. To do this with some success calls for very close cooperation with the siting personnel who are providing this information

## 3.3 COMMUNICATION WITH THE COMMUNITIES

"Everyone must go to school
to learn about health education
and to use clean water
and to do some projects
and to learn to build Blair toilets

So here we have all our leaders
they come to teach us something
We are playing the mbira in the health education
What about you ?" (Song translated from Shona)

As we have seen, during planning and implementation, several messages are delivered:
In the first place, the community is asked to decide whether they want to accept the offer of new and improved water points or not. They are in fact presented with an option, and some communities fail to respond positively. (To say that 'communities fail to respond' begs the question of how decisions are arrived at. The few cases of refusal that I came across were imputed Kraalheads, and often strongly resented by the village as a whole. Details in chapter 7).

The obligations of the community,i.e. the degree of community participation that is expected, are also pointed out:
- Access to the proposed site must be secured. If a road needs to be constructed or improved, the community must organise this.
- A Water Point Committee must be elected, consisting of at least three women, and one man. They should be selected from

among the user community, live in close proximity to the water point and be adult, but not too old people.
- The community must contribute construction materials: sand, gravel, concrete stones, bricks for the washstand.
- The community must contribute labour: for wells they must dig the first three meters or until they strike a rock. They must assist in fencing and construction of headworks.
- The community must feed the well sinking team while they are sinking the well.

The water point committee should take a lead in organising all these activities. (See appendix 2)

Furthermore, some criteria for selecting suitable water points are explained:
The NMWP recommends levels of 250 persons per borehole or 150 persons per well. Normally the number of persons per waterpoint is much higher than this. The point is made that there is a limit to the number of water points that can be provided, and that they must be spread out so as to secure a best possible access. A pattern which reduces the walking distance for the largest possible number of persons is advocated.

Basic information about the likelihood of finding water is added: High lying areas should be avoided, slopes and depressions preferred. Rocks and outcrops must be avoided. The location of reliable old water sources may give good indications of new sources.

The community is also asked to deal with the traditional beliefs in the way they find the most appropriate. They must decide if there is a graveyard or another sacred place to avoid. The community leaders must also perform the appropriate rituals to inform and appease the ancestors.

The experience shows that this is a simple task, which presents no problems for the implementation of the programme as long as the issue is introduced at the proper time. The main areas of potential conflict with traditional beliefs which I encountered, concerned cases where a protection of natural springs was

recommended. According to traditional beliefs, natural springs should be left open and not be covered by concrete slabs. (This point will be expanded in chapter 7.5)

Some illustration.

How well do these measures work? The effects are the subject of this report from chapter 7 onwards. However, two examples from my fieldnotes may illustrate the range in community response to the initial contact meetings: I visited two places in Bembero ward together with the Interconsult team, some two weeks after a ward meeting had been held.

> "We arrive at the village at about 15.00 and hoot as we move along the road, stopping at a place that looks somewhat central. The rain that was pouring down earlier has almost stopped, there is only a faint drizzle.
>
> The first woman to appear looks very competent. She say she is the local (cell) secretary of ZANU, but that she was away on the day of the discussion about water point sites.
>
> Children start to assemble, and an elderly man, slightly unsteady, clearly a bit tipsy, very insistent, informs us that the village has decided on the location of four water points, that they really need five according to the size of the population, and that, considering the considerable expanse of the settlement, they really ought to have 6.....
>
> We argue back and forth a long time. By 15.30 there are a dozen or so people assembled; two more women, a couple of youngsters, children.
>
> On the contact meeting they were given a paper to fill in. Does anybody know about this paper?
>
> The paper? Where is the paper? The first woman takes the lead. She instructs one of the youngsters: Go and look for the paper at so-and-so's place.
>
> It seems that the old man is a member of the water point committee. He keeps talking. The women standing around laugh heartily. As the first expedition in search of the paper produces no results, another youth is sent out in a different direction.
>
> It turns out that the man who is in possession of the paper, and who might also be able to report on any siting decisions, is not at home.
>
> Eventually we are taken some hundred metres along the road, to stop near a rocky outcrop. The location is also near the house of the Kraalhead, but at the outskirts of the village.

The old man suggest that this should be one of the sites, but the suggestion is rejected by Sam, the leader of the Interconsult team. The bystanders nod their head in agreement: this is not a good site.

Finally Sam just points out three promising sites. They are positioned along a lower road in a way which will give good access for a large number of houses. No one objects, the women seem to agree. Only the old man goes on arguing about the need for six water points, causing more laughter and headshake among the others present.

The next visit was a complete contrast:

A young woman we encountered took us to a place some 2-300 metres from the road. A site was clearly demarcated with a stick in the ground, a bright yellow jerry can fastened on top. It seems to be a promising site. A child was dispatched to a nearby house and returned with the paper, neatly filled in.

Most visits were like this last one. By and large the community mobilisation exercise succeeded in involving people to express their wishes, and provide the information.

## 3.4 THE ONGOING PROGRAMME

As the objectives given in chapter 2.1 , and the list of activities outlined in chapter 2.3, indicate, the complete programme concept involve a wide range of activities. If we look closer at these objectives, we find that, - with the notable exception of the construction of water points - all other activities are more part of a prolonged process than any clearly confined operation.

Improving sanitation by means of latrine building requires both training of builders, motivation of the families that are encouraged to provide bricks and have a private latrine constructed, and, last but not least, the provision of required materials: cement and wire.Many years will pass before an area has reached a good coverage of latrines.

Similarly, health education, and motivation, are processes that can only give results after prolonged periods of instruction.

Moreover, it is also a stated aim in the NMWP that development in the water sector when possible shall be linked to other income-generating activities, most notably communal gardening. AGRITEX shall advise on this. Land use planning by Department of Physical Planning, and demarcation of settlement areas, should also contribute to a better use of the new water resources.

What all this adds up to, is a fair amount of the total public services that the government wants to provide for its citizens. The broad range of activities that look like a rather complex set up when listed as components in a specific programme, may seem more manageable when considered as 'regular' MoH, MCCD, MEWRD etc. activities.

The construction of water points stand out as clearly defined technical acts, but it is rather obvious that also the operation and maintenance of the water points must be part of - and a very central part of - the ongoing programme. While donors contribute funding for construction, the funds to cover operation and maintenance must come from government revenues, and/or community contributions. The importance of maintenance is underscored in the NMWP, and the three-tier system is designed to take care of this. But as time goes by, the increased number of pumps, combined with a normal wear and tear, will increase the demand in terms of fund and personnel. A crucial problem in the future will be how to secure the funds for this.

## 3.5 GENERAL PROBLEMS IN THE IMPLEMENTATION OF WATER PROGRAMMES.

The main challenge at the present (1988-89) stage of the Water Programme in Manicaland is to transfer the activities of the programme <u>from</u> a project mode of intensive organising of activities <u>to</u> a mode where these tasks become part of the regular ongoing routines for the ministries involved.

In Makoni and Chipinge Districts this means to involve the ministries by the gradual transfer of responsibilities for the completion and future maintenance of the new installations, and the mobilization for sustained community participation. This transfer process started up in January 1988.

In Mt. Darwin, Chimanimani, and other Districts where a Water Programme is starting up, the challenge will be of a different kind: The task here is to integrate the requirements of the mobilisation/siting/construction stages of the programme with the regular duties of the personnel of the participating ministries.

Both approaches represent some problems. The transfer process in Manicaland has led to
- some general confusion as to which tasks is the responsibility of which ministry, and sometimes a wish to pass responsibility on to the next,
- lack of factual knowledge among some extension workers about the background for the programme. Especially lack of knowledge about hydro-geological considerations behind the location of water points
- also lack of routines for the procurement of construction materials, and procedures for payment, causing frequent delays.

On the other hand, in the new districts where the programme is starting up, activities in the labour intensive construction stage of the programme are so comprehensive and demanding that government officials have difficulties in doing these jobs without ignoring other responsibilities.

In both cases, the need is to find ways for a work intensive temporary construction phase to develop into a permanent sustained upkeep of the programme. Experience has shown that extra personnel are required for the implementation stage. It has also become clear that a phasing into an ongoing, and sustainable mode of operation depends on a strong involvement of existing leadership and administrative structures on district level.

# CHAPTER 4: MAKONI DISTRICT - MAUNGWE DISTRICT

This chapter gives an outline of the rather complex administrative structure of Makoni District, which is the framework that the organisation of the Water Programme must fit into. It also gives some general background data on population, infrastructure, production and trade in the area.

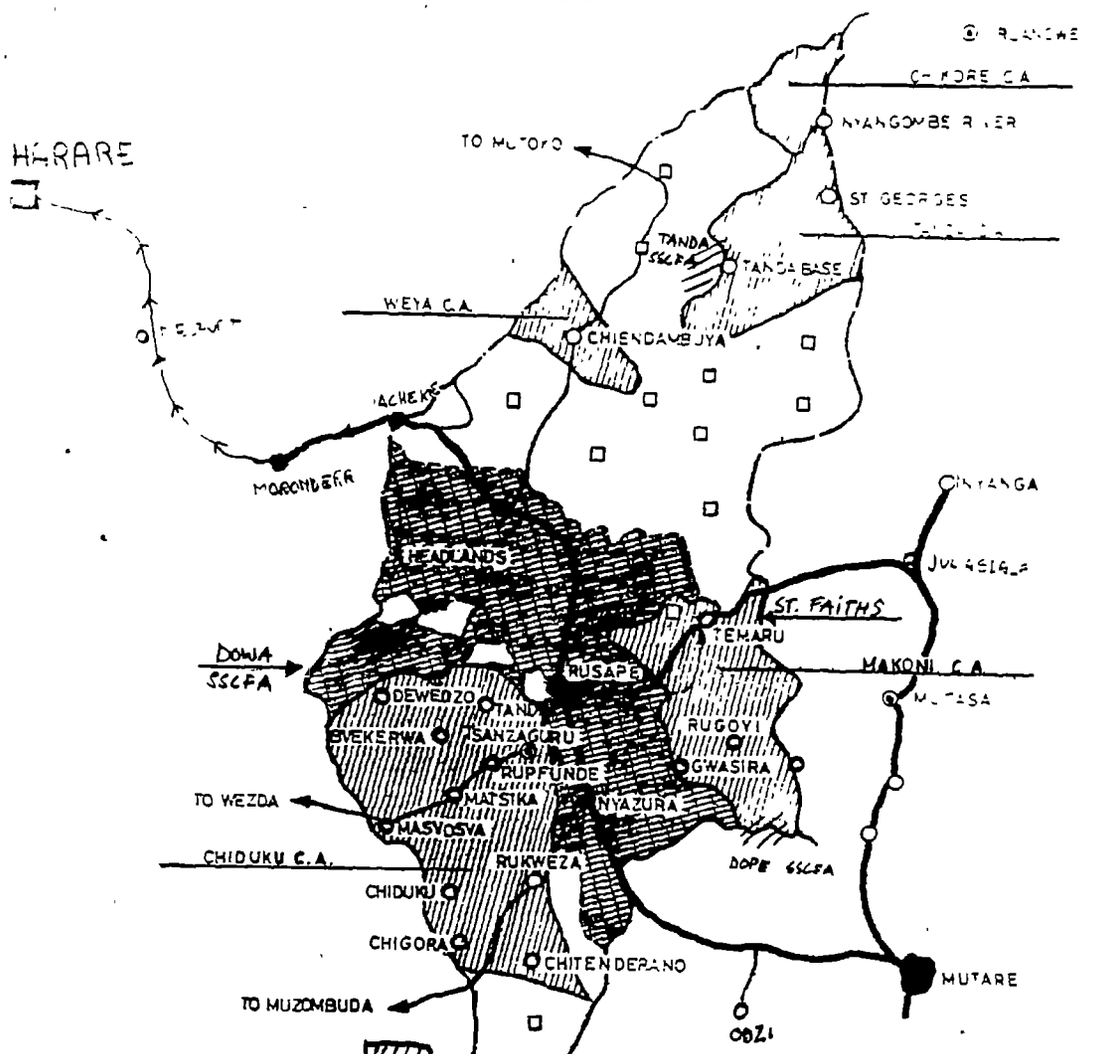
## 4.1 ADMINISTRATIVE STRUCTURE

Altogether, Makoni District includes five separate local authorities (see map next page):

- Maungwe District; comprising the five communal areas where the programme is implemented: CHIDUKU (17 wards), WEYA, CHIKORE, and TANDA (5 wards), MAKONI (5 wards)
- Makoni Rural District, including Rusape town, the high density suburb of Vengere, and surrounding commercial farming area,
- Tsungwezi Rural District including Nyazuara and Odzi Commercial farm land. (Neighbouring Macheke Rural District include some Commercial land within the boundaries of Makoni).
- Small Scale Commercial Farming Areas, managed by the Ministry of Agriculture and the Maungwe District Council.
- Resettlement Areas, managed by the Ministry of Local Government/DERUDE, through the PA's office in Mutare.

The 28 wards (166 villages) where the programme is being implemented are thus dispersed over a large area, with more than 200 km between the southern end of Chiduku and the northern end of Chikore. In between are substantial areas of commercial and resettlement land. (The largest resettlement schemes undertaken in the country are located in this District: 25% of the land and a 1985 resettled population estimate of 41 600)

Map 4.1 Communal Areas, Resettlement Areas, and Commercial Areas, Makoni District.




This confusion of local authorities illustrates some of the difficulties in carrying out an integrated programme. It is a considerable challenge to achieve integration on District level. It also makes a very good case for the proposed amalgamation of local authorities to produce one unitary authority. The revenue sources for the different areas varies considerably, as do the overall level of income. This has a bearing on any future discussion of user's financing in the maintenance of water installations.

## 4.2 POPULATION

Table 4.1: Population by CAs in Maungwe District - 1982 Census

| Communal area | Males | Females | Total | Area Sq.km | Densities Pop./sq.km. |
|---|---|---|---|---|---|
| CHIDUKU CA | 41.440 | 48.095 | 89.535 | 1.351 | 66,27 |
| MAKONI CA | 11.537 | 14.143 | 25.680 | 513 | 50,05 |
| TANDA, WEYA, CHIKORE CA | 12.145 | 14.619 | 26.764 | 849 | 31,52 |
| TOTALS | 65.122 | 76.854 | 141.979 | 2.713 | 52,33 |

Population density is among the highest in Manicaland, and well above the national average. Chiduku shows the highest population density.
In all areas the female population is much higher than the male population (54% versus 46%).
Over 50% of the population is under the age of 15. The large proportion of young persons will seriously aggravate the employment problem in the near future.

The population in the communal lands makes up 63% of the total population in Makoni District (141 000 out of 222 000 according to the 1982 census). In the Makoni District Development Plan, the population is estimated to increase at a rate of 3% per year, which will give an estimated 304 000 people in 1990.

## 4.3 INFRASTRUCTURE AND PUBLIC SERVICES

The main road from Harare to Mutare, and the railway link to Beira, pass through Makoni District.

Rusape, on the main road and railway line, itself not located on communal land, is the administrative centre for Makoni Rural District and for Maungwe District, and also the site for meetings of Maungwe District Council. The DA's office and all the ministries' extension offices on district level are located in Rusape, as is the District Office and workshop of DDF.

Rusape has a District hospital, two secondary schools, three primary schools. It has about 60 commercial premises and two

banks. Many industries and warehousing facilities provide services to the surrounding district and also beyond the district boundaries, including fruit and vegetable canning, timber yards, fuel depots, river extraction plant, grain marketing, garaging and repair facilities, transport. Vengere, the high density suburb close to Rusape, has a commercial and market centre with general dealers and small-scale trading. Market premises at the bus station includes small scale general dealers, hardware dealers and open markets.

Health

Primary Health Care is a high priority with the government. In addition to the District Hospital in Rusape, there are 3 Rural Hospitals, 14 Rural Health Centres and Clinics in communal areas, as well as 11 in the resettlement areas, and 5 Church related hospitals. Some areas are still very peripheral to the new health service provisions, and there is a general shortage of skilled personnel.

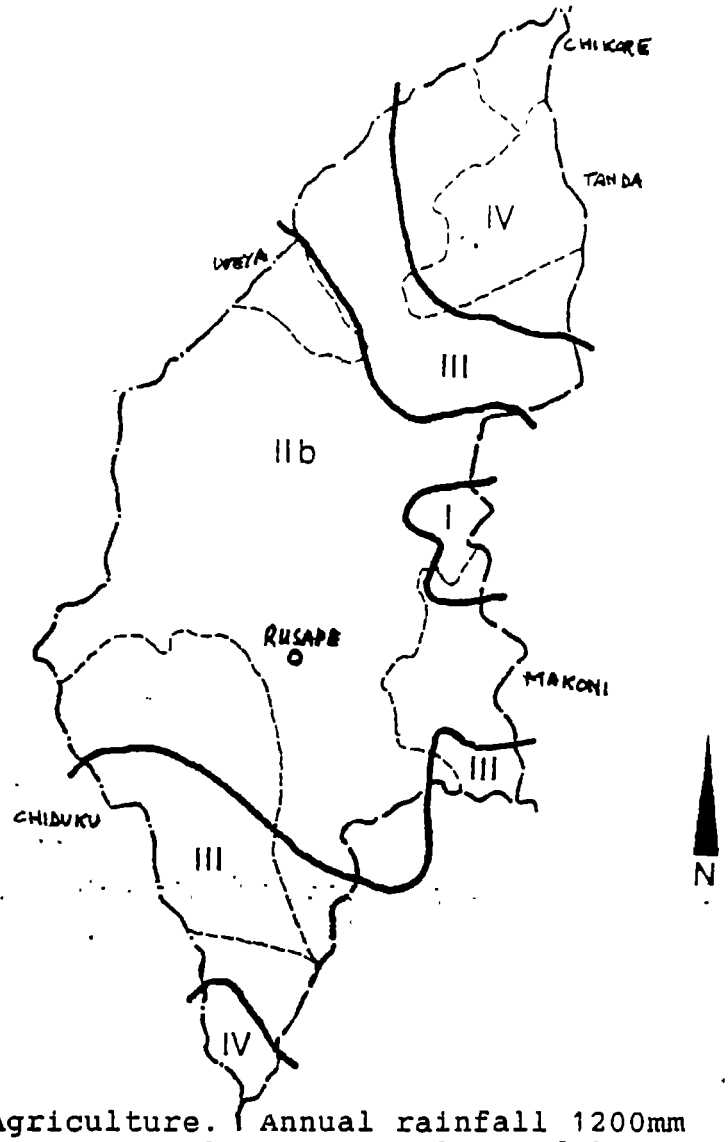
Schools

Schools include 166 Primary Schools and 46 Secondary Schools. 77 000 pupils are attending Primary Schools, which generally are located within a reasonable walking distance. 14 000 pupils are attending Secondary schools, which on an average are situated within a walking distance of 20 km.

## 4.4. AGRICULTURE

The map (next page) of natural regions in Makoni District shows a very common pattern of communal and resettlement areas located in the most marginal areas, with the commercial areas taking up the best natural regions along the main roads. (Or put differently: the main roads pass through the good farmland). Non-arable land is approximately 35% of the total. This is manly rocky land, of high altitude.

Map 4.2 Natural regions in Makoni District.




I Intensive Agriculture. Annual rainfall 1200mm
IIb Semi-Intensive Agriculture. Annual rainfall 800-900mm
III Extensive Farming. Annual rainfall 650-750mm
IV Marginal Agriculture. Annual rainfall 450-650mm. Severe and seasonal droughts.

The main staple food is maize, grown by every farmer. The average yield in communal and resettlement areas is estimated at 1.8 t/ha, where the potential average could be as high as 5 t/ha. (In the commercial farming areas in the district the yield is around 8t/ha). (MOLISV p.16)
Other food crops grown for local consumption, and sold on the local market, are nyimo, sweet potatoes, beans, rapoko and groundnuts.

No figure is available on the total production in Maungwe District. Some indication may be obtained from the records of deliveries to the Grain Marketing Board, which shows a substantial production increase:

Table 4.2 Deliveries to GMB from Maungwe District (in m.t)
(Source MOLISV p. 16, from GMB data)

| | 1983/84 | 1984/84 | 1985/86 |
|---|---|---|---|
| Maize | 726 | 6226 | 15004 |
| Sunflower | 27 | 117 | 348 |
| Sorghum | 1 | 29 | 185 |
| Groundnuts | 11 | 16 | 83 |
| Rapoko | | 8 | 16 |
| Soya | | 1 | 2 |

Livestock amount to 98 000 cattle and 17 000 goats. Cattle are used mainly for drought power, as yet very little for milk.

The Maungwe District Development Plan (p.12) lists the following crucial factors restricting production and employment in the agricultural sector:

- Population pressure over resources: The high population/-arable land ratio, overstocking, and overgrazing put a tremendous pressure on available resources. Deforestation and soil erosion are critical problems.
- Availability of finance: Intensification of agricultural practices, especially the use of more fertilizer, is especially needed. But the availability of AFC credit remains well below the level required.
- Supply of inputs and marketing of products are often not in line with the production season.
- There is a lack of knowledge of good farming practices, related to the shortage of agricultural extension staff.

In the whole district there are 58 extension workers, making a ratio of 1:678 farmers. (The desired ratio being about 1:300). To cover as many farmers as possible, extension officers work with the different groups that have been formed: Savings Clubs (1067), Interest Groups (620), Farmers Associations (145), and Show Societies (89). The Development Plan lists 70 cooperatives.

## 4.5 CONCLUSION.

The project area, the communal lands in Makoni District, has both problems and possibilities that are common for a large part of Zimbabwe.

The quality of the land, and relatively central location in relation to roads and transport, provide good opportunities for economic development. Progress has been made within many fields: improvement in farm output and increased diversity in cash crops, building of schools and clinics, construction of roads and infrastructure.

On the other hand, this development generates ome of the most serious problems in the area: the high population growth, and a higher than average population density. The resulting pressure on resources, soil erosion, and shortage of arable land, may soon retard the increase in agricultural production enjoyed during the 1980's. There is an urgent need for an effective family planning programme to reduce the population growth.

Finally, it should be noted that Makoni District includes a substantial resettlement area. The population on resettlement land has much the same need for water and sanitation facilities as has people on the communal lands. The accidents of administrative boundaries should not prevent the programme from including the resettled population in the target group.

# CHAPTER 5. LOCAL GOVERNMENT

## 5.1 LOCAL GOVERNMENT, MODERN LEADERSHIP

In the new local government structure there are elected representative bodies at District, Ward, and Village level. (see figure 5.1 at the end of this chapter)

The District Council was introduced in chapter 4. At Ward level, the most important political position is that of the Councillor, (elected for a three year period). The Councillor is the link between the population of the ward and the political and administrative system. This means that the Councillor plays a crucial role in the implementation of the Water Programme. His/her task is to inform and motivate people, and to facilitate the communication between the programme personnel and the communities. Being an elected representative, the Councillor has a special responsibility to see that the wishes of the communities are incorporated in the plans for locating the water points. For this purpose, the Councillor cooperates with the WARDCOs and VIDCOs (Ward and Village Development Committees).

When the new local structure was established, each Ward (of about 6000 people) was set up comprising some 10 Villages (each of about 600 people). These villages were formed so as to coincide as much as possible with already existing traditional units. Still, the VIDCO is a new and large construction, that encompass a number of smaller functional social units, which also are called village, or kraal. It seems that the VIDCOs are fairly successful in taking up (but not necessarily solving) issues that are of great concern to people. The following notes show the kind of issues that concerned people in the area where I did my study:

Current issues, according to VIDCO chairman:

- Only one telephone in the whole ward. Need more telephones, especially one at the clinic.
- Plans for roads (tracks) to make more villages accessible

by car in cases of emergency.

Soil protection:
- Prevent cutting of trees. If someone is caught s/he is reprimanded, if necessary brought to the chief.
- Prevent plowing near the riverbanks (within 15 metres), to avoid erosion.
- Upkeep of contour ridges. Prohibition to take sledges and plows across contour ridges, and on the main roads.

'Welfare':
- To get in touch with people who have problems, and to take such problems to the councillor.
- To negotiate in cases of quarrels and divorce, and to take such cases to the District Commissioner or to the Chief.

Levies:
- The VIDCO collects the Development Fee. (Z$ 2.- from each man between 18 and 70). The kraalhead collects the money for his village, the VIDCO chairman brings the money to Maungwe District. The Development Fund is used for projects in the District: Roads, bridges, schools etc.
- The VIDCO chairman is also branch chairman for ZANU, so he collects money for the ZANU-PF cards (25c. a month).

## 5.2 LOCAL GOVERNMENT, TRADITIONAL LEADERSHIP

Coexisting with the new offices of local government, there are two chiefs in Chiduku: Chief Tandi, (in Pasipanodya), and Chief Chiduku, (of Chiduku ward). Both chiefs recognize chief Makoni (of Makoni Communal Area) as the paramount chief .

The present Chief Tandi is, strictly speaking, a chief's representative. The old chief died in 1986, and his brother in February 1988. Hence the youngest brother, a widower at the age of 78, was elected chief's representative. He looks upon himself very much as an intermediary, while people are looking out for a new chief.

I was not able to observe him in situations where he was exercising his role as chief (mambo) for his whole district. I did, however, meet him when dealing with local issues, often in close cooperation with kraalheads (sabhuku) and other local leaders to address specific problems. The distinction between his mode of

operation and that of a village headman (sadhunu) elsewhere may be rather slight, due to the short period he is expecting to hold the office.

He says about himself that "People have to make do as best they can without a chief, but I help out as much as I am able to." Recognizing the duties of belonging to a chief's lineage, he adds: "I was born to work for somebody else, for everybody. Many people come to see me, and I never refuse to listen."

A chief has three main areas of responsibility (Bourdillon 1987):
- He represents his lineage and the other lineages in his area in relation to the ancestors, i.e. a ritual function.
- He controls the allocation of land. In a sense this is something that he does on behalf of the ancestors, to whom the land belongs.
- He is a mediator in cases of conflict. Traditionally a chief preside over his own court. In many cases the chief still unofficially hear disputes among his people.

According to traditional ideas, a chief could not force his people to do what they did not want to do. He was a leader rather than a ruler, relying for his position on influence rather than force. The main problems facing modern Shona chiefs arise from the intermediate position of chiefs between their people and the centralized government of the state.

At present (i.e. after independence), the formal authority vested in the chief is very limited (although there are indications that the national government plans to make more use of this position). But the influence, and leadership based on traditional authority may still be a significant factor in local life. This means that the support of a chief for development initiatives like the Water Programme may be of great importance. And not only in more formal contexts, but even more so on the informal level of influencing people and gaining acceptance for new measures.

As far as I have been able to observe, Chief Tandi plays a very supportive role in the implementation of the water programme.

He advocates the components of the programme both in formal situations (village, ward meetings, workshops) and in informal situations. His role is often that as a mediator when problems arise in the implementation of the programme. The following case illustrates his role as mediator, and as a leader who enforce the 'unwritten' social rules. The case also show how traditional and modern leaders cooperate, in this case to implement the latrine component of the Water Programme.

Case: enforcing social control.

A family of 8 were using an open pit close to a new water point for defecating. Several people claimed to have observed them after dark. A neighbour also claimed to find excrements in his garden, bordering on their house. In this particular area, eight houses were located rather close to each other, and to the well, and the seven other families all had their own latrine.

The complaint was first brought to the VIDCO chairwoman. She took it up with the Village Community Worker, who refused to talk to the family. Her reason: "I have no authority to talk to them about something that I have not seen myself. What if they refuse, and say that the accusations are not true?"

The chief was called, and an impromptu 'court' was set near the well: A chair was brought for the chief. Next to him sat the VIDCO chairwoman, the VCW, two of the neighbours who had brought out the complaint, and one member of the accused family. People coming to the well to fetch water stopped for a short or long time, some sat down to listen.

The VIDCO chairwoman was asked to present the story. She said that she had received complaints about this specific family, and that the chief and the VCW should tell the people what to do. Again the VCW refused to pass any judgement, as she had no direct observation of this case. She did, however, quote the people from Interconsult. At contact meetings before the well was dug, they had pointed out that all the families next to the well had to get their own Blair latrine.

The chief asked if the accused family had any bricks and pit. It turned out that the family previously had dug a pit, but had done nothing further about it and it was now falling in. Then the chief asked directly: "What do you use for latrine?" and the answer was: "We just use the bush."

In the discussion that followed, several people contributed their points of view:
- The VIDCO gave an account of how she had worked hard to get the family a proper latrine: "We did not have any money,

but we struggled hard to get a latrine. Other people have to do the same."
- The neighbours were more direct:"This family must build their own toilet."
- The Village Community Worker contributed some general information about how to go about getting a Blair latrine: "You must use the Ministry of Health programme, buy 1000 bricks and dig the pit. Then they will give you 7 bags of cement. Later you can get more bricks and complete the latrine."
- Some of the bystanders pointed out that this well was near a rather busy road "There may be visitors coming to the well who want to walk around, then they will see this dirt. That is shameful for our community."

The verdict of the Chief was clear: "You must build a temporary pit (a squathole, with a pole and grass on top), and you must do it today. And then you must start to collect bricks and prepare to build a proper latrine. It is for your own benefit."

After the meeting, the Chief summed up the main points to me, and stressed the importance of making people accept the new concept about clean water and sanitation: "I told them what to do, and if they do not do it, they have to leave." And he added, with a laugh: "I told them they would have to go back to the jungle."

When I left a few weeks later the family had not dug their temporary pit. But they claimed to be preparing the construction of a proper latrine.

I see this case as an instance of a rather successful cooperation between different kinds of authorities. The task at hand required diplomacy: to take up an unpleasant issue and to bring rumours and accusations out in the open. Both the VIDCO chair-woman and the VCW were reluctant to deal directly with the family. They felt they did not have authority to enforce sanctions if the family refused to comply, and being women made this probably even more difficult. They also feared, I was told later, that the accused family might resent their interference, and take revenge. In cases like this, it is very convenient to call upon the chief to spell out the general norms for proper behaviour.

It is more difficult to see what kind of sanctions the Chief actually could use. When he threatened that they "would have to leave" if they did not do as he had told, he was clearly referring to the traditional authority of a chief to give permission

to live on the land. Maybe even today the mention of a theoretical possibility of eviction carries some weight. But by far the strongest sanction, in this case, was the public nature of the case, and the strong and unanimous opinion voiced by 'the moral community'.

All actors involved expressed a strong commitment to the ideas of the Water Programme, and the sanitation concept. They stressed these as general values, and also stressed the importance of proper behaviour in the eye of visitors (perhaps personified by my presence). The Chief explicitly contrasted a previous, primitive, existence with a desired modern lifestyle in his final remark, that those who did not comply should go back to "the jungle".

## 5.3 THE RELATIONSHIP BETWEEN TRADITIONAL AND MODERN LOCAL LEADERSHIP.

Ward level.

At the WARD level there are three 'executive' positions: The Councillor, the District ZANU Chairman and the Chief/Headman. In their everyday activities, people make use of both the modern and the traditional systems. Obviously, the structure in itself opens up for potential conflicts and competitions between the incumbents of these three positions.

The relationship between these positions vary considerably, according to local conditions and personal qualities. Many of the obligations of a Councillor and a ZANU Chairman are closely related and the division of responsibilities sometimes vaguely defined. Problems may also arise when lack of coordination or insufficient information create confusion, but also when there is competition between the leaders.

I did not observe conflicts of this kind in the area where I worked. The point mentioned above, that the Chief saw his own role as temporarily, and therefore was less assertive, probably

contributed to a friendly relationship. The local Councillor was very active in advocating the needs in his ward for a high number of water points. The thrust of his activities seemed directed out of the ward, towards the implementing agencies. However, being a foreigner on a relatively short stay, I was not in a good position to pick up data on potential conflicts of interests.

Village level.

For many people, the main problem in relating to the modern structure, is that they do not really have a clear picture of how it works, and who works in it. People usually know the name of the VIDCO they belong to, and some of its members. But even members of one VIDCO may have difficulties recalling the names of all the committee members, or to give the name of all VIDCOs in one ward. The VIDCO chairman/woman, however, is universally recognised as a leader, and is called on freely by the community when problems arise.

Representatives of the traditional and the modern structures seem to cooperate well on the local level. Decisions on which 'authority' to contact, depend both on the nature of the problem, and on the scale, i.e. the number of people involved.

As a rule, all problems arising within the confine of a kraalhead is first taken to the kraalhead. Often such problems are family problems and a solution is sought within the family.

If, however, a problem arise that involve people belonging to two or more different kraalheads, the solution may be to call on the chairman of the VIDCO that include all people in question.

Accordingly, when it comes to implementation and running of the Water Programme, the problems of one specific Water Point Committee is usually taken up with the kraalhead (who also may be represented on the committee). But if a larger group of people are involved, a higher authority is invoked.

> I observed one case where there was a breakdown in one well. The people went to use the neigbouring well, but the chairman of the WPC refused people the use of this one. The reason he gave was that they had not contributed to the initial construction costs.
>
> The case was taken to the VIDCO chairman who immediately called a meeting and said that a new chairman would be elected for the Water Point Committee, if he did not allow all people to use this well.
>
> When I asked why they called on the VIDCO and not the kraalhead I was told that it was because the problem involved the people of two kraals.

For a number of small, but often important practical purposes, the kraalheads serve as an extension of the formal structure to the lowest ('grass root') level. For instance the collection of Development Fee, (a responsibility of the VIDCO) is done through the kraalheads. Similarly, a special collection all over the Ward, for contributing to the water program installation at the clinic, was done by the kraalheads collecting 10 cent from each family. Kraalheads contribute to the dissemination of information from public bodies.

The close ties to the traditional structure is also expressed in the composition of the VIDCO. In Tsere VIDCO the 8 members each represent a lineage in the area. The most notable difference is that all VIDCOs have some female members (In Tsere, 3 out of 8)

The procedures for village mobilization in the Water Program recognizes this mix between modern- and traditional government structures in that it routinely calls on all forms of leadership to attend meetings and workshops that are part of the program.

As we see from the figure below, the personnel on the lowest level in the local government structure belong to the Ministry of Community and Cooperative Development. Together with the pump-minder and the water point committee, the Village Community Workers make up the cadres in implementing the Water Programme. At this level, women participate as more than token members.

Figure 5.1 Main actors in local government structure.

| MoH | MCCD | MLGRUD | | ZANU | |
|---|---|---|---|---|---|
| District Medical Officer DMO | Community Developm. Officer CDO | DISTRICT COUNCIL | DDF Field Officer | Party Coordinator | Ishe/Mambo (Chief) |
| Health Assistant HA | Ward Community Coordinator WCC | Councillor WARDCO | Pump-minder | District Party C'man | Sadunhu (Headman) |
| | Village Community Worker VCW | VIDCO | | Branch C'man | |
| | | | Water Point Committee WPC | | Sabhuku (Kraal-head) |
| POVO | POVO | POVO | POVO | POVO | POVO |

# CHAPTER 6: HOUSEHOLD AND PRODUCTION IN CHIDUKU COMMUNAL AREA

This chapter gives some of the socio-economic background to the implementation of the Water Programme. Data on social and cultural conditions was collected through participant observation and household surveys of some neighbouring villages within Pasipanodya ward, and travel around Chiduku. The focus is on household economy, patterns of production, and the cultural conventions concerning men's and women's role in production and society.

Pasipanodya ward is located at the north -east corner of Chiduku communal lands. Most areas accessible by road can be reached within one hours drive from Rusape. In north and east it borders resettlement areas, previously commercial land. To the west the ward is bordered by the Mezi river. There are two business centres: Musariri BC, and Silas BC (Tandi). Silas is designated as a growth point, and in the vicinity there are a secondary school, a clinic and the premises for Tandi development centre.

The land is at about 1300 metres altitude. Much of the area is mountainous, with lines of huge granite boulders. Mostly the villages are situated along such lines of boulders or near the rivers. Usually the houses are close to the fields and gardens, with grazing areas set apart. However, population pressure, and probably also a weakened authority structure in the period after liberation war, has lead to some new settlement in the grazing areas. Grazing is scarce, but there is as yet no limit to number of cattle permitted. Cash is the limiting factor for the acquisition of cattle.

## 6.1 HOUSEHOLD ECONOMY

The production pattern in Chiduku is still a 'peasant' type economy. The household is the main unit of production, and combines agricultural production for own subsistence with

production for a market. At the same time, household economy is closely integrated with the modern economic sector through the large number of males that are migrant workers, mainly in Harare and Bulawayo. In effect, this leaves a large number of households with a woman in charge of production and management within the household.

These three aspects: a) a high degree of subsistence production, b) an (increasing) cash crop production, and c) the rural - urban symbiosis manifested through work migrations, make up the distinct pattern of economic adaptation in the area. Responses to development efforts being introduced must be understood with this background.

Household form

In connection with the water use survey (chapter 7) I did a complete household survey of the 'user community' around three waterpoints: Musariri I (56 households), Musariri II (51 households) and Tandi/Chatindo (59 households). The average size of the household was five members. The table below shows the range in household size:

Table 6.1 Household size (n=166)

| Househ. size | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nos of househ. | 16 | 14 | 18 | 26 | 34 | 19 | 15 | 14 | 6 | 4 |
| Percentage | 10% | 8% | 11% | 16% | 21% | 11% | 9% | 8% | 4% | 2% |

In defining 'household' I use the local concept of household, namely the group of persons (or one person) using its own kitchen hut. This means that the number of households is higher than if neighbouring and closely related households were grouped together. Many single-person households are widows or widowers sharing in production and consumption with their family in a neighbouring household.

However, the definition I use has the obvious advantage of corresponding to a local classification. Moreover, the usefulness of any definition depends on its purpose, and the focus of this study is not on household economy but on water use. As we shall see, water consumption varies significantly between households, and the old/single person households stand out with a generally very low level of water use.

30 households (18%) consist of extended families, the most typical is a three-generation family with either a grandmother or grandfather living in, or an unmarried daughter with one or two children.

More than half of the households are in fact female-headed (54%). By female-headed I mean that the husband is absent and not able to participate in the daily work. It does not necessarily mean that the man has abandoned the family. There is a large number (38, or 23%) of widowed and divorced or deserted women. In addition there is a large number of households where the men work outside the communal lands, mostly in Harare and Bulawayo (52, or 31%). There is a considerable variation as to how much the men in these households participate in household activities. Some return home for the week-end at regular intervals, and save up free time to participate in farming at home. Others return home only once or twice a year, and there is sometimes difficult to draw the line between such prolonged absence and desertion. As long as there is no formal break of conjugal relationships, these men are of course formally head of their households. But if we look at the actual work being done in these households, we find that it is the women who are responsible, and also very often have to make the decisions involved in running the household, and managing the households production.

> Husbands earning the minimum wage of Z$ 185 may send home Z$ 30-40 most months. Some send as little as Z$ 20. Some do not send any money at all, only bring some cash and/or gifts when they come home on visit. They say "I do all the work, I got to eat the money". Some husbands take a second wife in the city, who "do nothing, just eat the money".
>
> On the other hand, some husbands who have a good income are reported to send home as much as Z$ 180 - 200 per months.

Recurrent expenses are of three types:

1. The daily costs of feeding and clothing the family. Subsistence production, sewing and knitting, may reduce these costs.
2. The seasonal expenses of farming inputs required. I will discuss this below.
3. The cost of schooling. Even if primary school is free, there are always extra costs (building funds, sports fee, test fee, uniforms) that require cash. If parents want to send their children to secondary school, the fee, school levy and uniform costs are considerable.

> For one girl at secondary school in Bulawayo:
> Z$ 85 fee and Z$ 40 school levy x 3 terms
> Winter dress Z$ 39, summer dress Z$ 32, hat and bag Z$ 22
> Sports equipment & uniform Z$ 113, shoes Z$ 30, track suit Z$ 35. The yearly total exceeding Z£ 650.-

Expenses of this magnitude not only requires a considerable cash investment. They also require a sacrifice from the parents.

As discussed above, the contribution from husbands may vary a lot. One of the most common complaints among women is the high expenses involved in keeping children at school. And to accuse husbands of not contributing to these expenses.

In many cases the solution has been simply to send the child to live with the father. As one mother explained: "If he is away from the family, he easily forgets all our needs. But when the child is there, he must look after it, and pay the school fees". If the husband has a family quarter, and if the child can do the cooking and other chores around the house, this arrangement may work quite well.

## 6.2 PATTERN OF PRODUCTION

The main crops are maize, rapoko, ground nuts, beans, vegetables. About 40% of the households own some cattle. Land is scarce, and all available land is put to use. Some very few fields may be left temporarily fallow, because of the absence of the owner/-user.

Most of the farms would give a better harvest with use of more fertilizer, plowing, and fencing. This is an important point, in a context of land scarcity. Lack of cash gives low investments and less production. Differences in wealth between households are therefore only partly explained by the amount of land they can use; equally important is the amount of cash they can invest in improving the soil.

This means that the cash-flow from migrant workers is of crucial importance. IF money earned in the urban sector is invested in the production system of the home farm, there is a considerable gain. The wide variation in how much money migrant workers send home, thus account for differences in the farming output.

The close tie between the rural and urban economy is further demonstrated by the investment that many migrant workers make in their own property on the communal lands. The farm represents security, and the closest many get to an 'old age pension'.

## 6.3 THE ROLE OF WOMEN IN PRODUCTION AND SOCIETY

The significant role of women in agricultural production has been documented extensively. For a recent contribution on Zimbabwe, see Batezat and Mwalo 1988. The tasks performed by women are defined within the traditional kinship system and compatible with a role as wife and housewife

However, in the local community, and the larger society, there has developed many new, and at times conflicting, expectations as to what women should do, and should not do. As we shall see later (chapters 10,11) these expectations have direct consequences for the roles that women can play and do play in the Water Programme, and specially on the composition of Water Point Committees.

It may be useful to visualize different levels of society, where the expectations are being formulated:

1. On the household level, in the context of household and family where most productive and reproductive tasks are being carried out, women show great enterprise and industry.

My observations suggest that women exercise considerable influence and control in executing their daily chores: in their planning of planting and harvesting, and in applying the work capacity of themselves and their children on the wide range of tasks that need to be done. This situation is stressed even more by the high proportion of absent husbands. As we have seen, more than half (54%) of the households in the communities I studied were female-headed.

Note that I am not talking about influence or independence in any absolute sense. What I describe is a restricted influence, clearly circumscribed, and exercised within the context of household and family. To the extent that this independence exists, it is "de facto": it is not a cultural norm, but is expressed in behaviour. In the terms of Geerz, the anthropologist, it is a pattern of behaviour, not a pattern for behaviour. Women ar not given influence, it is more that they are left with a lot of jobs to do, and must take the necessary steps to get things done.

It is not easy to generalise about how common such a relatively independent role might be. The relationship between husband and wife is shaped in each individual case through interaction and negotiation between the spouses. In any village we find the whole range from partnership to dominance to negligence.

This is not negating the formal aspects of the husband - wife relationship, and the subordination of women both according to customs, and upheld in the course of daily encounters (see again Batezat and Mwalo 1988 for a contemporary perspective). But I want to stress the importance of the role that women have as domestic producers, and the activities that go along with this. If we overlook this, we may make women look too uniformly subordinate.

2) Very simplified, we have a community level encompassing the families, where traditional norms are expressed and enforced, and where traditional leadership is exercised. Rules and norms for male and female behaviour are being demonstrated in local contexts outside the nuclear family. By traditional leadership I mean the system based on kraalheads, village headmen, and chiefs, where positions of responsibility and influence are always and exclusively male.

This system is expressed in the language of kinship, and defines for each person, male and female, a set of rights and duties towards each other which are similar to kinship obligations. The relationship in marriage is considered of paramount importance - and in 'the ideal model' of society a woman will look to her husband for instruction and guidance The husband is representing and taking care of the interests of the family 'as against the world'.

A majority of the population depends on this family and kinship structure for the basic necessities in life: Access to land, to make a living. Local identity and sense of belonging. Membership of a family as the main provider of social security.

3) Then we have a third context, shaping new roles for women and men. This is what I call the national level.

The national values, directing government policy, are the outcomes of a liberation war, and a revolution that has transformed society. The new system - brought in after the liberation - consists of a hierarchy of elected assemblies, at national, district, village and ward level. This system is stressing equality, promising equal rights for men and women. And it is this thinking that instructs the communities to select three women to each Water Point Committee.

So what we see is that the 'message' or the expectations to women are rather different on these three levels:

- The 'new system', formulated at national level, is stressing equality, and actively encouraging the involvement of women in public life.

- The 'traditional system', the local culture, is stressing a more hierarchial relationship between men and women. There are restrictions on the arenas and activities where women are supposed to participate.

- While on the household level, the women are responsible for important productive and reproductive tasks.

With such divergent messages and conflicting expectations, the selection to a Water Point Committee has all the makings of a classical role-dilemma: the new role is incongruent with (and also potentially in conflict with) traditional gender roles. How are these dilemmas dealt with ?

Based on the description above, we can formulate a logical hypothesis:
To participate in the 'new system' (and in our case this means the Water Point Committees) one or both of the following two conditions must hold: either a woman must have the consent of the husband, or the relationship to the husband must be defined in such a way as to reduce the potential conflict between household obligations and community involvement.

As we shall see, in the discussion of Water Point Committees in chapter 10 and 11, the communities have found a way to avoid this potential conflict. To a large extent, single women are selected, or those whose husband is a migrant worker.

# CHAPTER 7: IMPLEMENTATION OF WATERPOINTS IN PASIPANODYA WARD

If we count all planned and completed water points, old and new, in Pasipanodya ward, there are about 50 water points. By july 1988, about half of these were operating, the rest were still under construction.

Community mobilisation and pre-siting of wells started up in October 1985. Siting was done in two stages: three boreholes and 13 wells in 1985/86, five boreholes and 16 wells in Nov/Dec 1987. The Lutherans added four sites in May 1988. Five waterpoints were constructed before the water programme, and there are four natural springs that are recommended for protection.

## 7.1 STAGES IN IMPLEMENTATION

The sequence of well siting and construction was as follows:

I. Five wells existed before the programme started:

1. Tandi Clinic. Well with windmill to storage tank.
2. Chiwundu Secondary School. Bucket pump.
3. St.Andrews/Chatindo. By DDF. DRY & ABANDONED
4. Silas. For the RC playcentre. By DDF
5. Mupoperi School. By DDF 1981/82. Very little water.

II. Three boreholes completed 1986-87

6. Tandi Play Centre (Chatindo) 11/6-86
7. Tandi School I 5/6-86
8. Chibongore I 9/6-86

III. 12 wells completed 1986-87. Only two with wash stand. One (Cheneka School) was later moved, another (Tetena I) dry for long periods.

9. Chiguye 25/11-86
10. Musariri I 11/5-87
11. Musariri II 11-85
12. Makuwaza. Sited by LWF
13. Chigwedere C&D 20/1-87
14. Makombe I 2/9-86
15. Tsimba Hondoma

16. Cheneka School
17. Mupoperi I 19/6-86
18. Mupoperi II 2/7-86
19. Tetena I
20. Tetena II. (Across Mhezi river, part of Tetena Village

IV. Four natural springs recommended for protection

21. Chisaya I
22. Chigwedere A&B
23. Mukamba
24. Chihwayi

V. Five additional boreholes - drilling completed by Feb.1988

25. Musariri BC III 21/2-88
26. Chibongore II
27. Tandi School II
28. Silas BC 23/2-88
29. Tandi Clinic I 21/1-88

VI. 14 new wells sited in Dec. 87, not completed by July 88.

30. Chigwedere A&B. Sited in 1986. Dug in 1988
31. Chishaya II. Moved to new site near the road
32. Mutambira
33. Chigwedere C
34. Chief Tandi
35. Harunde
36. Makombe II
37. Kaerasora
38. Cheneka Dip
39. Mukamba I
40. Mukamba II
41. Deda I
42. Deda II
43. Cheneka School (New well site)

VII Two extra well sites, in conjunction with boreholes, were intended to be back-up sites, but actually dug.

44. Musariri BC IV
45. Tandi Clinic II

VIII. Six wells sited by LWF, May-June 1988. There was no budgetary allocation for these, four have been dug.

46. Chimunwo I
47. Chimunwo II
48. Gada I
49. Silas BC
Chimunwo III
Gada II

A map on the next page shows the distribution of water points. The water points are reasonably well dispersed over most of the settled areas. Only in the North-Eastern corner was one small community denied the request for a site, as high altitude and granite boulders made the place inaccessible for transport.

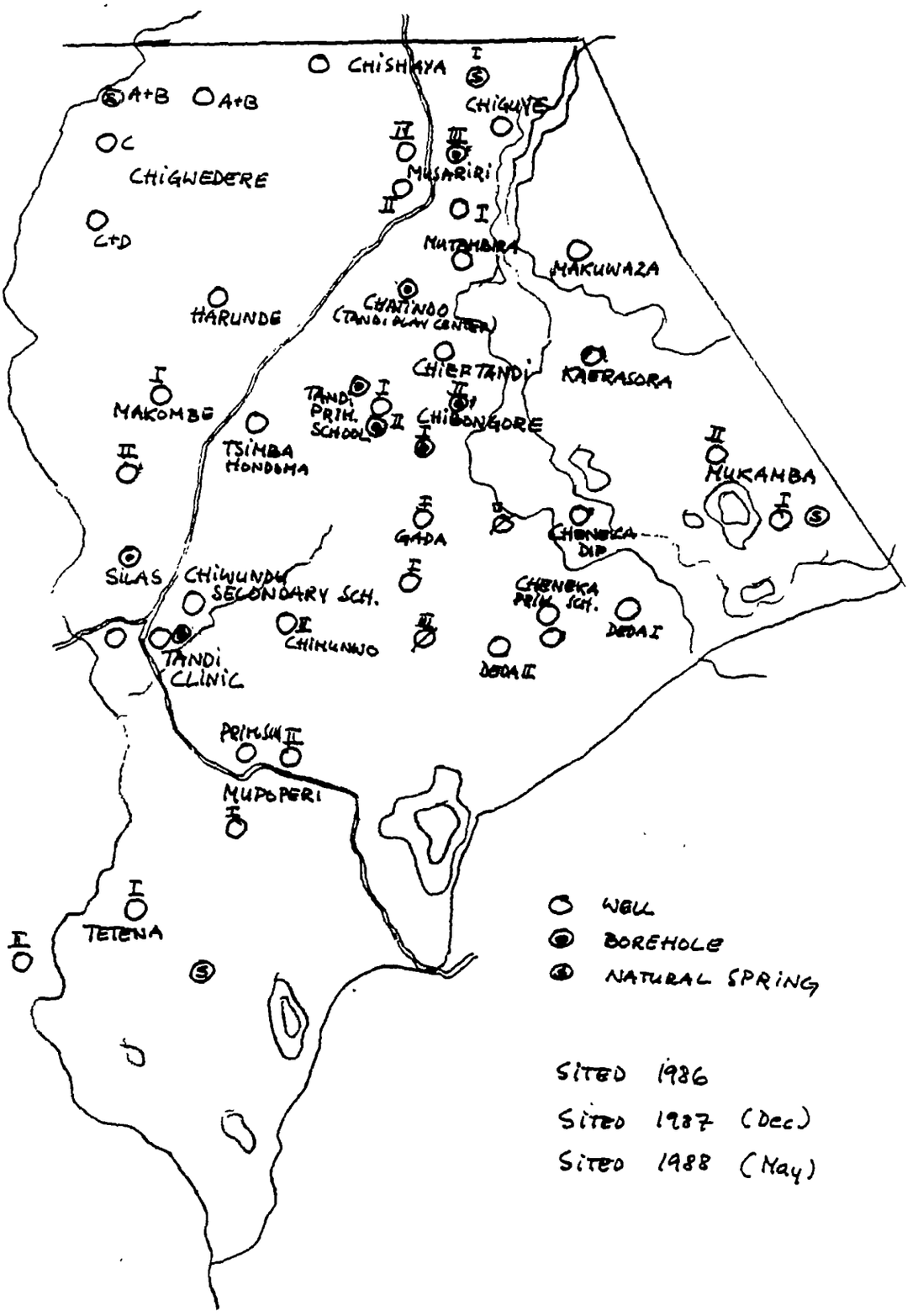
Pasipanodya was the 9th ward in Chiduku to be sited. By that time the allocation of water points had been in excess of the number of water points specified in the budget of the programme. The Programme (Phase II from Sept.86 to Feb.87) specified a frame of 200 wells and 200 boreholes, which should give an average of 10-12 sites pr. ward. Interconsult, using the NMWP criterion of one kilometre walking distance to water point, had sited (i.e. recommended) an average of 20 water points pr. ward. (letter from Interconsult to MEWRD of 3/1-86, reply from MEWRD of 7/1-86). As a consequence the initial siting in this area was more restricted than in the first wards that were done in Chiduku (marked red on the map), and additional water points were sited later (1987, marked in blue). In addition to this, LWF sited some new wells when they resumed well sinking in 1988 (green).

## 7.2 PROGRAMME IMPLEMENTATION

The fact that siting took place in three separate stages had some advantages, and some disadvantages.

It has increased community involvement in siting decisions. A crucial problem in the pre-siting and siting exercise is to secure involvement of the potential user communities. I was told of cases during the first siting exercise of kraalheads who declined the offer on behalf of their village. As many people did not at that stage have a clear notion of the issue, they did not protest. However, as the Water Programme proceeded and the first wells were completed for everyone to see, more people have asked for a similar well/borehole in their community.

Figure 7.1 Distribution of water points in Pasipanodya.

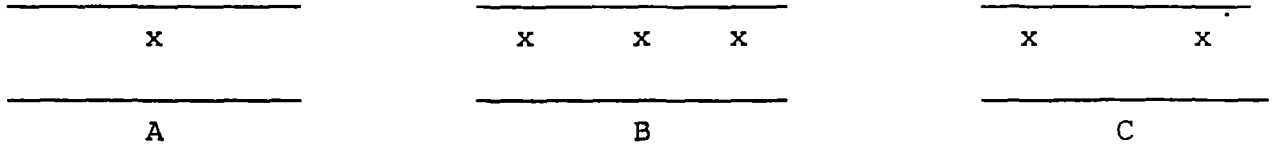


Even after the second round of siting, I encountered several requests for additional water points when I did my study in 1988. The same pressure was brought on the LWF when they came for well sinking in May 1988, and the Councillor was mobilised to plead for additional sites. As we can see from the map, some of this last batch fills in an area otherwise devoid of waterpoints. I was told that in at least one of these instances, a particularly stubborn kraalhead had prevented the community from being included before.

The disadvantage in proceeding in this manner is that there is really no end to the desire for new water points, and any new addition will invariably leave other communities dissatisfied. I have no reason to distrust any particular story about stubborn kraalheads, but such stories can also be used as arguments in what is seen as competition to get in on a waiting list. If new water points are being added, it is only reasonable to think that "if they can get their own well over there, we can also ask for one", and any time the final line is drawn, there will be some with expectations that are dissatisfied.

Another disadvantage is that it is more difficult to fill in new locations on an initially scattered pattern. To illustrate:

If - as is often the case - a village consists of one or two parallel lines of houses, and is allocated one water point, the best location will be in the middle of the line (A). However, if number of households and/or distance from one end of the village to the other actually warrants two water points, there is no good way to locate the second. With a first one in the centre, it takes two additional water points to reduce distance for those far away (B), while an initial allocation of two points would have given an optimal use of resources and provided good access to all households (C).



There is also a slight overrepresentation at the two Business Centres of Silas and Musariri. In the long run this may turn out to be a good investment, if there is an increase in population and activities in the two centres. But at present both centres have a better coverage than necessary.

## 7.3 SCHOOLS

The IRWSSP is meant to pay special attention to the needs of hospitals and clinics. For a number of reasons this has been difficult to achieve. Despite the efforts made, many schools come out with a less than satisfactory supply.

A main reason for this is the location of schools on high points in the landscape. All over Chiduku, schools are easily visible on hillsides or elevations that gives them a raised position in the landscape. This is especially the case with older sites, e.g. those schools started up by the Missions. The elevated locations give a good view, but bad conditions for drilling or sinking of wells. This same problem is often encountered for churches, and community/meeting houses, for the same reasons.

All the three primary schools in Pasipanodya have this problem:
Mopoperi has a well inside the schoolyard, open, with windlass, chain and bucket (no 5). This was built by DDF, probably in 1981. Initially it had a hand pump, but this was removed during the drought of 1987. There is not sufficient water to reinstall a pump. There is no Water Point Committee.
The well nearest the school is Mupoperi II (no.18), in the village. The distance is maybe 400 meters. No teachers on the WPC. The teachers want a new well close to the school.

Tandi School has the same problem. An old, unprotected well within the schoolyard dries up in winter and is presently not being used. A dam in the vicinity which used to provide water for the school was destroyed during the liberation war.
A borehole, some 400 meters from the school, serve the school and the neighbouring community (no. 7). This borehole has a low

yield (0,20 l/sec). There is also problems in cooperation between the school and the community. There are no teachers on the Water Point Committee, and the school wants a separate water point belonging to the school. A new borehole (no. 28) has been drilled somewhat closer (200 meters), and is also near the school gardens.

Cheneka school has a well inside the school yard (no. 16). This well went dry in 1987, and the pump was removed. The LWF are said to have deepened it in 87, but (I am told) the diameter is now too small for further deepening. A new well (No. 43) has been sited a few hundred meters from the school.

## 7.4 TANDI CLINIC

Up to the present, the clinic has had a very unsatisfactory supply of water, but the Programme is to some extent improving the situation.

An old construction with a windmill draws water from a well up to a water tank, which is connected with a quite good system of pipes. There are taps in the surgery, the male and female bedrooms, and a proper shower. But there is not enough water, and presently the system is not being used. Each morning a smaller tank is filled for use in the surgery, the shower and other facilities are closed. The in-patients are told to go to the river to wash, and if they are too ill to do this they are given a bucket and a jug of water to clean themselves. According to the head nurse, even mothers have to go to the river the morning after giving birth, and this is not very desirable.

A new well has been dug in front of the clinic, and this will provide a better supply. A borehole, some 400 metres from the clinic has also been completed. Neither of these will, however, provide more water for the present 'piped water' system. They will make sufficient water available for those who are able to fetch themselves.

There are plans to construct a generator and storage tank connected with the new borehole, to supply the clinic and the neighbouring Chiwundu Secondary School. I was not able to find out which authority will be responsible to carry out such a plan. Often it is also hard to tell whether what is presented as a 'plan' is really more of a 'wish'.

In this case the need for a generator that can provide piped water to the clinic, is very clear. As I will be shown later (chapters 8 and 9) it is necessary to encourage more use of water. This means a) a change of habits, to use more water when washing, and b) a better understanding of the benefits of better hygienic practices. The clinic can give a very valuable contribution in both respects. With sufficient water, a better hygienic standard can be achieved at the clinic. Moreover, it will be possible to teach the patients better habits.

Community participation. The clinic has a very active Water Point committee, consisting of two VIDCo chairmen, the ZANU District chairman, the caretaker and the head nurse at the clinic.
In connection with the new well, there are plans for washing slabs, bathrooms and new Blair latrines. For this purpose the user community, which in this case means all potential users of the clinic's facilities (roughly: Pasipanodya, Mhezi and parts of Nehanda Wards), are being mobilised:

To feed the well sinkers the kraalheads have collected 10 cents from each household. In addition, every family must contribute one of the following:

- 1 wheelbarrow of stones
- 2 wheelbarrows of river sand
- 4-5 bricks
- Z$ 5.-
- One half day's work.

It is all quite well organised. For instance can people who live far away borrow a wheelbarrow from the clinic to collect their contribution. Little heaps of brick, each with its distinctive colour and shape, and the heaps of gravel in front of the clinic, testify to the involvement. A book is kept with records of the

contribution. Many people have paid their Z$ 5.- but, as is always the case where money is involved, problems sometimes arise.

> I overheard the conversation with one young girl who handed over Z$ 5.-. She claimed to have been turned away the week before, when she came to ask for birth control pills. She was turned away before entering the clinic, by a VIDCO member who was keeping the records.
>
> The head nurse resented this, and pointed out that to go for one week without pills would increase the likelihood of pregnancy. She (the patient) should have come directly to one of the nurses to get the pills.
>
> The patient said she was given to understand that there would be no point in coming back before she could bring the Z$ 5.-.

My impression is that ZANU has been quite active in the mobilisation at this clinic. It may well be more cases like the one above, where enthusiasm is taken too far. But by and large I consider the case of this clinic as one of the best examples I came across of community involvement with a common purpose and a for a common good. It is also worth noting that the new leadership system (a WPC with VIDCO and ZANU representatives) made use of the traditional leadership (kraalheads) to implement part of the mobilisation. If one wants to reach out to every household, the system of kraalheads still seems to be a useful instrument.

## 7.5 PROTECTION OF NATURAL SPRINGS - RELATING TO THE ANCESTORS

As part of the regular pre-siting exercise, people are told to go through the rituals they consider suitable in order to inform the ancestors about the plans for new water points.

It is left to each community to decide whether they want to do this, but as far as I know the proper ritual is usually carried out. The ritual in itself is very simple and unobtrusive, and does not interfere with the project implementation. In fact, its observance may not always be recognised by project personnel. According to the logic of the relationship with the ancestors,

however, this observance is essential to the success of the programme.

> In one case, the drilling rig arrived before scheduled, and drilling operation started before the ritual had been performed. After some days the drill got stuck in the ground, for no apparent reason. A new hole was drilled only a few meters away, but this time the proper ritual was performed before the drilling started. Now there was no problem.

In the normal run of the programme, this attention to the traditional beliefs do not cause any friction. The only exception concerns the protection of natural springs.

There is a strong belief in Shona tradition that natural springs should be left open. They should not be closed in by fencing, and they should not be tampered with by the use of bricks and concrete. Natural springs are free and open sources, to be used by all living people, and by the ancestors when they come back and walk on the land.

It is the task of the consultants to recommend springs with a good yield that are suitable for protection. Such recommendation is only done if a well site can not be found. Nevertheless, this is the only component of the Programme which in some cases is causing a conflict. The conflict may be <u>within</u> the community, and easily becomes a generation conflict. It is the duty of the old generation to preserve and protect a proper attitude, in this case to the springs. It is in the interest of the young people to get new and better sources for water. The conflict of interest may turn to a conflict <u>between</u> the community and the authorities, if they feel that their spring, and the associated values, are being threatened.

Among the four cases of natural springs recommended for protection in Pasipanodya, both types of problems have come up:

In one case a solution was found by taking over a neigbouring private well with a stable supply of water, fitting a pump and making it available to the community.

Another spring was lined with concrete slabs by a white farmer before independence, so it is not any longer seen to have the special qualities of a natural spring.

In the most difficult case, the elders are strongly opposed to any interference of the old spring (which presently is doing a beautiful job of watering the vegetable gardens). The young people are pleading for the Water Programme to provide a new well closer to their village. It is not likely that they will get a new well, and they are left with a problem that will be very difficult to resolve within the community.

# CHAPTER 8: WATER COLLECTION AND USE

Three neighbouring wells were surveyed for two consecutive days each. In each case, one school holiday and one workday was chosen, to measure the involvement of school children in water collection. Before the survey, a map was made plotting the user community and the relative location of each household. On the day of the survey, each visit was registered, with the amount of water collected, the age, sex, and family of the collector. For each household, the walking distance (in minutes) to the water point was measured. After the survey, information was collected about the households that did not use the wells on any of the two days. At each well I was accompanied by one or two assistants who knew personally all the families (and the children) in the neighbourhood.

The patterns that emerge from these data are presented at three different levels:

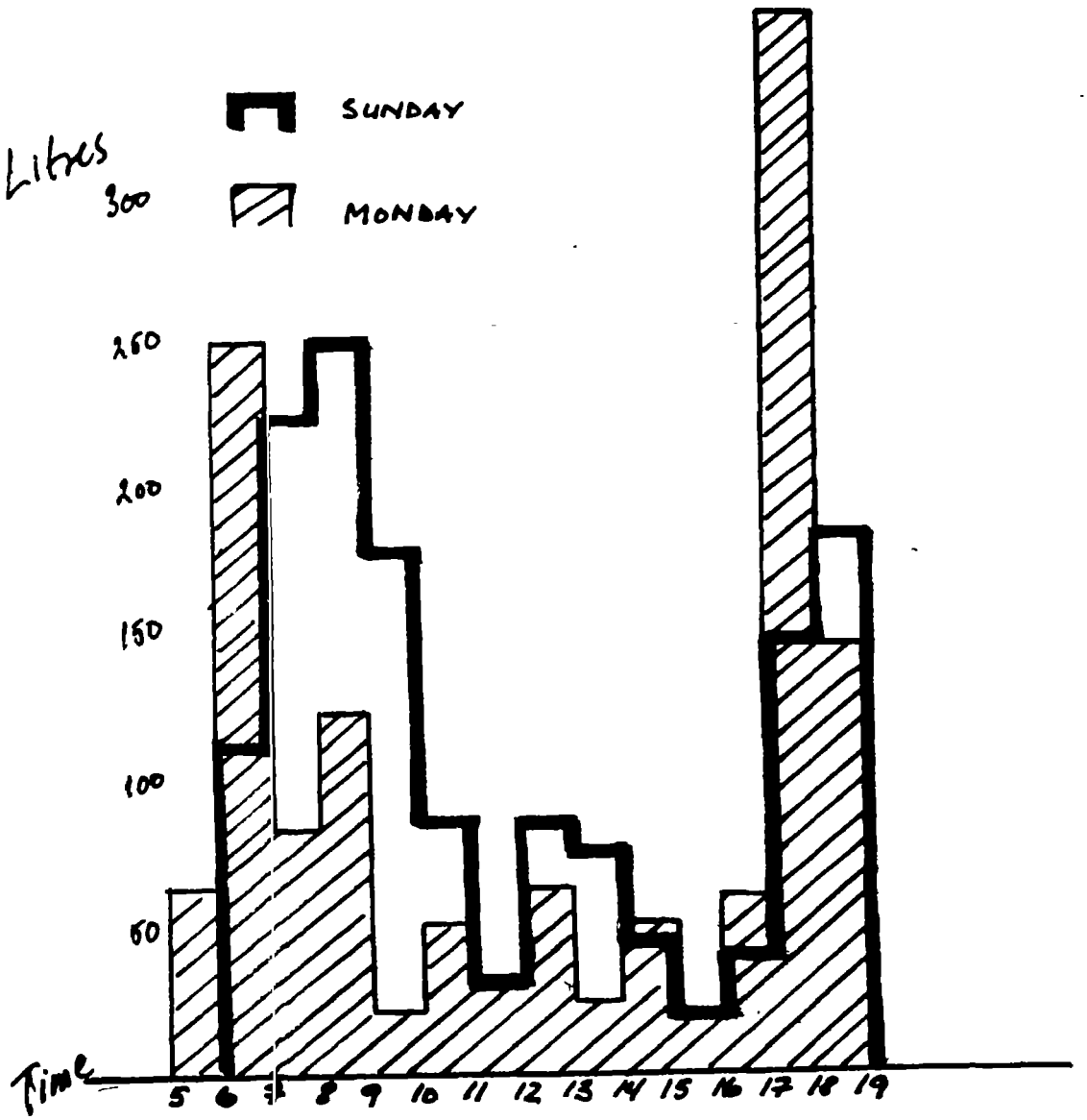
1 The pattern of use at each water point.
2. The user communities, and source choice boundaries
3. The consumption pattern in each household.

## 8.1 THE WATER POINTS

The three water points surveyed were Musariri I, Musariri II and Tandi Play Centre. Musariri I and II are wells, Tandi Play Centre is a borehole. All of them are from the first phase of the programme, and were completed in 1985/86. Musariri I had one breakdown in 1986 for 6 months, and another in May 1988, after this survey. No problem was reported with the other two.

Musariri II and Tandi Play Centre have a washing slab. At Musariri I small heaps of brick are waiting.

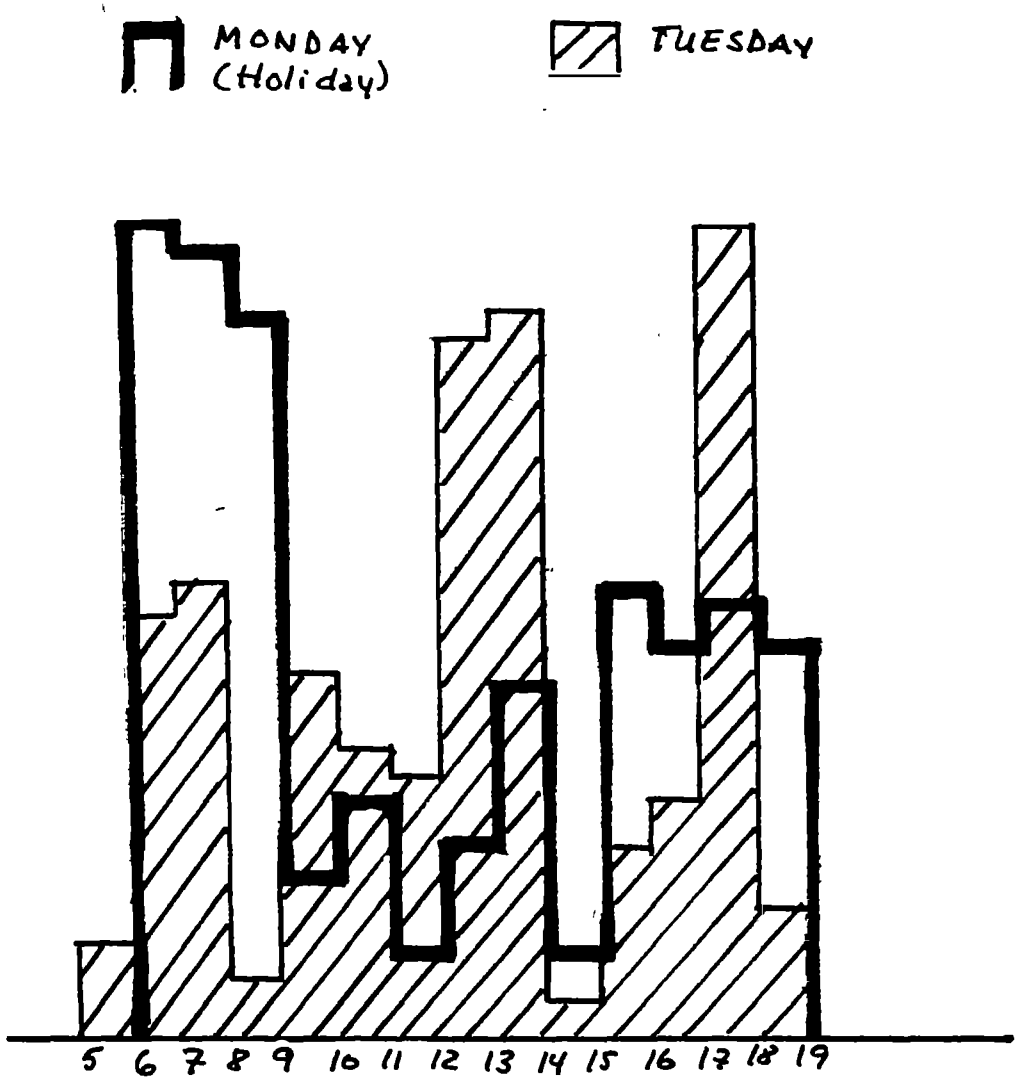
Figure 8.1 Pattern of Water use at Musariri I




| | | | | |
|---|---|---|---|---|
| Sunday | No of visits: | 91 | Litres collected: | 1 468 |
| Monday | | 83 | | 1 334 |

We see the two peaks between 6.00 and 9.00 in the morning, and between 17.00 and 19.00 in the evening. On the Sunday there is a high level of use from about 7.00 to 11.00, on the Monday the use is concentrated in the hours between 5.00 and 7.00, then the level is relatively low until the evening collection, with a peak between 17.00 and 18.00.

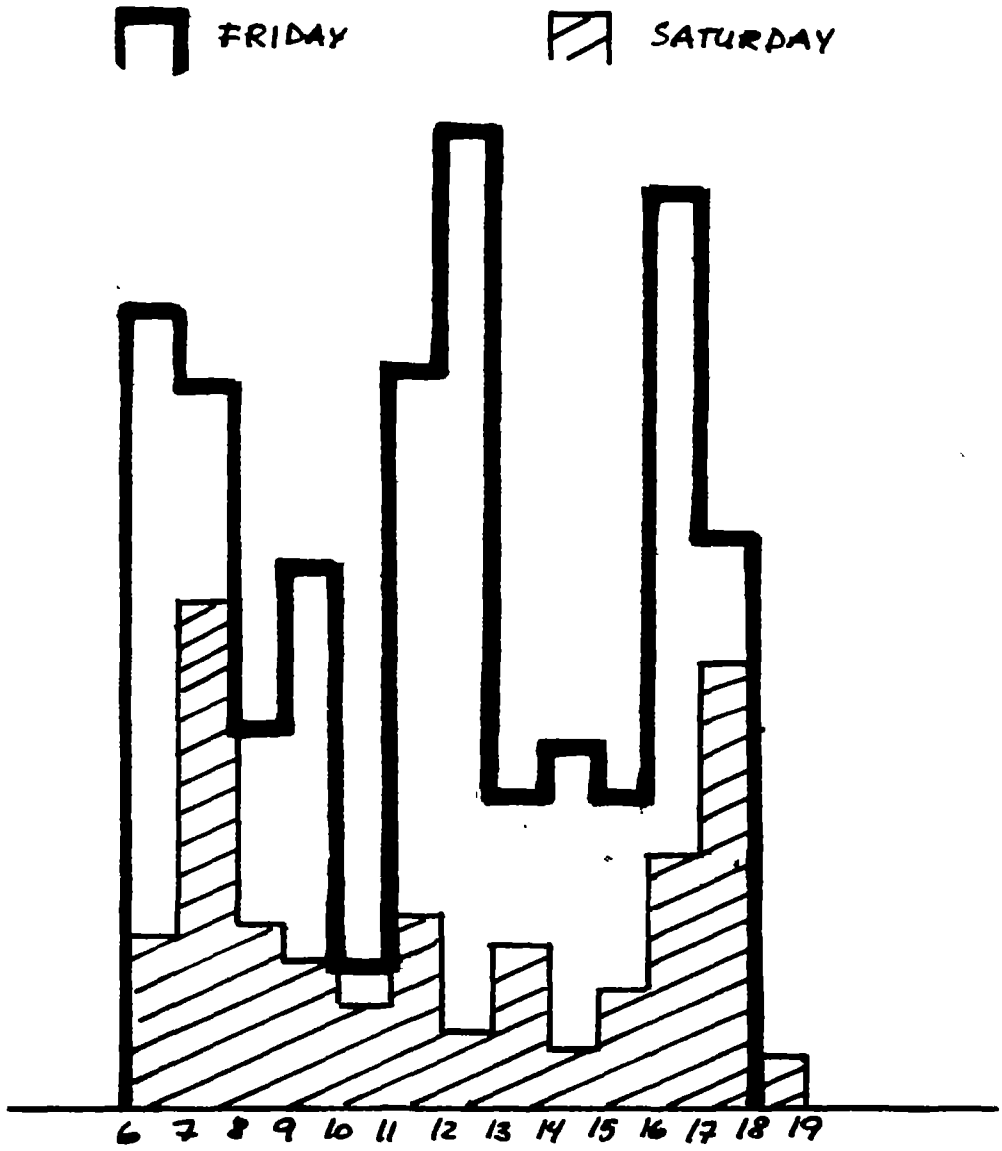
Figure 8.2 Patterns of water use at Musariri II




| | | | | |
|---|---|---|---|---|
| Holiday | No of visits: | 96 | Liters collected: | 1 692 |
| Tuesday | | 78 | | 1 551 |

The pattern here is slightly different. The Monday (Easter holiday) shows much the same pattern of consumption. The following work day has a much less marked peak in the morning, followed by a very sharp increase in water use between 12.00 and 14.00. In this period, altogether 10 people were using the washing slab. The evening peak between 17.00 and 18.00 is more regular.

Figure 8.3 Water Use at Chatindo (Tandi Play Centre).




| | | | | |
|---|---|---|---|---|
| Friday | No of visits: | 120 | Liters collected: | 2 208 |
| Saturday | | 66 | | 819 |

The most striking feature at Chatindo is the large difference in volume between Friday and Saturday. Friday shows a very busy pattern, with 7 people using the washing slab between 11.00 and 17.00. Saturday is very quiet. It turned out that several of the families using the water point on Friday belonged to the Sabbatical church. They collected water on Friday, and nothing on Saturday.

Over the days, the categories of people collecting water show the following pattern:

Table 8.1 MUSARIRI I

| | Sunday 27/3-88 | | | | Monday 28/3-88 | | | |
|---|---|---|---|---|---|---|---|---|
| TIME | Adults | Boys | Girls | Total | Adults | Boys | Girls | Total |
| 5-6 | | | | | 2 | | 2 | 4 |
| 6-7 | 2 | 3 | 2 | 7 | 9 | 4 | 3 | 16 |
| 7-8 | 10 | 1 | | 11 | 5 | | | 5 |
| 8-9 | 6 | 5 | 8 | 19 | 6 | | | 6 |
| 9-10 | 4 | 3 | 2 | 9 | 1 | | | 1 |
| 10-11 | 4 | | 1 | 5 | 3 | | | 3 |
| 11-12 | 1 | | 2 | 3 | 2 | | | 2 |
| 12-13 | 4 | | 1 | 5 | 3 | | | 3 |
| 13-14 | 2 | | 2 | 4 | 1 | | | 1 |
| 14-15 | 1 | | 2 | 3 | 2 | | 1 | 3 |
| 15-16 | | | 3 | 3 | | | | |
| 16-17 | 2 | | | 2 | 2 | 1 | | 3 |
| 17-18 | 7 | 2 | 1 | 10 | 11 | 7 | 8 | 26 |
| 18-19 | 7 | 2 | 1 | 10 | 8 | | 2 | 10 |
| TOTAL | 50 (2) | 16 | 25 | 91 | 55 (7) | 12 | 16 | 83 |

Table 8.2 MUSARIRI II

| | Monday 4/4-88 | | | | Tuesday 5/4-88 | | | |
|---|---|---|---|---|---|---|---|---|
| TIME | Adults | Boys | Girls | Total | Adults | Boys | Girls | Total |
| 5-6 | | | | | 2 | | | 2 |
| 6-7 | 8 | 3 | 1 | 12 | 2 | 3 | 4 | 9 |
| 7-8 | 8 | 1 | 9 | 18 | 7 | | 1 | 8 |
| 8-9 | 8 | 1 | 6 | 15 | 1 | | | 1 |
| 9-10 | 2 | 1 | | 3 | 5 | | | 5 |
| 10-11 | 3 | 1 | | 4 | 4 | | | 4 |
| 11-12 | 1 | | 1 | 2 | 1 | | | 1 |
| 12-13 | 3 | | 1 | 4 | 4 | | | 4 |
| 13-14 | 4 | 1 | 1 | 6 | 6 | | | 6 |
| 14-15 | 2 | | | 2 | | | 1 | 1 |
| 15-16 | 2 | | 3 | 5 | 3 | | | 3 |
| 16-17 | 5 | | 5 | 10 | 3 | 1 | 6 | 10 |
| 17-18 | 6 | | 2 | 8 | 9 | 4 | 8 | 21 |
| 18-19 | 5 | 2 | | 7 | 1 | 1 | 1 | 3 |
| TOTAL | 57 (3) | 10 | 29 | 96 | 48 (1) | 9 | 21 | 78 |

Table 8.3 CHATINDO (TANDI PLAY CENTRE)

| | Friday 15/4-88 | | | | Saturday 16/4-88 | | | |
|---|---|---|---|---|---|---|---|---|
| TIME | Adults | Boys | Girls | Total | Adults | Boys | Girls | Total |
| 6-7 | 6 | 4 | 4 | 14 | 3 | | | 3 |
| 7-8 | 8 | 3 | 8 | 19 | 5 | 2 | 10 | 17 |
| 8-9 | 6 | | 1 | 7 | 1 | 2 | 2 | 5 |
| 9-10 | 3 | 1 | 6 | 10 | 1 | | 5 | 6 |
| 10-11 | 2 | | | 2 | | | 5 | 5 |
| 11-12 | 7 | | 4 | 11 | 2 | 1 | 3 | 6 |
| 12-13 | 5 | | 2 | 7 | 1 | | | 1 |
| 13-14 | 2 | 2 | 1 | 5 | 3 | | 1 | 4 |
| 14-15 | 3 | 1 | | 4 | 1 | | | 1 |
| 15-16 | 3 | 1 | 5 | 9 | 1 | | 3 | 4 |
| 16-17 | 4 | 2 | 10 | 16 | 4 | | | 4 |
| 17-18 | 6 | 4 | 6 | 16 | 6 | | 3 | 9 |
| 18-19 | | | | | 1 | | | 1 |
| TOTAL | 55 (6) | 18 | 47 | 120 | 29 (3) | 5 | 32 | 66 |

These tables differentiate on age and sex. Girls and boys are below 14 years of age and still at primary school. The pattern that emerges confirms some of the general knowledge we have about water collection:

It is mainly women who collect water. (Number of males is given in parenthesis, and varies between 1 and 7 per day).

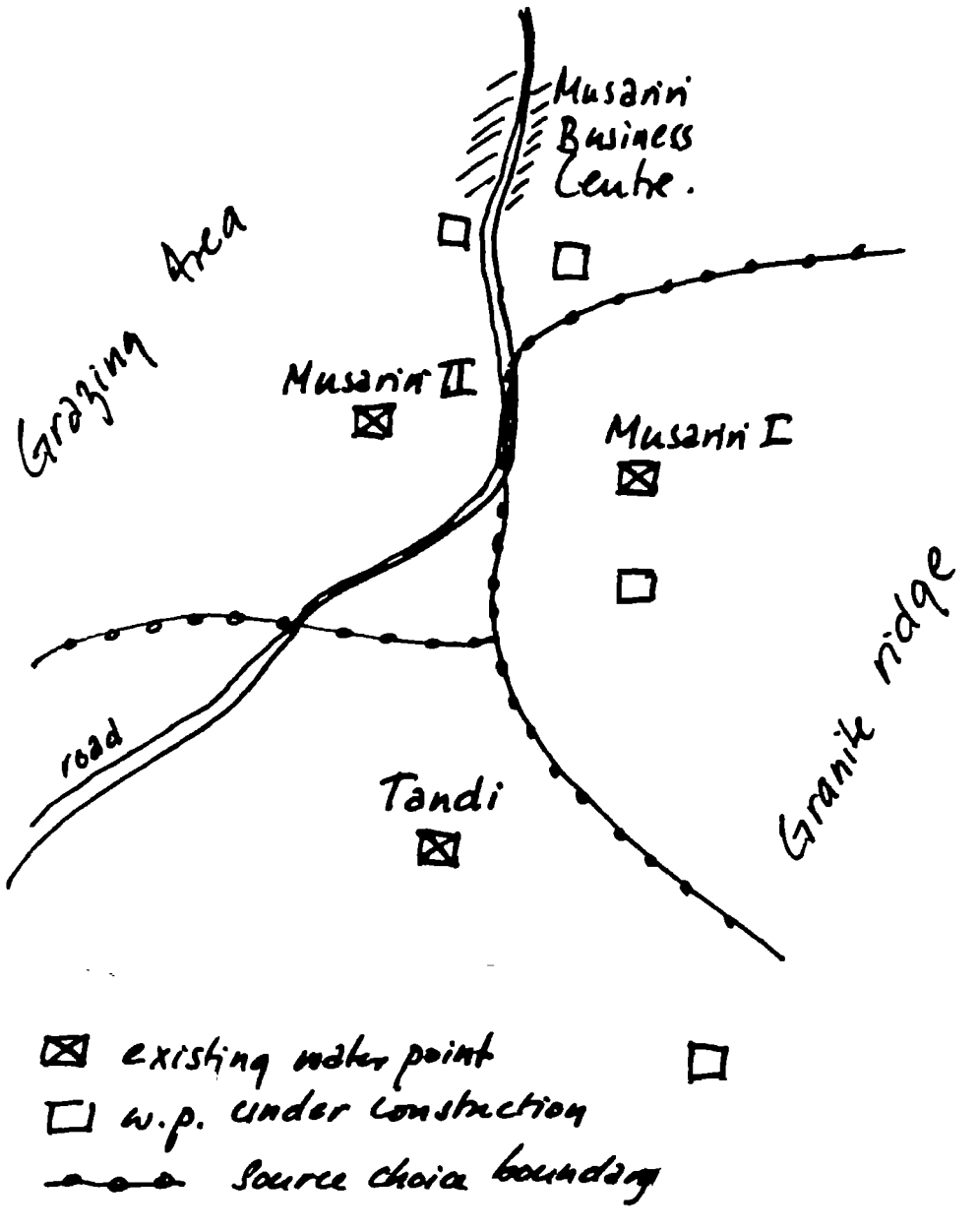
Children contribute to water collection. Girls contribute more than boys (more than twice as much). Children, both boys and girls contribute more on holidays than on days when they go to school, but this difference is not very big (only 15% more work on days when they do not go to school.)

The table from Chatindo does not show this difference, because the schoolchildren, unexpectedly, were given that Friday off.

## 8.2 THE USER COMMUNITIES.

At the time of this water survey the three user communities were adjacent. In between these three, four additional water points were sited in Nov/dec. 1987. By the time I finished my study two of these (a borehole at Musariri Business Centre, and the "Mutambira well) were being completed (pumps fitted, but no headwork yet). The following map shows the location of the wells.

Fig.8.4 Map of survey area.



I use the term 'user community' to refer to 1) the group of people who live around a water point, and draw water from this water point, and 2) those who would draw water from this water point if they were to draw water from a public well.

In the context of the Water Programme, a 'user community' is defined when the programme is first introduced to the area. It is the group of people living adjacent to a water point, and who provide the 'community contribution' of work, construction materials, and food for the well sinkers.

In the following maps, details are given about the three 'user communities'. I have included all the families that 'belong' to each well. Families that do not use a public well, are counted as 'belonging' to the well they would use if they had to go to a public well (which may be the case in times of severe drought). The maps also show the families that were absent at the time of the survey. (This means that the wife and children are staying with the husband temporarily. This survey thus adds to the picture given in chapter 6, of the close connection, for many families, between an urban and rural adaptation).

Table 8.4 The user communities:

| | No. of Families | Absent | % | Non-users | % | Users | % |
|---|---|---|---|---|---|---|---|
| Musariri I | 56 | 11 | 20% | 10 | 18% | 35 | 62% |
| Musariri II | 51 | 9 | 18% | 8 | 16% | 34 | 66% |
| Chatindo | 59 | 4 | 7% | 25 | 42% | 30 | 51% |
| Total | 166 | 24 | 14% | 43 | 26% | 99 | 60% |

Even this small sample show a considerable variation between the three groups. Musariri I and II show much the same pattern, while at Chatindo a smaller number of families are absent, but more than twice as many families draw water from private wells. An average of 60% of all families use the new wells at this time of the year.

Figure 8.4 User community at Musariri I.

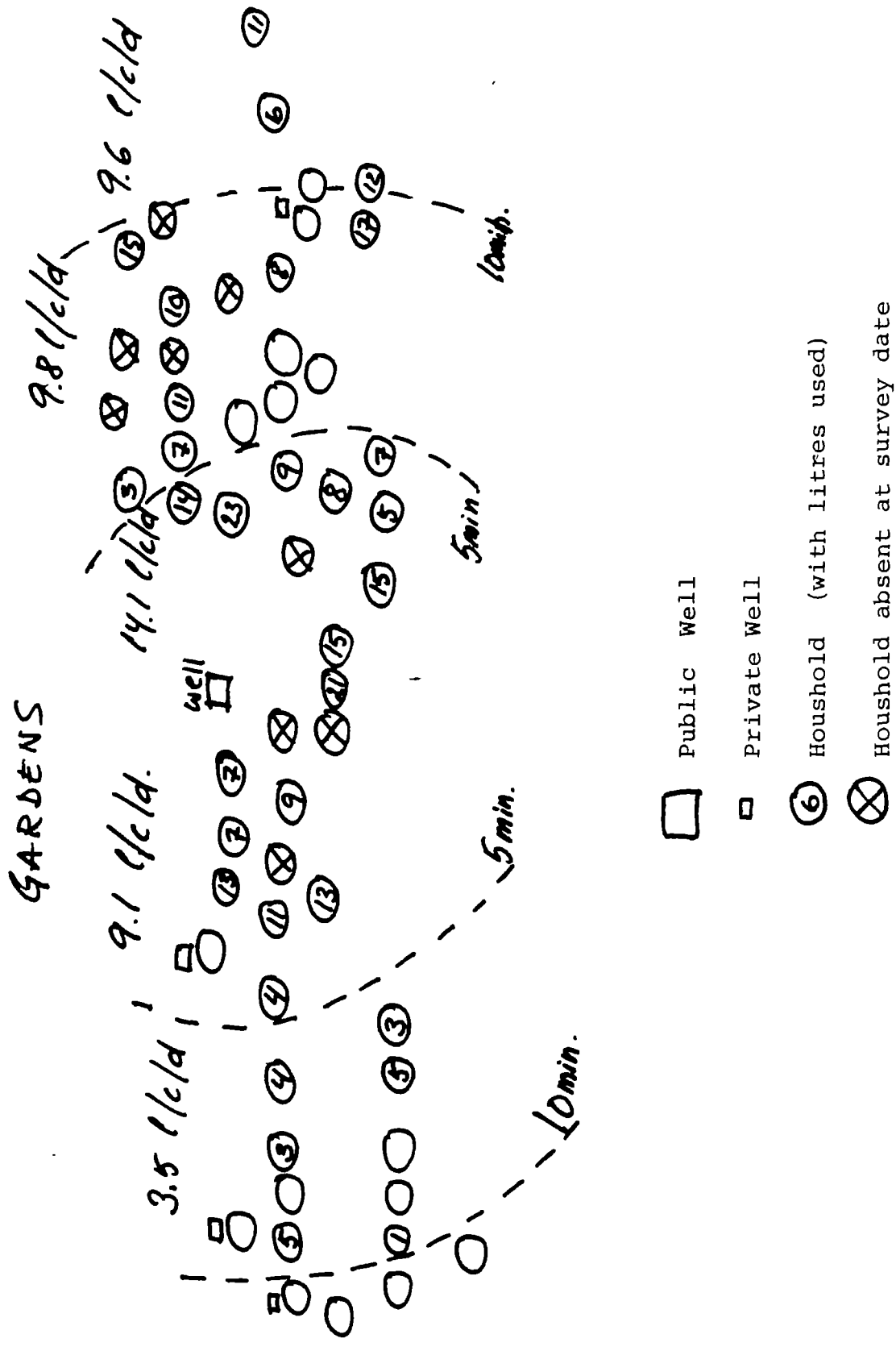


Figure 8.5 User Community at Musariri II.

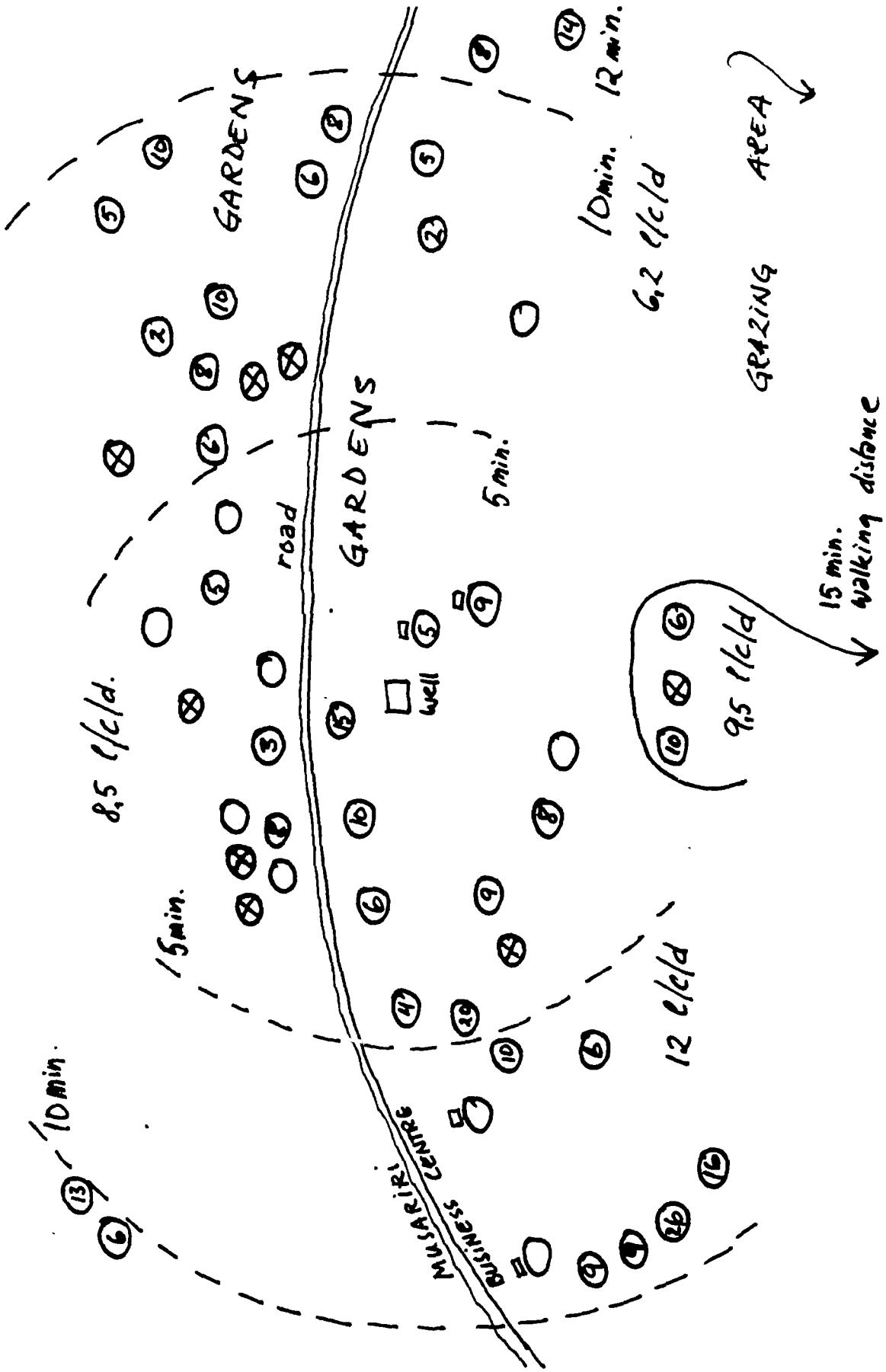
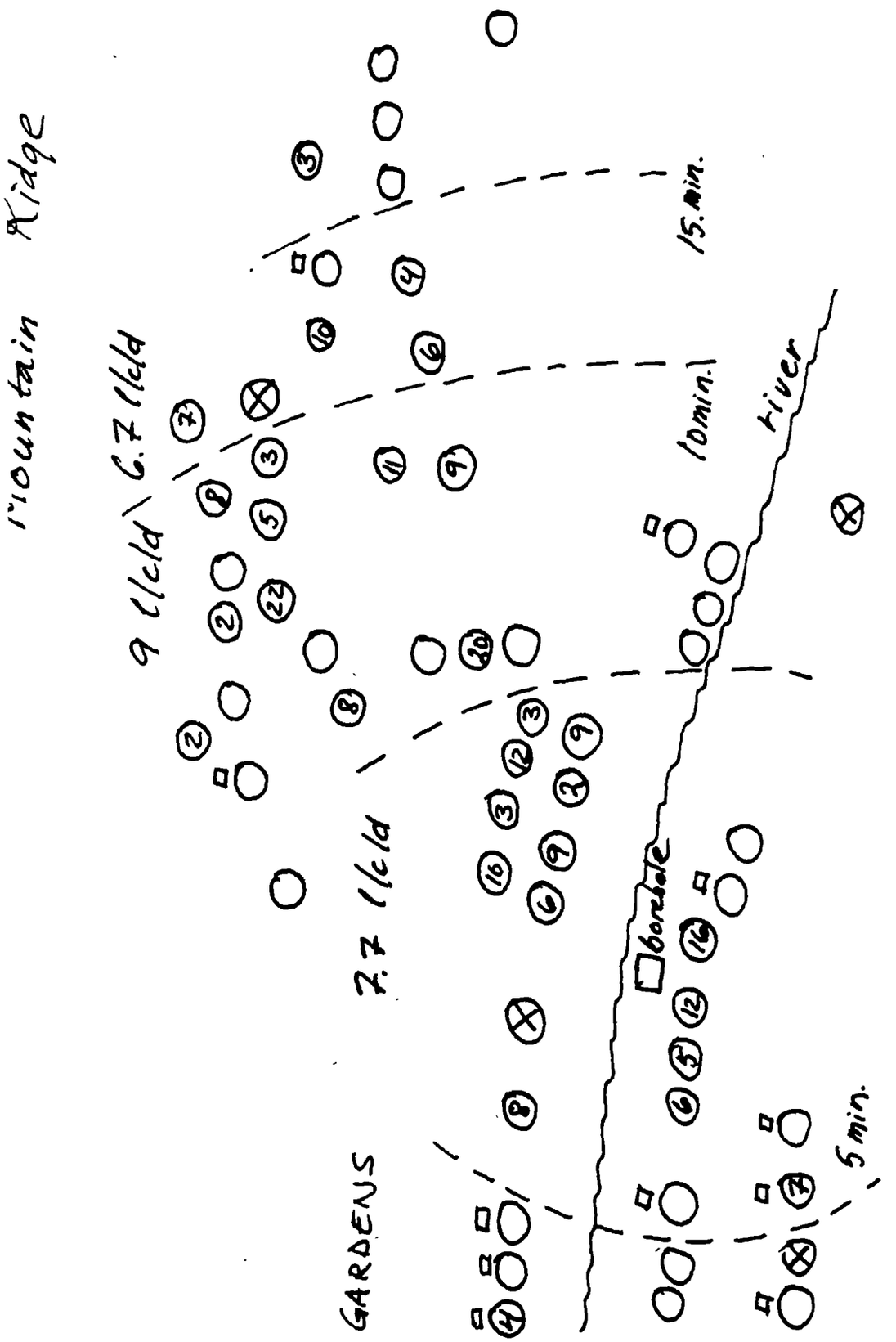


Figure 8.6 User Community at Chatindo (Tandi Play Centre).



## 8.3 WATER USE

The amount of water collected for each household was measured, and the amount of litres used for each person each day (l/c/d) was estimated by dividing the amount with number of people in the household.

The three 'user communities' comprised altogether 166 households (see chapter 6). 24 households (14%) were absent at the time and do not figure in the survey. 43 households (26% of those present) did not collect water. This leaves us with a total of 99 households (60%) that collected water on one or more occasions during the two days. The aggregate numbers give us the following picture:

Table 8.5 Distribution of water use per person per day. N = 99

| litres/c/d: | 1-4 | 5-8 | 9-12 | 13-16 | 17-20 | 21-32 |
|---|---|---|---|---|---|---|
| No of households: | 18 | 34 | 22 | 13 | 5 | 7 |
| Percentage: | 18% | 35% | 22% | 13% | 5% | 7% |

Compared to the objectives of the Water Programme, this result is not too encouraging. We see that the greatest number of families collect an amount of water that provides each member with between 5 to 8 litres per day. More than 2/3 of the families collect less than 12 litres per day for each person. Only 7 families use more than 20 litres per person.

Additional information about the users does, however, to some extent modify this picture.

Use of other sources.

Many families use their own private source, or that of a neighbour, in addition to the public well. As this survey was done in March/April, there was still much water and many families could exercise a choice.

The other sources are of three kinds:

- The river, which still is being used for washing. Reports from the Clinic state that Schistosomasis is still a widespread

disease, especially with children.
- Water from the gardens. The dividing line here between a dam for watering the vegetables, and a well proper, can be hard to draw. As I understand it, many families use the well in the garden for washing and drinking purposes during and just after the rainy season, and turn to the public wells when their own source dry up and/or the quality deteriorates.
- Private wells. The best of these wells are quite good structures, with stone lining, chain and windlass, and protective cover. Access to private wells, outside the family, is regulated by kinship and neighbourhood conventions, and also by seasonal variations in capacity of the wells, and the perceived 'need' in the community. This means that the 'user community' will vary from one-two families up to six-seven.

At the time of the survey, I would estimate that 1/4 of the families that collect water at the public wells, used an additional source for washing.

Among the 43 households (30%) that did not use the new wells, most went to their own well or that of a neighbour. Included in this number, however, is also a small proportion (probably three or four cases) of old people that do not collect water as often as every second day.

> An old lady we met the day after the survey was finished, was asked why she had not been to the well the two days before. She told us that she had collected one bucket of 18 liters the day before the survey, and this last her for three days. This means she uses 6 liters a day for cooking and a rather modest amount for cleaning.

Distribution of public and private wells.

For a more detailed discussion of the patterns in water use, we need to look at the enclosed maps (figures 8.4, 8.5 and 8.6). Clearly, the accessibility of other sources of water varies a lot, even within the short distances we are concerned with. At Musariri II, only 7 households (16%) used water from private wells, while at Chatindo 25 households (42%) used other sources. At least 5 of these were using a 'semi-public' old well close to the proposed new well ("Chief Tandi") that is under construction.

Otherwise, the main variable seems to be the distance to the vegetable gardens. A garden close to the house means that it is convenient to use this water for laundry and bathing.

In all three cases, there are some good private wells close to the new public ones. This does not provide for an ideal overall spacing of water points, but is probably inevitable as all water points depend on local conditions. Any place that is picked as promising good conditions for sinking a well, is likely to have some private wells already.

Water collection and distance.

There is a slight decrease in amount of water collected as distance to the water point increases. But, as the discussion above has shown, other factors than distance seem to be of greater significance. Each water point has its characteristics.

MUSARIRI I. At the map we see a very different pattern to the right and to the left. The area to the left is a separate village, with its own kraalhead, and a new well under construction (Mutambira). There are also three reasonably good private wells, being used by a large number of neighbours. To the right, there is only one private well, used by two families. The rest have no alternative sources (no gardens nearby). These families get all their water from Musariri I, hence there is very little decline in volume with the longer distance to walk.

MUSARIRI II. Gardens and private wells near Musariri II actually give a lower average use near the well than further away. A handful of households 'outside' the map (12-15 minutes walking distance) also show a high use (9,5 l/c/d). These are in the dry grazing area and have no alternative sources.

CHATINDO. Again, many small wells near the water point give a lower use (7,7 l/c/d) than further up towards the mountain ridge, with few alternative sources. At the far right, (more than 15 minutes walk) people use an old, semi-public well, and only one young woman collects drinking water at Chatindo.

Variation between households, variation according to age.
The discussion above has shown that access/distance do not give a full explanation of the variation in water use between individual households. We come perhaps closer to an understanding if we envisage the households along a continuum, from low to high motivation for use of water. The differences between households in respect of water use corresponds to other differences.

The variable that stands out most clearly is age. Old people use less water than young families. They are also more likely to use old, unprotected sources. But also qualities like motivation and modernisation are associated with higher level of water use. We find the 'leaders', both traditional and modern, among the higher users. By and large there is a trend that the families that are more successful in socio-economic terms also use more water. And conversely, among the very low users we find many 'problem' families, with low income, bad health, many children.

> When Musariri I had a breakdown there were five of the 'regular' users who did not go to another protected well, but only relied on the wells in nearby gardens. Of these, four were more than 70 years of age, while the fifth was a widow, complaining about pains in one leg.

## 8.4 OBSERVATIONS AT THE WATER POINTS

Doing observations the way I did obviously created an 'observers effect'. I literally spent two full consecutive days at each water point, arriving before sunrise and leaving the place after dark. Before this survey, I had spent about one month in the area, and was known by a large number, but probably not all, families in the survey area. Before the study I had said that I was going to "count the buckets" at some water points, as part of my study on the progress of the Water Programme. At each point I was assisted by my interpreter, and another helper who personally knew the whole user community, and was known by them.

We used a 10 litres plastic bucket and a 1 litre mug and measured the content of all the containers that were being used.

Observers effect

At the first well there were no apparent reactions beyond a normal curiosity.

At the second well, a week later, rumours arose which were told to us during the afternoon.

- One woman returned from the well and told the neighbours that one was only allowed to collect water in the morning, not in the afternoon. However, this woman was considered 'mental' and the neighbours claimed to have taken no notice of her.
- One child returned to his mother claiming that the people at the well had told him "your mother must come and collect the water herself". The mother turned up and asked us very angrily why the child was not allowed to fetch water, and we found that he had turned back upon seeing us at the well and made up the whole story.
- A rumour about payment is perhaps more significant. One woman said that people did not dare to fetch water as they believed they would be charged 10 c. a bucket, and 5 c. for a half bucket (Our plastic measuring bucket had 10 l. and 5 l. marked on the side). In fact, one widow who only turned up the second day admitted that she had been afraid to come, fearing she would be charged money.

Such rumours may easily arise, as there is a certain diffuse fear around the communities that they sooner or later may be charged money for the new installations.

At the third well I observed one or two cases of people with perfectly good wells, who made one visit to collect a small amount of water, and to satisfy their curiosity.

Water containers.

Most frequently 20 or 22 litres metal containers were used. A few 18 litres metal buckets were also in use. Children would use all kinds of containers. Most frequent among the very young was the 2,5 and 5 litres plastic bottles that have contained cooking oil. From the point of view of the mothers, these bottles are very adequate as there is a good chance that most of the water

remains in the bottle until the child returns home. They do however cause a waste of water, as lots of water spills over when they are being filled. At no well was a funnel available.

Boys up to about 14 used the same kind of containers as the girls, and frequently carried the water on the head. Older boys, and men, usually brought a wheelbarrow. They often used a 25-30-40 litres plastic container.

Concepts of cleanliness.
Usually the container was rinsed out before use. Often this cleaning also included a scrubbing with sand ("African Wim"). I assume that this was done more frequently in my presence, as a demonstration of cleanliness.

The interesting thing to note was that the scrubbing mainly was done of the outside of the vessel. The sides and bottom were scrubbed much in the same manner as a dirty kettle would be cleaned of soot. To the extent that cleaning was done on the inside, the palm of the hand was rubbed along the sides. I hardly ever noticed anybody rubbing the inside bottom, where possible debris would be stuck. In fact, quite a few containers had some bits and pieces of sand, flakes of paint, or unidentifiable brown stuff, at the bottom. In containers that had been painted inside, the paint would invariably peel off.

In buckets that were leaking, a handful of clay mixed with sand, was stuck to the bottom to reduce the leakage. A few children who took home open containers in the wheelbarrow would cover the surface with twigs and leaves to reduce the spilling over.

Apart from the plastic cooking oil bottles, plastic containers were rarely used.

Regulations at the water point.
At all water points visited I asked if the community/WPC had formulated any rules to regulate the use of the water.

Three rules were often mentioned:
- Containers used for cooking, i.e. with soot at the bottom and sides, should not be allowed. The reason given was that they were dirty.
- Plastic containers should not be used. The reason given was that plastic buckets were normally used for soaking dirty clothing (nappies etc.) and should not be taken to the well.
- Some mentioned that bottles with a narrow neck were not allowed. While the first two rules by and large were respected, the last one was no.

The observant reader will note that I broke this second rule myself in using a plastic bucket for measuring water. They were, however, demonstrably brand new, and my assistant assured me that she had pointed out this fact to people who made comments in Shona .

To elaborate on the differences in cultural perspectives: People did not take the opportunity to wash while they were at the water points. From my perspective I would have expected that women who came in from the fields covered in dust and soil, would take the opportunity to rinse off arms and legs. And I would have expected that the washing of small children could be done by throwing a bucket over them while visiting the well.
This was not done, for a number of reasons:
- Many Water Point Committees stated explicitly that washing was not allowed at the water point, as it would contaminate the area.
- Shona concepts of decency do, more than in western thought, restrict the exposure of parts of the body, even for small children.

Many committees also mentioned that they tried to restrict the use of water in times of drought. Indeed, this is stated in the instructions (appendix 2) as part of the duties of the WPCs. Regulating water use is also a part of a shared cultural concept: to economize with a scarce resource.

I will discuss this further in the next chapter. Here, I just want to point out that the rules, as well as the cultural norms,

restricting water use, maybe to a larger degree should be supplemented by more explicit guidelines for conditions under which more water could (and should) be used.

## 8.5 CONCLUSIONS

This study has confirmed some existing knowledge about water use:
- Women and children are the drawers of water. Women do more than children, girls do more than boys.
- No strong correlation between distance to water point and amount of water used.

The study has brought some nuances to this general picture:
- Contrary to a commonly held view, this study shows that schoolchildren still do a considerable part of the work, but more on holidays (48% of the visits) than on schooldays (36%).
- Distance (or rather: closeness) to the alternative water source probably reduces the use of the new wells.

Alternative sources are still being used. But it should be noted that this study was done shortly after the rainy season, thus covering a period with relatively good supply of water. A study done at the height of the dry season will probably give a higher ratio of users of the new well. However, the timing of my study shows that for 1/4, or maybe as much as 1/3 of the users, the idea of clean water is not given sufficient priority for them to abstain from using unprotected sources.

To conclude: There is no dramatic increase in water use the moment the new wells become available.
There is probably a gradual increase, over time, as habits and motivations change.
The wide variation in water use also shows that the individual families make very different use of the new resources.
These aspects will be discussed further in the next chapter.

# CHAPTER 9: TWO MESSAGES ABOUT WATER USE

On the wall in a small shop in Chiduku Communal Lands there is a faded sign which say: "Do not waste water, our lives depend on it - Musatambise mvura pasina mvura hapana upenyu." When children go to the water points the mbuyas say the same thing: "Be careful, preserve water."

At the same time, The Manicaland Integrated Water Supply and Sanitation Programme is being implemented in the district. The objective: to provide clean water, and to encourage people to draw water freely from the new wells. An important part of the programme is health education: "Use more water."

This is what I call the two messages about water use. The water use study found little immediate increase in water use when the new wells were completed. We saw that most families use between 5 and 8 litres daily for each person, few use more than 12 litres. Usually that covers everything: cooking, cleaning the body, and washing clothes. Other research shows similar results. It has been estimated that a person should use about 20-25 litres every day in order to achieve a health effect (Cairncross et. al. 1980).

If we look at this from a health perspective, people use 'too little' water. From the point of view of the user, however, it is prudent to preserve water. A lifetime of experience with drought has taught that water is a scarce resource, and a way to deal with scarcity is to try to manage with as little as possible.

## 9.1 PRESERVE WATER

To be better able to understand how people can be motivated to use more water, it may be useful to look closer at the present

reasons for a restricted use of water.

The 'preserve water' attitude is a very judicious and sensible response to the experience of an unstable and insufficient supply of water. In the villages, this attitude is expressed in discussions about how much water should be used, and in comments upon the neighbour's use of water. From a very early age children are taught to be careful, and not to waste water.

The important point to keep in mind is that when traditional sources were used, the amount of water that each person collected was not considered to be a private matter. As long as water is a common and a scarce resource, the amount used by any individual is seen as having a direct bearing on the amount available for others. It is only when water is plentiful that a decision on how much water to draw is purely a question of personal preference. Moreover, as we shall see later, it may be difficult to know exactly when water becomes 'plentiful'.

In my research I found that people had very clear ideas about what they considered a 'reasonable' amount of water to use, and this would be about 6-8 litres. The standard answer when you ask people "How much water do you need?" is something like "Two buckets. One in the morning, and one in the evening." 20 litres two times a day, divided on an average family size of 5 gives 8 l/c/d. This is quite sufficient for cooking and cleaning dishes. Beyond this, all increase in use of water will be for personal hygiene: washing of clothes and the body.

When water is considered a 'common good' it is quite reasonable to regulate the use by expressing these kinds of regulations. Ideally, this means that all the users are guaranteed an equal share. It follows naturally that in addition to such general guidelines, more severe restrictions are imposed in times of drought, to secure the essential minimum for drinking and cooking.

This tradition is continued in the guidelines for the new Water Point Committees to "impose restrictions" on water use in time of

drought. It is worth noting that there is no parallel clause to "encourage use of water" in times of plenty.

The tricky thing is to know when water is plentiful, and when it should be saved. The extremes of drought and heavy rain are obvious enough. But in between there is wide scope for guesswork, and 'native theory'. As all water points are sealed with a heavy concrete lid there is no way to look down to check. People tend to draw all kinds of inferences from the look of the concrete, the speed with which water flows, etc. Better instructions to help people to know when saving is essential, might help to encourage use in times of plenty.

Some people, especially the older ones, perceived the water in the well as a fixed quantity, a 'given' number of litres that could be either used or stored for later. They did not think of the well as being refilled by water trickling in from a larger catchment area, and losing water by evaporation. In this perspective it makes sense to restrict the use of water even when it is plentiful, because it is seen as being stored for a later, dry season.

When a moderate use of water is considered a virtue, we can understand why there is little immediate change in water use. In fact, when I first began to realise the existence of this 'preserve water' attitude, and started to ask questions I was immediately given a number of examples from the last couple of days, of mbuyas who told off younger women whom they thought were collecting more water than necessary.

> When my assistant was having builders to construct a new kitchen, she had to provide water for the masonry. Every day she would fill up two drums, (about 400 litres) and she collected the water from the new protected well, which was most convenient for her. She was reprimanded by several old women who thought that she should use the old water source, a dam a bit further away, for building purpose. My assistants reasoning was that she would do so if the water was scarce, but at that time there was plenty. Hence she used the new well to save time.
>
> The distinction between domestic and construction purposes is important. Often when a well is described as a "good

> well" (and this applies both to the old ones and the new in the Water Programme), the definition of a good well is that "there is so much water that you can use it for making bricks."

Restrictions on water use are upheld by custom and training, to make do with little water. Standards of cleanliness are cultural products, or as Mary Douglas (1966) put it "Dirt is matter out of place." In British culture, sweeping, dusting, and polishing are used where a Scandinavian housewife would say that only a good scrub with soap and water would do. While there is a certain minimum required for soaking and washing clothes, there is a wide variation in how much water is being used to rinse out the soap. Dishes can be cleaned with the use of very little water indeed. Such standards are being expressed and transmitted to the next generation when mothers watch the young girls washing, and give comments: "That is enough, no need to use more water."

Such habits do not change quickly. I watched the women washing clothes at washstands next to new and good water points. After a thorough soaking and scrubbing, they rinsed out the clothes only once. Similarly, in the towns one can see people using only a few inches of water in the sink for washing dishes, while at the same time the hose is running freely outside the door, watering the garden.

The same point applies to personal hygiene. The feeling of well being after a shower is an acquired taste. A sense of looking and feeling clean can be obtained with very little water.

## 9.2 USE MORE WATER

Above, I have discussed a culturally defined concept of cleanliness It is developed within a specific context, and changes, albeit very slowly, when the context change.

However, in the Water Programme, the importance of cleanliness is defined with reference to a bio-medical understanding. The

purpose of using more water is to reduce water-related disease transmission and the spread of infections.

It is stated as an objective of the Water Programme to introduce health education "in order to improve hygienic practices, (and) motivate behavioural changes". This is a job done by the Village Community Workers (also in their previous capacity as Village Health Workers), and it is an aspect of the work done by other extension workers on the Water Programme. Hygiene is also a subject taken up in the teaching at schools.

I am not able to give a good assessment of how well the health education works. "Improved hygienic practices" is a complex interplay between understanding disease causation and bio-medical implications, and being able and motivated to adjust behaviour according to this understanding.

The assessment is even more difficult to make because a more general process that we could call 'modernisation' is at work to motivate the use of more water. We have noted the very close tie to an urban context created by the migrant workers, and this means that many wives spend part of the year with their husbands in Harare or Bulawayo. Young children go to school in urban centres. Urban living does not automatically bring a higher standard of cleanliness. But success in an urban context definitely requires a lifestyle and a proper appearance which also includes a minimum of cleanliness .

There are thus two factors that may work in the same direction. 'Better hygiene' and 'proper appearance' are not necessarily the same thing, but both are achieved by using more water. Given this background perhaps the most surprising discovery in the water use study is that as little as 7% use more than 20 l/c/d.

The next chapter will link our findings about water use to a point taken up before: community participation and the way this is expressed through the working of the Water Point Committees. Although the argument in this chapter has underscored the need for more health education generally, the link between water use

and the working of the Water Points Committees should be clear. Only a reliable and permanent supply of water can bring about significant changes in water use habits.

# CHAPTER 10 THE WATER POINT COMMITTEES

The Water Point Committees, (formally: the Village Water and Sanitation Sub-Committees) are meant to be the embodiment of "community participation". The committees should represent the user community, and involve the user community in construction and maintenance (as described in chapter 3). Moreover, the requirement (sometimes formulated as a rule, some times as a suggestion) that three out of the four members should be women, is a main instrument to ensure the "involvement of women" in the Water Programme.

A committee representing the community and dominated by women, may be a contradiction in terms. If we look at the main reasons given, namely that the WPC deals with matters of central concern to women, the composition follows logically. It is also in line with official government policy on involving women in public affairs. However, if we look at traditional norms for male and female behaviour in Shona culture, (as outlined in chapter 6), it is customary to expect women to exercise their influence within the confines of kinship and family, and the men to represent the family on public occasions. Active participation on WPCs represents in this respect a new role for women, but a role actively encouraged by the government.

It follows that both the composition and the functioning of the WPCs will give us valuable information about how seriously these intentions of involvement are being taken.

## 10.1 COMPOSITION

Data from 32 Water Point Committees include the wells and boreholes completed in 1986-87, and the committees for some of the water points under construction 1988.

Four committees have "ex officio" membership, in that the composition represents a special user community. The 'Tandi Clinic' committee includes community leaders, plus the nurse in charge. 'Cheneka Dip' consist of five Kraalheads from the communities using the dip. At the two Business Centres the committees are dominated by businessmen, with a teacher thrown in. These four committees are dominated by males (90%).

Of the 'regular' 28 committees we find a ratio between males and females corresponding quite closely to the suggested ratio of three women and one man in each committee: there are 86 women (77%) and 26 men (23%).

However, if we look at the chairmen and chairwomen, the picture changes drastically: Only 11 committees (40%) are chaired by a woman, while 17 (60%) are chaired by men.

The picture becomes even more interesting when we look at some personal characteristics of the women who sit on the Water Point Committees. If we turn to the family background of the female members, we find a very high proportion of single women (widows and a few divorcees), and women whose husbands are away working (normally in Harare or Bulawayo, or on commercial farms):

Table 10.1 Family background of women on WPCs (n = 86)

| | | |
|---|---|---|
| Women whose husbands are a migrant workers | 46 | (54%) |
| Single women | 25 | (29%) |
| Women with husbands working at home | 15 | (17%) |

What we see is a clear preference when selecting women. If we return to the 11 female chairwomen, the trend is further underscored: 6 are women whose husbands are away working, 3 are widows. The two remaining represent somewhat special cases: the one is a VIDCO member, and the husband is a teacher, in other words a very resourceful couple. In the other instance the husband is disabled, which may mean that the woman performs some of the 'male' duties in the family.

A conclusion seems close at hand: the dilemma of having to choose between two conflicting roles: the old one of staying home and letting the husband represent the household outside the family circle, and the new system calling for participation and active involvement, is solved by selecting persons who, to the largest possible degree, do not have a husband 'to answer to' in the course of daily routines.

The prototype of this category is of course the single women, the widows and divorcees, who are clearly overrepresented on the committees. But even with the generally high ratio of migrant workers in the communal lands, the number of women whose husbands work in Harare or Bulawayo is disproportionate to their incidence in the community as a whole.

In other respects, the composition of the committees reflects very much the guidelines which were given during the community mobilisation exercise. The members are all adult (married) and active members of the community. I only came across very few instances where a member was described as "old" (and presumably inactive). There is a fair share of VIDCO members, kraalheads etc. on the committees, but perhaps less than expected: about half the committees have such members.

"Ex officio" Water Point Committees.

In some cases the WPC members have been elected because of the job or office held by members and not in the regular way among the user community. The idea has probably been that these people, through their positions, act as representatives for the user communities.

The success of these committees varies considerably. In some cases I heard complaints that the WPC members are not turning up to do the job they are supposed to do. "They are always busy doing something else, going to Rusape or away at meetings." On the other hand, the committee at Tandi Clinic is very active indeed. (ref. chapter 7.4).

Part of the explanation may be that these committees are almost exclusively male, and therefore more committed in principle than through daily involvement. While in the case of the clinic, this day-to-day involvement is well taken care of by the two members that are clinic employees.

## 10.2 FUNCTIONS: SOME OBSERVATIONS

In the construction phase the community is easily mobilised for a stint of work to match the input coming in from outside. However, if there is a break in this process, the community is easily discouraged. If there is a long period to wait e.g. from when the digging of a well has been completed until the pump is being fitted, people become impatient. Dissatisfaction is easily directed towards those close at hand: the Water Point Committee and the Village Community Worker, who later find that it is difficult to mobilize the community to get something done. Once the pump is being fitted, interest will surge again.

Many committee members voiced the same complaint:

> It is difficult to mobilize people now. They brought the sand and stones, now they keep asking: Why is nothing happening? What does the Committee do?

It is the sustained, long term involvement of the community that poses the greatest challenge. The programme has not been running quite long enough to assess the long term commitment of the committees. But a sustainable involvement is also relative to the expectations raised in the communities.

Common attitudes to well sinking teams may illustrate this point:

> After the long delay in well sinking, waiting for the contract to be signed between DDF and LWF, work was resumed in early May 1988.
>
> People were delighted. The last round of wells had been sited in November/December 1987, and the communities immediately dug the first three meters, and brought round sand and gravel. During the rains the walls begun to fall in, and weeds covered the small heaps of sand. When the well sinkers finally arrived they were received with great enthusiasm.

> As long as the work was in progress, people contributed willingly to feed the well sinkers. In several cases, however, problems arose when the digging was completed, but the well sinkers still had to wait around. In some cases the reason for this waiting was that they had to wait for concrete to do the lining and the cover. In other instances they were just waiting for transport to move to the next well site.
>
> People resented very much to have to feed the well sinkers once they were no longer working for the community. The well sinkers went to the Village Community Worker who threw out her hands in despair: "What can I do? The Ministry have not even paid my own wage this last three months"

The community, by refusing any further contributions, and the wells sinkers, by begging and complaining, were both showing how far they perceived that the concept of 'community involvement' should commit them.

In this instance, the root of the problem was organisational: A steady supply of cement (the permanent headache of the Water Programme) and a closer supervision of the teams, making transport ready for transfer once their work in one place was completed, would eliminate many unnecessary conflicts. I heard about similar resentments in cases where the well sinking took a longer time than expected (three to four weeks seems to be the average) because of exceptionally difficult ground conditions. In such cases, the well sinkers become the unfortunate victims.

In one case the well sinking team reportedly left the site, as they were not fed properly. The WPC gave a different explanation: the working conditions deteriorated, due to too much rain. The team returned and completed the well the year after.

<u>Willingness to pay.</u>

Usually, the communities show a good ability to organize their contributions according to variation in the circumstances.

> The new well at Musariri B.C. served only a few families (6) but in addition it was going to be used by the Play School nearby. The families contributed stones and money, but soon the WPC ran out of money. This time the user families were called upon to contribute 50 cent each, while each mother with a child at the Play School (22 altogether) had to pay 20 cent.

> The people of Mutambira had been using the neighbouring Musariri I well. They had contributed to the well sinking in 1986, and were represented on the WPC. The agreement was now that the people of Musariri I should reciprocate. The WPC collected contributions (50 cents three times) to provide for the well sinkers, and all families under the Mutambira and Musariri kraalheads worked together to contribute the sand and stone. After the well sinking had started, the kraalhead called a meeting to elect a new committee for Mutambira.

In their solution of such practical issues, people are all the time defining and expressing how far they think community involvement should go:

> A few weeks after the well sinking started at Mutambira, Musariri I had a breakdown. After waiting three weeks for the pump-minder to turn up, the kraalhead suggested that they should collect money for the bus-fare for one to go to the DDF rest camp. This time the people refused, arguing that they had already paid so much (Z$ 1,50) to the well sinkers.

## 10.3 SENSE OF OWNERSHIP

It is generally assumed that a contribution in terms of work and money will give people a sense of ownership, increase their responsibility, and thereby their capacity to maintain the installations.

My observations do not provide any clear cut answer as to what extent this is the case, but they confirm our general knowledge that the social context is of crucial importance. In other words: The way a community receives an input like the Water Programme, and manages to organize itself to follow up the expectations involved, depends on the ability of the existing social organisation to accommodate the programme. If the recipients constitutes a group in a sociological sense, that is a to say a group of people who have a defined relationship to each other, the social structure is there to function also as a 'user community'. This is, for instance, the case when the user community coincide with the group united under one kraalhead.

If the people using a new installation have nothing else in common but using the same water point, it follows that it takes much greater effort to organize people for specific tasks, and to keep up a united effort. This is not to say that it cannot be done, but experience show that to create such 'new' organisations are much more demanding. Success often depends on personal qualities, e.g. an active and persistent Village Community Worker.

Such variations in social contexts, which only can be uncovered by community studies mapping the 'social landscape', probably explains much of the variation in community involvement. What we can observe is the outcome of such processes within the communities. This is manifested in a wide range in attitudes, from something bordering on negligence, to the most enthusiastic involvement manifested in a tidy swept surrounding, and nice flowers bordering the fence.

However, a sense of ownership is not only dependent on the internal social organisation of a user community. The way the programme is being introduced, and the way the responsibility for the water points is being established, is also significant.

To a large extent, people see the water points as the property of somebody else, either vaguely 'the government, or 'the people who came to put up the pump'. And there is a core of truth in this attitude. People do not have a right of ownership, but a right to use. They are supposed to do some specified, but rather limited operations to secure proper maintenance. But the stress is on maintain, they are not supposed to interfere with the structure.

I came across one or two cases where young boys who had received some technical training wanted to try their hands on repair jobs. They were severely reprimanded by the pump-minder who told them that they were not allowed to do this.

As yet this is a very small problem, compared to the larger problem of negligence. However, as the technical and mechanical

skills in communal areas presumably will increase with the new generations going to school and receiving training, and as the policy of community involvement is gaining momentum, this issue will have to be addressed: How to utilise technical skills in the communities, while avoiding the danger of installations being messed up by blockheads.

AS it is, the feeling among the community members that they shall maintain the water point, but not interfere with it, is very clear. I visited one well where the spillway was slanting upwards, so that the overflow of water ran into the ground in the opposite direction. This left a permanent pool of water around the pump. When asked why they did not mould a new spillway, I was promptly told that "the people who put it there may be angry if they come back and find that we have tampered with the construction".

Another, very different aspect of developing a 'sense of ownership' concerns the question of exclusive rights. In a few cases I came across, people who experienced a breakdown were refused the use of a neighbouring well. The reason given was "We have paid for this well by feeding the well-sinkers, buying grease. You have contributed nothing to this well". In the one case, the appellants were offered a 'right to use' for the flat fee of Z£ 1.- as a contribution towards a planned washstand. There might be cases where this kind of arrangement provide a solution, but stressing a point about reciprocity ("next time it may be you who has a breakdown, and you can use our pump") seems a better solution. The notion of using neighbouring wells as a fallback is central in programme planning, and was indeed stressed by the kraalheads and VIDCOs who were mediating.

## 10.4 CONCLUSION

Other research, (Cleaver 1987, Cairncross et.al. 1984) point out that the village may be good at mobilising for collective contributions, but is unlikely to be able to sustain such efforts. Centralised agencies are far better at long term

involvement in established systems where rules and routines may be put into effect.

> "The financially convenient arrangement often adopted by a water agency, whereby it does the initial construction job and then leaves maintenance to the people in the village, coincides with the greatest organisational weakness of both the agency and the village". (Cairncross et.al. 1984)

To some extent, this observation also reflects the situation with the Water Programme. Normally, the government extension services do not have the capacity to carry out all the tasks required at the work-intensive implementation stage. The follow up can more easily be defined at a level that is sustainable. And on the other hand, the initial contributions required from the communities are within their capacity and are usually willingly given. But long term involvement depends very much on the extent to which local social organisation back up the new 'user communities'. The challenge for the future must be to utilise the government agencies, particularly the MCCD, as a support system to keep up the involvement and enthusiasm that the communities have shown during the construction phase.

# CHAPTER 11: WOMEN IN THE WATER PROGRAMME

The Water Programme has, as a special objective, to involve women and to be of benefit to women. Like the other broad objective, 'community participation', 'benefit to women' may be difficult to bring about, and the effect is difficult to measure. This chapter considers some of the issues raised in previous chapters in the perspective of two broad questions: 1) to what extent has the programme succeeded in involving women, and 2) what are the benefits, so far, to women ?

First of all, I want to point out the difference between the two questions.

The first question addresses women as a category. The question is how many women (as opposed to men) are involved in different aspects, and on different levels, of programme implementation. The answer can be given in terms of number (like the percentages given in the previous chapter on membership in Water Point Committees). We can then go on to ask more specific questions about the influence that women are able to exercise, and if this can be increased.

The second question, about benefits to women, focus on a target group for the Water Programme that has some specific qualities. It is not just women, it is women as domestic producers. In other words, the programme aims to improve the situation for women on the communal lands who perform the heavy work of collecting water for domestic consumption, washing, and gardening.

Both perspectives, on women as category and women as producers, are important. It may, however, clarify the discussion if we manage to keep the two perspectives separate.

## 11.1 BENEFITS TO WOMEN

Let me start by summing up some of the achievements of the Water Programme so far:

1. As the new water points are becoming operative, the majority of households in Makoni District are within a ten minutes walking distance from a protected source. (This effect, however, is not as dramatic as the reduced walking distance in some other areas, e.g. in Chipinge).

The new water points normally provide clean water in sufficient quantity also during the dry season. This means good water (in terms of quality) and also a stable supply (in terms of quantity).

2. The provision of clean water, together with the health education accompanying the programme (by Health Assistants, and Village Community Workers) and the Immunisation Programme at the clinics, has improved the health standard. As there is a combination of causes for this, the specific effect of the Water Programme is difficult to measure. (In the area where I worked, only one child had died from Measles since 1985. No Malaria, very little diarrhoea).

Observations reported in chapters 8 and 9, however, show that the provision of clean water does not lead to an immediate change of habits in water use. The low amount collected by many families suggests little immediate increase with the provision of new water points. And observations show that alternative sources, (rivers, dams, and private wells) are still being used. This means that the fullest possible effect on health of the improved water provision still remains to be achieved.

It is important to note that improvements in health standards also reduce the work for women, directly, by improving strength and reducing illness, and perhaps even more so, indirectly, by reducing illness among family members, especially children. It may well be a greater impact on time saving in the reduction of

time required for nursing sick members of the family, than the effect measured in walking distance to a well.

3. A third effect of the Water Programme, even more difficult to measure than the two previously mentioned, is psychological. For the people in the communal lands, participation in the Water Programme means that they get a share in the progress of Zimbabwe. The water point with the new pump is a manifestation of progress coming to the village. Having access to an improved water source is, like going to school and wearing a smart school uniform, a strong symbolic statement about participation in the development of the nation. Moreover, the water points are located near peoples' houses, not at a long walking distance like the school and clinic, not far away as the government offices in the towns. There can be little doubt about the appreciation of the programme, and the encouragement that it represents.

There is still the gap between verbal statements stressing the importance of using clean water, and the actual behaviour that can be observed. But such a time lag in changes in people's perception to the effect as manifested in behaviour, is quite common.

## 11.2 WOMEN AS PRODUCERS.

The economic situation for women is influenced by three factors:
1. the contribution from husband (and working children),
2. the production and sale of agricultural products,
3. Other income generating activities, on own initiative or part of cooperative efforts, often referred to as 'projects'.

As I tried to show in chapter 6, the contribution from husbands range from a very substantial support and sharing of resources, to a total negligence of the need of the family. It is beyond the scope of this report to discuss these relationships in any further detail. The potential effect of the Water Programme on economic activities is more connected to the other two factors.

<u>Agriculture</u>

There is a need for expanding and diversifying food production. The staple diet of Sadza is usually sufficient, but there is too little variation in the diet, and even in Chiduku which is not a particularly poor area, there are cases of malnourished children.

Fresh vegetables, chicken and eggs are produced in some households, and there is a ready market locally for these products. It may not bring in a substantial income (vegetables sell for 20 cents a bunch, while the prize of a chicken (hen) is Z$ 7,-) but the fact that the demand at present (winter 1988) is bigger than the supply, should allow for some income generating activities. More importantly, chicken and vegetables would improve the diet.

To stimulate such activities a steady supply of water might help, but only if the location of the water point is near the garden area. As it is, very few water points are located in a way that allows for new agricultural enterprises within reasonable carrying distance from the wells.

Along with water, the limiting factor is cash. The yield will be improved considerably by the proper use of fertilizers. Fencing is equally important, as both trees and vegetable crops are besieged by grazing cattle.

'Projects'

The Village Community Workers are mediators between the communities and external inputs to develop income-generating activities, commonly referred to as 'projects'. Through the Village and Ward development structures, the communities are requested to come up with suggestions for projects. 'Projects' are in many ways a sensible idea, but create some new problems.

One type of problems arise when the same suggestions come up over and over again, even when they have no further income generating potential. Projects aiming to produce and sell something depend on the market demand, and the fact that one group is successful in establishing, say a uniform making enterprise, does not mean that other groups can do the same. In fact,

a successful group of uniform makers had been set up. But they were supplying to all the schools in the area, and new groups would not expand the demand, only create competition. The most common suggestions for 'projects' are uniform making, tie-and-dye, soap making, poultry, gardening and crochet. Especially tie-and-dye and crochet are hard to justify as marketable products.

Occasionally, 'projects' are introduced by donors that simply give out money or equipment. An unwanted effect may be passivity. Raising expectations about projects may cause people to hang around, waiting for support instead of borrowing or saving and starting on their own.

> Poultry is a very popular project. The meat and eggs provide a good supplement to the diet, the price is good when selling. One woman described to me in great detail her wish to start up a poultry project, and outlined the costs involved: five dozen chicken, fencing, chicken feed. Alas, she did not have the money.
>
> I asked why she could not start up in a small scale, with only a few chicken, makeshift fence, feed from kitchen waste, etc. Her answer was no. If she waited, she might be given these things.

'Projects' may be even more problematic if they are strongly linked to notions about 'deserving' recipients. While I was in the field, a lot of energy was spent weighing and measuring children to document degree of malnourishment. Communities scoring high (or would that be low ?) were promised financing for fencing to start up communal gardening.

I do not want to be too critical about such efforts. But so much energy and effort are required from the communities with no guarantee that there will be any follow up. In this particular case, the effort of registration, and the plans for communal gardens, give no result if the community turns out not to be deserving enough.

To conclude: There is a permanent need for support to create income generating activities. But support should be provided as regular credit facilities, on reasonable terms, to allow people to make their own plans, not always respond to donors whims. The

stress should be on ideas to be profitable, less on being 'deserving'. Probably the best way to increase production is with a flexible mix of private enterprises and small cooperative groups.

## 11.3 WOMEN IN THE PROGRAMME

The government of Zimbabwe is making every effort to involve women in public activities. Obviously, it takes some time to achieve results. At the present stage of this process, the number of women involved varies considerably.

While women increasingly are being appointed to top level, i.e. policy making and executive levels in Harare, and at community level the requirements for WPC composition has ensured their representation, women are almost totally absent at the district level, where implementation takes place. With the exception of the MCCD representative, there is no woman involved in planning and running the water programme at district level in Makoni.

Moreover, it is hard to see how this situation can be changed in the short run. The recruitment to these top-level positions is based on education and job seniority that few women as yet have achieved. The under-representation should be kept in mind, however, and as a continuation of the efforts of involving women at the village level, steps to secure a reasonable representation of women at the district level should be considered. Nominating a fair share of women to e.g. District Development Committees and Water and Sanitation Sub-committee would be a good measure to train women for participation on this administrative level.

The problems of involving women should not be underestimated. Norway has had a stated policy of equal representation for many decades. Still, the experience is that it takes formal quota regulations (usually stipulated to 40% of "the under-represented sex") to secure a reasonable representation of women on public committees.

## 11.4 'INVOLVING WOMEN' IN THE WATER POINT COMMITTEES

In chapter 10 I pointed out the high proportion of widows (29%), and women whose husbands are migrant workers (54%) on the WPCs. I suggested that this could reflect a solution to a potential dilemma: on the one hand society expect the wife to keep back, on the other hand active participation in public issues is encouraged. This dilemma may be felt less strongly when the husband is absent most of the time.

To understand the reasoning behind the selections, however, we should ask:
- are these women seen as the most <u>suitable</u> choices by the community electing the committees, or
- is it only/mainly these categories of women that are <u>willing</u> to be elected ?

The two questions are not mutually exclusive, but focus on different social processes: the first is an expression of social norms and expectations. The second focus on individuals, and their position in society.

After I had discovered this pattern in Chiduku, I asked around why so many single women, or those with their husband absent, were elected. Here are some typical answers:

> The community will look: who is free to do such things?. Widows are free to talk to people
>
> Women whose husbands work in a town are chosen because of their knowledge - they have travelled around, and have some experience.
>
> One should chose someone who has shown that she can go to meetings, see other people, share ideas with them.

We have noted the high proportion of single women. In development theory single or widowed women are generally considered to be the most disadvantaged in terms of position, wealth and access to resources, but in this context we see that they play a very active role.

In the terminology of social science, we can say that women who are elected to the WPCs must handle two different positions (statuses), that of spouse and that of domestic producer.

I see the women a bit like 'managing directors' of the household enterprise. The rationale behind wanting female representation on the WPCs is linked to this range of work, and sitting on the WPCs do not imply much activities that go beyond the scope of work that women normally perform. Accordingly, women should not themselves experience much conflict between the tasks on the committee and their other statuses in society.

However, sitting on these committees also has a symbolic meaning It is a break with prevalent norms in the community that state that a woman should work within the household - the husband or father should represent her outside the household.

My suggestion is that this norm explains the special composition we have seen of most Water Point Committees. This view of what are the most suitable choice for the WPCs may be shared by men and women, but perhaps for different reasons.

I am also suggesting that not much 'real' change has taken place, i.e. change in gender relations. On the surface the programme has demonstrably succeeded in involving women. But the communities, in their selection of members, have given the programme its own special twist. More than anticipated, participation in this programme builds on a traditionally acceptable gender role, and does not institutionalize a new legitimate role for women.

# CHAPTER 12: FIREWOOD

## 12.1 USE

Firewood is mainly needed for domestic use, i.e. cooking food and boiling water, and burning bricks.

Locally grown wood is also used for poles in simple constructions, fences, and racks for storing crops. Little local wood is used in the construction of housing. The beams required for roofing are bought at P&G.

There is no indication that the Water Programme has increased the use of firewood. NORAD and MCCD staff have occasionally raised as a question whether the Water Programme, by generally raising standards of hygiene, thereby would increase the demand for warm water. If this were indeed the case, the Water Programme would have an unwanted effect, and actually increase the work load for women by increasing the demand for firewood. This, again, would add to the deforestation.

According to my observations and information, this is not the case. The amount of firewood used for domestic purposes has not increased with the introduction of an improved water supply. On the contrary, some report that unprotected sources at times were visibly infected by insects, compelling them to boil water for drinking purposes. Furthermore, water from unprotected sources sometimes left a coating on the kitchen utensils that could only be removed by cleaning the cups and plates in hot water. When drawing water from protected sources, these problems do not arise.

It may be more difficult to estimate to what extent water is being heated for washing the body. As a rule, water used for personal hygiene is not heated. The main exceptions mentioned are the care of infants, and cases when a person is ill.

However, water for washing is sometimes heated during the winter months. A container with water is often kept near the fire when cooking, and on the fire after the cooking is finished to utilise the heat generated. Similarly, when a fire is lit to heat a room on extra cold days, water may be heated with no extra use of firewood. If there is a general increase in the amount of water used for personal hygiene, the effect could be a certain increase in firewood consumption in winter. But such an increase would be slight compared to the amount of fuel used for other purposes.

Prosperity, and especially the amount of food available may have a more direct influence on the use of firewood. In the words of one woman: "If there is plenty of food, we use more firewood for cooking." A good harvest, and more money sent home from migrant workers, probably does increase the local demand.

## 2. AVAILABILITY

The scarcity of firewood is a serious problem in all communal lands. In Chiduku, the provision of firewood requires a daily investment of much time or money.

It has been argued elsewhere that firewood is considered a "free good." Cross and Waterman (1988) quote work by du Toit et.al. ("Wood Usage and Tree Planting in Zimbabwe's Communal Lands") showing that 99,2% of the users have never purchased woodfuel. They claim that in the calculation of cost for brick-making, and in the comparison of woodfuel with commercial fuel (coal) "fuelwood is perceived to have no cost" (p.16).

This is no longer the case in Chiduku. It is still the case that most families rely on their own effort to gather the firewood they need. But firewood is also seen as a marketable commodity. There is a market for selling firewood locally, and the demand equals, and at times exceeds, the supply.

Families in Chiduku combine in different ways production for subsistence and cash crops. Similarly, they vary in the extent

to which they spend cash to buy firewood. Quite a few women buy some firewood when opportunity arise, to supplement their own provision. This may for instance be the case in times of intensive agricultural work. If money is at all available, firewood will also be bought when ill health makes collection difficult. A few women who have a regular income, and correspondingly less time at their disposal, rely entirely on buying firewood locally.

Conversely, women with absolutely no money have to provide firewood themselves for the family. Also, they can earn some cash by selling firewood.

In Tsere village, one widow is making a living by collecting and selling firewood. Several others sell firewood occasionally to secure some cash income. One load (i.e. as much as one woman can carry) sells for Z$ 2 -. This represents about four hours work going out, collecting the load, and walking back. One cord (4' by 4' by 8') sell for Z$ 20,- . Another Z$ 10,- is charged for transport by pickup. One tractor load (2-3 cords) cost Z$ 40,-.

For people who live in wards bordering on commercial or resettlement areas, the most frequently used source for firewood is outside the communal lands. Women are walking distances of three to five kilometers to collect firewood. In addition to the discomfort of the long walks, their rights to collect firewood are being questioned. Commercial farmers are reported to be posting guards, (some sporting military uniforms and weapons), in order to keep women off the land. The women resent this interference with what they consider their traditional rights, and try to circumvent the guards by setting out at 4 o'clock in the morning.

However, the deforestation of the communal lands together with the much stronger rules prohibiting woodcutting, have forced the women to move to new, and continually more distant hillsides in search of woodfuel. It is also possible, although I have no way to verify this, that commercial lands were better guarded before independence, and therefore less accessible to women.

In the resettlement areas some cutting of trees is done legally, while clearing new fields. For the time being this wood represent the main supply to the local market. The coming, serious, crisis in the provision of firewood is thereby postponed somewhat.

Cross and Waterman (1988 p.10) quote calculations showing that in most parts of the country there is actually a deficit in the provision of firewood. A deficit means that present demands exceeds sustainable supply. However, as they point out, a situation has not yet arisen where rural people are actually unable to obtain wood at all. The question is where this firewood comes from.

The answer they give is: "first, from agricultural land clearance which provides wood through clear felling, and second, straight forward tree felling". And they continue: "In terms of supply, naturally occurring indigenous wood will no longer be available from the mid 90s, since most of the available land will be devoted to agriculture in order to feed a rapidly expanding population, and other non-agricultural land will already have been depleted of its tree stocks." (p.11)

I mention this point, as it is very much borne out by my own observations in Makoni District. As long as the areas taken up by resettlement schemes are still expanding (cfr. chapter 4), there is an input of firewood on the local market. When this expansion comes to a halt, (and the mid 90's may be a good estimate of when this will happen) a serious crisis is predictable.

Finally, it should be noted that trees in the communal areas growing on land alloted to individual farmers are considered private property. This means that the trees around the homestead, and e.g. bordering the fields, are part of the resource base for the individual family. Such trees can be cut for construction purpose, or for firewood. Prudent resource management should mean that these trees are preserved to protect the land. Nevertheless it is often the case that families cut down such trees to solve an acute crisis. In a situation of scarcity

such short term solutions replaces a long term perspective in resource management, and thereby depletes the assets controlled by the family.

## 12.3 SANCTIONS

The general rule is that only dead trees and dry wood can be collected for firewood. It is forbidden to cut down live trees. Both the chief and the VIDCO leader mention this as amongst the most important rules they are set to uphold.

For the ordinary woman in Chiduku, life is a struggle between adhering to this rule, and trying to get around it.

To a large extent, the rule is respected because people in principle agree to it. They are aware of problems caused by deforestation and erosion. An equally strong incitement for conforming to the rules is that any firewood collected has to be carried in the full view of whoever is passed on the road, and cheating is easily spotted.

Most likely, the odd tree is cut down illegally when conditions are such that the person reckons that s/he can get away with it without being noticed. Young men, however, working in Harare and home on visit, complain that people in the communal lands are cutting down trees all the time because they are ignorant about deforestation. I do not find evidence to substantiate this. Young men from Harare use a lot of clichés when talking about life in the communal lands.

In the present situation, most borderline cases (evading more than breaking the rule) are claims that fresh firewood has been cut as part of agricultural clearance. Women who themselves would never cut down a tree, buy firewood which they have reason to believe (or rather: prefer not to know) has been cut illegally on resettlement land.

Some people get caught. I was told that a highly respected VIDCO member was stopped last year bringing home a truckload of fresh firewood and was fined Z$ 100.-. She had bought the wood at the resettlement area and hired the lorry from the Development Association to bring it home. She met the ZRP on the road, the wood was confiscated and she had to pay the fine. Her defence, predictably, was that she believed the wood had been cleared from agricultural land.

In this case, I could not discern any strong moral condemnation of the VIDCO member, the attitude seemed more to be that she was unlucky to get caught. Moreover, at least one of the men engaged as watchman on a neighbouring commercial farm spent his time collecting dry wood, which was peddled by a friend. In this case it was the actual ownership of the firewood that was debatable. To rise early to collect firewood is prudent in order to avoid the heat of mid-day. It is also a sensible strategy if there are watchful eyes that should be avoided.

By these examples I do not wish to say that people are careless, or indifferent to the rules of society. We deal with a situation which is rapidly deteriorating, and where women find themselves in a constant conflict between long term considerations and immediate needs. Some needs may be postponed. But the basic daily cooking of sadza require a supply of firewood. Therefore, although the rules protecting the existing trees no doubt are broken sometimes for reasons of expedience, or greed, more often the reason is poverty and struggle for survival.

The need for firewood in communal lands exposes a conflict of interests that is often called "the tragedy of the commons". Short term individual interests clash with long term common interests. The challenge is to find ways to regulate the individual behaviour in a way that serves the common good.

The following case illustrates how community sanctions are used in order to protect the remaining trees in the communal lands:

> One family (four people) had been observed on several occasions cutting firewood. This was reported to the VIDCO chairman, who told them to stop this. He did so many times,

but they did not stop. Then, at a public meeting (the occasion was a visiting minister informing on the ZANU and ZAPU agreement) the VIDCO spoke up after the official programme. He mentioned the four culprits by name, what they had been doing, and said that they would be reported to the police if they did not immediately desist from such actions.

Presumably, going public like this is an equally effective sanction as threatening with the police.

## 12.4 ALTERNATIVES

The shortage of fuel is becoming a serious problem. There are two approaches to a solution: to increase the production and to reduce the consumption of firewood.

Most initiatives to reduce consumption focus on the use of firewood for cooking. For instance, in Chiduku, a council project some years ago involved the building of fuel saving stoves. The stoves were put up in the house of local leaders expected to disseminate the idea of fuel saving to the 'povo'. These stoves are not in regular use. I have only seen one being used in a particular instance when I paid an unexpected visit to a teacher. The fuel-saving stove was used to prepare a meal quickly, demonstrating its greater efficiency. However, the regular fire was kept on together with the fire on the stove, so the only gain was in time saved. The use of fuel in this case was increased rather than reduced.

I do not argue against the introduction of fuel-saving stoves. However, it should be taken into consideration that in Shona culture the cooking fire is more than an instrument for cooking. The position of the cooking fire in the centre of the kitchen hut is closely integrated with the routines for preparing food, and structures the relationship between the mother who do the cooking and the children who assist her by fetching and bringing foodstuffs and utensils. The seating around the cooking fire of men and women, household members and visitors, is also a spatial expression of important social relations.

All these customary routines must be changed if the cooking fire is moved to a corner, as when the fuel-saving stoves were introduced previously in Chiduku. This is not to say that such habits can not be changed,. What I want to point out is that there is great value attached to the customary cooking arrangement, and people will probably experience a sense of loss if they end up having to change.

If one wants to concentrate input where developmental potentials are the greatest and resistance the least, I would suggest a closer attention to the requirement of brickmaking, which is the other main use of firewood. The amount of firewood used for brickmaking may be small compared to the amount used for cooking. However, the use for firewood for burning bricks has no associated social and cultural value, as was the case with the cooking fire. And there is a good alternative that deserves further attention.

## 12.5 BRICKMAKING

In the rural areas brick burning is commonly carried out on a small scale, by families or small groups of women. Brick burning is usually done for a special purpose, i.e. the building of a bedroom or a kitchen. It is also done as a paid job for somebody who needs some bricks, or women produce bricks on their own initiative for sale. Brickmaking is commonly carried out in the agricultural slack months of June - September.

Bricks are made on any convenient piece of flat land where suitable soil, preferably an anthill, is available. Water is stored in big oil drums. The soil is mixed with water and moulded in simple wooden moulds, then left out on the field and covered with grass to dry. After some days the bricks are collected and stacked to make a brick burning oven. The hollow interior is filled with firewood, and the exterior is covered with mud to keep the heat and smoke inside the oven. A small opening near the ground is used to feed the fire. The burning takes two days and two nights. When the bricks have cooled down,

they are ready for use. If there is no immediate demand, the stack is just left until a need arise.

The Lutheran World Federation (LWF) have introduced some brick-making machines that are lent out to people in Maungwe District. The purpose is to provide alternative ways of producing bricks for the building of new storage bins.

The 'brick-making machine' is not really a machine, but rather an ingeniously constructed metal frame for moulding bricks. The bricks are made from a mixture of cement and sand, and do not require burning. They just dry in the sun.

There are no precise figures for comparing the cost of burned and moulded bricks. In Chiduku, 1000 burned bricks sell for Z$ 40.- to 45.-. This is payment for work, and an estimated Z$ 10.- worth of firewood.

There is no fixed price for moulded bricks. According to the guesstimate of two brick-moulders interviewed, six bags of cement should produce 800 bricks. The cash expense would then be Z$ 5.70 x 6 = Z$ 35.- As the size of moulded bricks is somewhat larger than the traditional (12x11x22 cm), it is estimated that 800 moulded bricks equals 1000 burned ones. Another estimate, by a person involved in a LWF project, is that 10 bags of cement gives 3 000 moulded bricks. This would give a cost of Z$ 57.- or less than Z$ 20.- for 1 000 bricks (corresponding to 1 250 burned ones).

In addition to the price of cement comes the cost of the machine, which presently is lent out free of charge from LWF. But even if the cost price turns out to be larger for the moulded bricks, the other advantages are considerable. Less work is involved, as moulding is done in one operation. But first and foremost it is the saving of firewood that represents the most important advantage.

# CHAPTER 13: MAINTENANCE SURVEY

The most important part of a successful Water Programme is proper maintenance. This means a sustainable maintenance system and good communication with the user communities.

A basic proposition in the concept of 'community participation' is that proper care and preventative maintenance by the user community will reduce the number of breakdowns, and increase the speed in providing repair. As noticed before, 'community participation' is difficult to measure, but good maintenance and short periods of disrepair can be seen as an indication of good community involvement. However, for this proposition to hold, it must be clear that the problems that do arise could not be prevented by the community/WPC. A technical breakdown through no fault of the community or the drying up of a source, does not necessarily indicate a low community involvement in maintenance.

## 13.1 MAINTENANCE IN SIX WARDS IN CHIDUKU

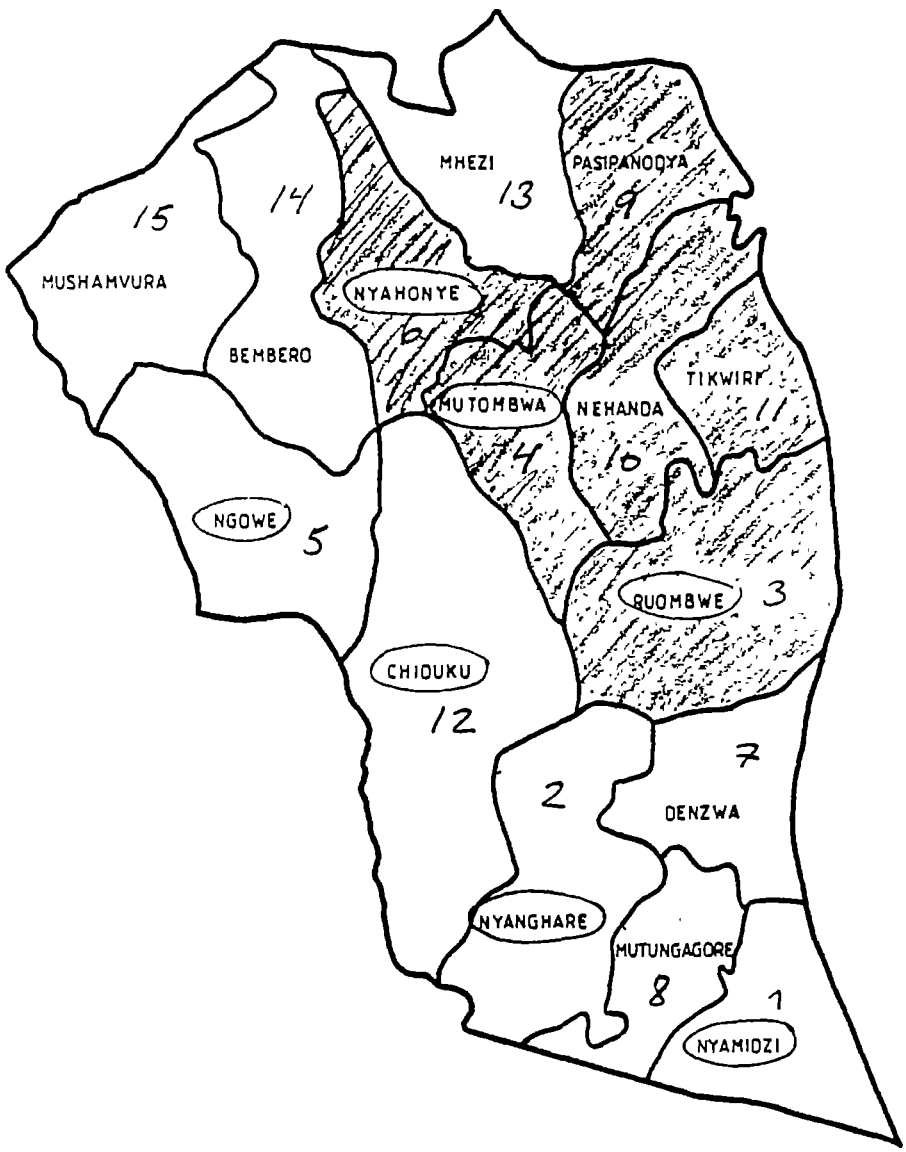
To get data on the extent and causes of breakdowns, I did a survey of five wards in Chiduku. This study supplements the data from Pasipanodya. The maintenance survey combines a mixture of methods and types of data. My point of departure was the map of water points provided by Interconsult. To get to know about 'problem points' I interviewed the pump-minders, the DDF Field Officer in Rusape, the Ward Community Coordinators, and a number of chance informants met when visiting the wards. In each ward a handful of water points, selected at random, were visited.

The survey was done in July, roughly mid-way between the rainy and the dry season.

The following map shows the wards visited. The number of each ward gives the approximate sequence in implementing the Water

Programme. The circles show wards where a pump-minder is stationed (7 wards in Chiduku).

Figure 13.1 Wards with pump-minder in Chiduku.




The picture I present indicates some trends, but is in no way conclusive. However, the methodological problems in getting an adequate picture of the state of repair of water points, is in itself an important finding. There are no readily available statistics. It is striking that, while meticulous documentation exist on the construction, there is no similar documentation of the numbers that are in regular operation.

Table 13.1 Maintenance Survey

| | No of Water Points | DRY | Out of Order | PROBLEM |
|---|---|---|---|---|
| Pasipanodya | 24 | 2 | 1 | 1 |
| Nyahonye | 28 | | 4 | |
| Mutombwa | 26 | 7 | 1 | |
| Nehanda | 33 | | 1 | 1 |
| Tikwiri | 21 | | | 3 |
| Ruombwe | 41 | 3 | 1 | 3 |
| | 173 | 12 | 8 | 8 |

What do these numbers tell us ?

First: The total number of water points in this table does not necessarily coincide with the number of water points under the Water Programme. For instance, in Pasipanodya I have excluded those presently under construction. In Ruombwe the number is higher than in other wards, as I did more extensive travelling and included some old MoH and DDF water points (see appendix 3).

Second: The registration of waterpoints as 'dry', 'out of order' or 'have problems' respectively, is partly based on hearsay. I used the 'network method' and asked everybody I met if they knew about problems at any water points. My impression is that the pump minders gave a fairly accurate assessment of the numbers that were dry or out of order. It is more difficult to know about and define 'problems', and many cases came up in the random visits. More extensive visits would most certainly increase the numbers in this column.

> Typical 'problem case'
> Some wells had water only in the morning. Before noon it started to dry up. In the afternoon it was only possible to fill one bucket at a time, then people would have to wait for another hour to fill the next one. The consequence was that people started to go to the well as early as possible in the morning, to secure some water. This did not increase the amount of water, only shifted the time of drying up to an even earlier hour.
>
> The explanations given were both with reference to technology one (problems with the foot valve), and construction (insufficient water).

Third: The distinction between 'dry' and 'out of order' is not always clear. In some cases the pump-minders were quite specific (dry wells in Mutombwa Ward, lack of spare parts in Nyahonye Ward). In other cases, I have made a guess. The number of 'problem cases' is probably larger than in this table, as a dry well will usually be known about by many people, while minor technical problems are less widely noted.

With all these reservations, my survey indicate that at any given time, about 10-12 % of the new water points are not working.

An important point to note, however, is that there is nearly a 50-50 ratio between dry wells and the technical problems. Dry wells are not a maintenance problem. There will always be some wells that dry up in the height of the dry season, but which still have a useful place within the programme. But wells that dry up during or just after the rainy season need deepening (or re-siting), and this should be considered part of the construction phase in the Water Programme.

The type of problems vary somewhat between the wards:
In PASIPANODYA one well (Tetena I) has been dry since September 87. The pump-minder says that the pump is OK, but the well needs deepening. As mentioned, there are no good routines for going back and deepening wells. The wells that were completed in 86/87 have good headworks, but only one has a washing slab. The three boreholes have washing slabs.

In NYAHONYE all four wells that are out of order lack plungers.

The main problem in MUTOMBWA is the large number of wells that are dry. They are all in the southern part of the ward. Many have no headwork, as the wells ran dry shortly after the pump was fitted. The sites should be deepened, or they should be abandoned 'officially', not just left uncompleted.

In NEHANDA there are some wells with insufficient water. One borehole (Chinyadze School) was reported dry, but a new pipeline was established from another borehole.

In TIKWIRI there are three wells with serious problems. There is water in the morning, but it dries up early. The two that I visited (Muziti School, and Muziti Village) had neither apron nor spillway, and no fence. Dongorere I and II along the road were completed and in good order, but lacked a washing slab.

In RUOMBWE one borehole (Makuremidze) was out of order for six months. According to DDF they had not been notified. When they received the information, the Mobile Team repaired it in a very short time. The wells with 'problems' have only water for a short time in the morning. In one case a new well had been dug fairly close to the old (problematic) one (Mhukayesango II), and the old well should probably be abandoned.

## 13.2 PROBLEMS ENCOUNTERED

Headworks.

The survey disclosed that the headworks were in a very varying state of completion. Almost all boreholes have complete head-works, and a washing slab. But many wells, especially in Ruombwe and Tikwiri, were not completed. This applies also to wells with a good yield of water.

It is discouraging for the communities to have to wait for the completion of the water point. The reasons given are that the LWF team ran out of cement, and moved on to other wards to continue digging, to return for completion ot a later stage. LWF presumably keeps a record of sites awaiting completion, and in relation to DDF there is a 'gentleman's agreement' that this eventually will be done.

In some instances, headworks have not been completed because the wells have dried up, and await deepening. Some of these will probably be abandoned, as the sites have turned out not to be good. But such considerations are not known to the communities, who only see that their water point does not get the same attention as the neighbouring ones. And, since others get these things through the programme, there is no motivation for the

communities in question to provide headworks installations themselves.

In most cases the bricks required from the community have been provided some time ago, and they are now lying around crumbling to pieces. There will probably be a problem to secure enough bricks if/when the construction of washstands are started up.

Washing slabs.
In all cases where the washing slabs have a covered spillway, this has clogged up. All soakaways that were constructed with a 'filter' on top to soak up the soap and grease have been filled up with debris and do not work properly. The only structure that seems work is an open spillway and an open soakaway with uncovered, fairly large, stones.

The six-stranded fence rarely works. It demands very close attention to prevent goats from finding a way in and attack the banana plants. This is something most WPCs definitely could do better. It is also difficult to find a good spacing of the entrance opening: narrow enough to keep out animals, wide enough for the water carrier not to be torn by the barbed wire.

Pumps.
No report of breakdown of Bush pumps.
The Nsimbi pumps have a problem with the PVC pipes which often crack, and may break down after some years. The pipes are very long (6 meters) and difficult to transport on a bike.
At present there is a sufficient supply of PVC pipes, but a shortage of plungers.

Relationship between LWF and DDF.
According to the contract between LWF and DDF, the Lutherans shall complete the construction, including the headworks, before the wells are handed over to DDF, which will then be responsible for maintenance. For a number of reasons, mainly lack of cement which has been a recurrent problem, LWF have left many sites incomplete, with a clear understanding that they will return for the completion. At the time of my survey, (July 88) this was

actually being undertaken in Nehanda ward. However, as the time lag in some cases now is amounting to one or two years, new problems, which are maintenance problems and not construction problems proper, begin to appear. This is bound to increase the confusion for the communities (and probably some of the extension workers on the Programme as well) as to which authority is supposed to deal with what kind of problems.

This listing up of problems should be counterbalanced by pointing out that the LWF has trained a group of very competent local personnel for well sinking, who by and large work in a close relationship with the communities. By using LWF as contractor DDF is making good use of local resources and is getting good value for the money spent. The degree of confusion and incompleteness that I report is probably to be expected in a programme involving so many different activities and so much personnel as the Water Programme.

Still, the problems mentioned can realistically be solved. DDF should formally accept responsibility for all wells in the communal lands as soon as a pump is fitted, even if the headworks are not completed. (In actual fact, DDF already do this to a large extent). If, at the time of handing over, the headworks at some wells are incomplete, this could be reflected in a reduction of the compensation paid to LWF. But LWF should not have the responsibility for keeping a record of the water points. The logistics of completion, service, and repair should be arranged by DDF, who has the organisation for this.

This means that it should be possible to use some of the DDF vote for maintenance for such small-scale construction work.

Abandoning sites.

As mentioned above, there are cases of water points with poor yield which either should be deepened, or should be abandoned. This is both a problem of programme organisation, and of the logistics of the well sinking teams. In many cases where a well ran dry very soon after the pump was fitted, the LWF team, returned and did the deepening immediately because they were

still working in the area. Once the team has left a ward, it becomes much more complicated to bring a team in for deepening.

It is also unclear who should make a final decision on when to give up, in cases where big stones or other conditions prevent further deepening of wells with low yield. The communities which are left with this uncertainty, understandably become discouraged. The pumps at such sites are more easily worn down, or subject to vandalism. The DDF map will show that the area has got a well, even if the community does not get any water. In cases where it is clear that a dry well can not be improved, the site should be abandoned and the pump removed (and put to better use somewhere else).

The District Pump Records.

The recording system at the District level is not yet working properly, for a number of reasons:

1) As mentioned above, a number of wells that were constructed some time ago do not have proper headworks. The DDF office is reluctant to take formal responsibility for these wells, and this means that the green pump card has not been handed over to the DDF. Appropriate 'handing-over' procedures was a recurrent problem in the discussions at site-meetings in Rusape.

2) In a situation with scarce personnel, it may be difficult to find clerical staff to go through the reports from the pump-minders, and to fill this information in on the green cards. With a new, and yet largely untrained staff of pump-minders, it is even more difficult to supervise closely and to ensure that the pump minders send in proper records of all cases of break-down.

The DDF is a technical unit, with a training in grappling with practical problems out in the field. In the case of Makoni District, The DDF Field officer has a thorough knowledge of the state of the water points, based on long experience. The record keeping is a requirement from the central administration, and

organizations like the donor agencies. The motivation for keeping proper records that can be used for compiling good statistics on the actual state of the installation, is probably much higher amongst administrators and evaluation teams than amongst those who through their work have a direct knowledge about the situation.

To achieve good records of operation and maintenance the persons who are keeping the records should be motivated to do so. They should receive the help and training required to develop proper routines for filling in the District Pump Record Cards. The task may seem overwhelming unless one realises that there is really very little essential information that need to be filled in for each case.

Incomplete statistics is more misleading than no statistics at all. At present, the statistics that can be compiled from available Pump Record Cards is probably misleading.

## 13.3 THE PUMP MINDERS

As we see from the map, the distribution of pump-minders gives each of them a very large area to cover. In all Chiduku there are 7 at the present. One more has been trained (scheduled for Pasipanodya) but lack of funds has delayed employment.

Their efficiency seems to depend both on their personal qualifications, and on the distance they have to cover.

The job requires an ability to keep in touch with a large number of people scattered over a large area. A pump-minder works on his/her own, and must plan the days work to cover regular inspections, and requests for repair that may arise. This must be combined with his/her own personal business, usually farming. Some pump-minders use a DDF rest camp as their base, others work out of their homes.

It is hard to formulate exact instructions on how to secure the required mobility and contact, but a close relationship between the user community and the pump-minders seems to be essential. Many people are uncertain about the proper procedures for getting in touch with the pump-minder. It should be possible to ensure that the address of the pump-minder is well known, so at least so everybody know how to get in touch.

Moreover, distance is a crucial factor: the system functions better in the vicinity of pump-minder, and pumps easily accessible by road are best served. There is a simple and practical reason for this. The longer the distance to travel (and to carry equipment and spare parts on the bike), the fewer visits and the longer to wait for each visit.

However, it is equally important to recognise that distance reduces the community's ability to exert social pressure on the pump-minder to attend to their needs. The whole concept of the maintenance system is based on an assumption that the pump-minder is chosen by a community and shall service this community. The idea is that a failure to do the job will be sanctioned by the community directly, by members of the community laying claim on his/her services, and criticising a failure to provide this service. Such social control is only possible to exercise within a functioning social system. With too large geographical and social distances from the pump-minder to the pumps and the user communities, social sanctions do not work. There is less contact, fewer visits, to pumps located far from the pump-minder's own neighbourhood, and accordingly it is more difficult for people to convey any grievances they might have. Also, by the very nature of the way informal sanctions work, such sanctions are less effective towards people outside ones own neighbourhood.

By reducing the pay and increasing the number of pump-minders, a much better service could be obtained for the same expenses. The job is not meant to be a full time job, but must be combined with farming or other activities. More pump-minders, each with a shorter distance to travel and fewer communities to cover would

greatly increase the efficiency. (The present wage, of Z$ 115, is also very high compared to the Z$ 33 a month paid to the Village Community Workers)

There is a need for more research on the issues taken up in this chapter. The survey reported here was done towards the end of my research in Makoni, and raised a number of issues which have been discussed in a rather incomplete way. An expanded survey, including interviews with the 12 pump-minders at work, and more water-point visits on a random sample basis, would give information essential for a continued assessment and improvement of the three-tier maintenance system.

# CHAPTER 14: SUMMARY OF MAIN POINTS

Community participation.

The communities have responded with enthusiasm to the Water Programme. Mobilisation and community contributions for the construction phase have come forth much as anticipated. The long term involvement of the communities, however, remains to be seen. Breaks in the scheduled work (waiting for equipment, cement, the problems with the LWF contract) have sometimes discouraged communities, and made a sustained involvement more difficult.

The Water Point Committees often have difficulties in finding their way and getting response from the multitude of public bodies they depend on for instruction and/or support. Local initiative can only be sustained if there is an appropriate response to requests from the WPCs.

Local context

The Water Programme fits in well with other development efforts in the District, most notably increased agricultural production and improvements in the road system. Population pressure is a major problem, leading to pressure on resources, deforestation and soil erosion. There is no way that the already densely populated Makoni District can provide farmland for new generations without a halt to the 3% annual population increase.

Implementation

There has been a good integration of activities during the implementation phase, and a good involvement of local leadership on ward and village level. Logistic problems were created by the same project personnel implementing the programme in two widely dispersed districts. This led sometimes to insufficient follow-up from project personnel in periods when activities were concentrated in the other district.

Location of water points.

The collaboration with communities in the location of water points seems to have worked well. There are very few complaints about siting decisions. Predictably, many communities express a wish for even more wells. There are some, but few, communities/-households that are too far to walk to a protected source.

Water use

There is no immediate dramatic increase in water use with the introduction of the protected water sources. Observations at water points show that most families (75%) use less than 12 litres per day per person in the household. The greater number of families use between 5 and 8 l/c/d .
Age, distance to water source, and a modern versus traditional orientation, can explain the differences in water use. Generally, attitudes more than access, explain the amount of water used.

There is a very strong message embedded in traditional culture: to preserve water. The 'new' message of the water programme: to use more water, should take this into consideration

In a situation where choice can be exercised (during and after the rainy season) a preference for near/unprotected over far/-protected wells shows that the importance of clean water is not yet universally recognized. The number of families using more water, and clean water, must be assumed to increase over time. As it is, the full potential health benefit of the water programme has not yet been felt.

Scarcity of firewood is rapidly becoming a serious problem in the communal lands. There is no indication that the improved provision of water leads to increased use of firewood.

Women in the programme.

On average, three out of four members of the Water Point Committee are women. A few committees are composed of men in special positions (e.g. kraalheads at dip tank, businessmen at business centre).

A close scrutiny of the composition of the WPCs show a very strong preference for electing single (widowed) women (29%), or women whose husbands are away working (Harare, Bulawayo, commercial farms) (54%). This rather striking pattern may mean that women feel they have to choose between two conflicting roles: the 'traditional' one of being represented by the husband in matters outside the family, and the 'new' one calling for active involvement in public affairs. Selecting women who do not have a husband present most of the time, may reduce this dilemma.

Maintenance

Two types of problems are encountered: pump breakdown, and wells running dry. A survey of six wards show that dryness as often as pump breakdown is the cause when the new water points lack water. Up to 10-12% of the water points are not in working order.

Wells running dry are not strictly speaking a maintenance problem. It is a question of construction; normally, a new well should provide water throughout the dry season (with the boreholes as back-up at times of extreme drought). Presently there are no routines for who (LWF or DDF) are responsible for the deepening of dry wells, and some wells that ran dry in 1986 are still waiting.

The pump-minders.

The pump-minder system works well in some areas, but not yet universally. Distance is a crucial factor: the system works better close to the pump-minder than in the areas more distant from his/her home. The time required to travel to the most peripheral areas tends to reduce the number of visits. Equally important: distance reduces the community's ability to exert social pressure on the pump-minders to attend to their needs.

More services could be provided for the same money by reducing the area, the number of pumps, and the wage for each pump-minder, and increasing the number of pump-minders correspondingly.

The problem of integration.

The issue of integration has been dealt with more indirectly in this report. Programme documents usually state the objective of integration on "Village, Ward, District, Province, and National level". However, if we look realistically on the range of activities that should be integrated, they are mainly concentrated at District level. With the exception of the Ward Community Coordinators and Village Community Workers, there are very few extension workers actually stationed at Village and Ward level, nor at Province level.

If integration means actual cooperation in carrying out tasks with close contact between field personnel from different ministries, and a timing of field operations to ensure a steady progress, this can only be achieved at district level. Moreover - as the difference in local conditions between Makoni and Chipinge clearly demonstrate - the general formula for the Water Programme must be adapted to local circumstances. In this, the district should play a leading role.

Close and steady communication between the implementing level - the district - and the level where final policy decisions and financial allocations are made - the Ministries in Harare - are of the utmost importance. The Province has an important role to play in areas requiring coordination between districts. But seen from the point of view of the district, the administrative structures of the Province sometimes is felt to delay communication with the decision makers on the national level.

When the new local government structure comes into operation, there will only be 55 districts in Zimbabwe. Even with a IRWSS project starting up in each district, the Ministries in Harare should be able to deal directly with the districts on matters that can not be delegated for local decisions.

ABBREVIATIONS

| | |
|---|---|
| AGRITEX | Department of Agricultural, Technical and Extension Service |
| BC | Business Centre |
| CLO | Community Liaison Officer (Interconsult) |
| DA | District Administrator (MLGRUD) |
| DDF | District Development Fund (MLGRUD) |
| GMB | Grain Marketing Board |
| HA | Health Assistant (MoH) |
| IRWSS | Integrated Rural Water Supply and Sanitation Programme |
| l/c/d | Lires per capita per day |
| LWF | Lutheran World Federation |
| MCCD | Ministry of Co-operative and Community Development |
| MEWRD | Ministry of Energy and Water Resources and Development |
| MLGRUD | Ministry of Local Government, Urban and Rural Development |
| MoH | Ministry of Health |
| NAC | National Action Committee (for the Water Decade) |
| NCU | National Coordination Unit (for water development) |
| NGO | Non-Government Organisation |
| NMWP | National Master Water Plan (National Master Plan for Rural Water Supply and Sanitation) |
| NORAD | Norwegian Agency for International development |
| PA | Provincial Administrator (MLGRUD) |
| SIDA | Swedish Agency for International Development |
| VCW | Village Community Worker (MCCD)<br>(before 1987: Village Health Worker, under MoH) |
| VIDCO | Village Development Committee |
| WADCO | Ward Development Committee |
| WPC | Water Point Committee<br>(VIDCO Water and Sanitation Sub-Committee) |

PROJECT DOCUMENTS, IN CHRONOLOGICAL ORDER

(1) MEWRD:
Crash Programme - Mashonaland. Final report. Vol. 1.
Interconsult A/S, December 1985.

(2) MEWRD:
Manicaland Integrated Rural Water Supply and Sanitation Programme. Final report: The Consultant's Experience and Recommendations.
Interconsult A/S March 1987.

(3) Manicaland Integrated Rural Water Supply and Sanitation programme.
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(4) MEWRD:
Manicaland Water and Sanitation Project. Annual Report 1986/87
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(5) INTERCONSULT A/S:
Review of Integrated Water Supply and Sanitation Programmes. Phase 1: Identification of constraints and needs for the implementation of integrated sector programmes.
November 1987. Commissioned by NORAD

(6) MLGRUD / Provincial Administrator Mashonaland Central:
Mount Darwin Integrated Water and Sanitation Project -
Half Yearly Report on Progress and Expenditures. July to December 1987.
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(7) MLGRUD / Provincial Administrator Manicaland:
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(8) Minutes from Site-meetings Rusape,
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(9) MLGRUD / Manicaland Province Development Committee:
Planning Proposals for Integrated Water and Sanitation Projects
Final Draft, June 1988

(10) MLGRUD / Manicaland Province:
Project document: Water and Sanitation Project in Makoni and Chipinge Districts.
Period: 1988/89 - 1990/91
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(11) MLGRUD / Manicaland Province:
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Technical Paper no.22
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Manicaland Health, Water and Sanitation Programme:
Mid-term assessment and pre-feasibility report.

Appendix 1

**III ZIB 006: Borehole Water Supply Programme in Mashonaland.**

Formal Agreements

NORAD approved the request from GOZ in October 1984 and the resulting Agreement for Phase I (NOK 28 mill.)was signed 31st May 1985.
Subsequent phases were formally agreed through exchange of letters:

* Phase II covering parts of the Manicaland Province was approved by NORAD medio 1985 (NOK 10 mill., also utilising savings on the Phase I)
* Phase III was approved by NORAD medio 1986 (NOK 11 mill.), providing extentions to the Phase II programme

Objectives and Targets:

Phase I, as a drought relief programme to

* provide 400 ground water wells in rural areas (hand pumps) to satisfy normal standards and functional requirements;
* encourage Community Participation, including the women's role in the Operation & Maintenance activities, recognizing the conflict with the planned implementation pace
* provide a coordinator in order to facilitate the implementation of the programme
* provide consulting services for planning and implementation activities

Phase II represents a continuation of Phase I into Manicaland as an integrated programme with provision of additional ground water wells, stronger emphasis on Community Participation, Operation & Maintenance and Health and Hygiene (including latrine construction) and other support activities as recommended in the NMWP, including the involvement of the Local Administration (District Level).
Phase III represents a continuation of Phase II with a combined target of 250 drilled wells, 250 hand dug wells and 5000 latrines. Women as a special target group/beneficiaries is emphasised in this Phase.

The total programme (Phase I - III) has been executed under the responsibility of the MEWRD, utilizing the services of an international Consultant (Interconsult).

Timing:
Phase I was started second half of 1984 and completed by mid 1985, employing the services of a drilling contractor (from Botswana).
Phase II covering the financial year 1985/86 with most disbursements originally expected before end 1985.
Phase III to cover period up to new agreement for ZIB 007 put in force around March 1987 (i.e. most of FY 1986/87).

Achivements:

Phase I completed according to targets.
Phase II/III completed according to targets, except for a shortfall in latrine construction (implementation rate reached planned level during Phase III). Phase II/III took longer time and implementation was more costly than originally envisaged.

## IV ZIB 007: Sector Support for Water Supply and Sanitation

Formal Agreement

The programme request was approved by NORAD ultimo 1986, whilst the Agreement was signed in December 1987 for a period of approximately three (3) years. Total contribution: NOK 180 mill.

Objectives:

Overall Objectives:
- improve health conditions
- reduce the physical burden of women and children
- improve economic conditions

Specific Objectives:
- improvement of WS in terms of reliability, quality, quantity, and accessability
- improvement of sanitation through latrine construction
- motivating for behavioural changes through health education
- promoting community responsibility

Prerequisites:
- inter-ministerial cooperation
- user participation
- development of local human and material resources to ensure sustainability

Targets:

No quantified targets are specified in the Agreement. However, areas open to support comprise i.a.
* technical assistance,
* personnel development/training,
* O&M system development,
* implementation of w/s - san programme in specific geographical areas (to start within one - two districts)

Specific targets to be planned and agreed during annual consultations

Timing:

The Agreement covers the three year period from 1987 to mid 1990. The procedures agreed for annual approval of plans specify the following planning cycle: Project proposals by January , to be agreed during annual meeting in February. Progress report by September, to be basis for joint review in September/ October. Annual meeting to approve plans for subsequent Financial Year.

Financial Allocations:

Total for agreement period NOK 180 mill., to cover all activities incl. technical assistance. The following tentative breakdown for the three year period shows allocations to respective actors (and thereby to main activities):

* MLGRUD: NOK 14.9 mill.,
* DDF : NOK 66.7 mill.,
* MEWRD : NOK 36.2 mill.,
* MCDWA : NOK 4.9 mill.,
* MOH : NOK 9.2 mill.,
* Consult. services: NOK 8.6 mill.,
* Contingencies/ price increase : NOK 39.5 mill.

Annual distribution expected to have similar profile for all years.

Appendix 2.

CONSTITUTION

This constitution sets out the duties and obligations of VIDCO members (or VIDCO Water Subcommittee members) and villagers with regard to the Water Source.

The name of this COMMITTEE is _____

1. AIM

The aim of the Committee with regard to the Water Source will be to organise and manage local contributions towards the construction, care and maintenance of the Community Water Source and its surrounds, and to organise community members to obtain maximum use and benefit from their water source.

2. MEMBERSHIP

All households which are to benefit from the water source must be represented by the VIDCO.

3. RESPONSIBILITIES

The right of any member to draw fron the borehole will be determined by following:

A. Members contribute their full share of labour towards the construction, care and maintenance of the water source and its surroundings The committee vill decide upon and organise each member's work.

B. The committee shall decide how to discipline those members of the community who do not contribute labour without good reason.

C. New huseholds should be informed of their responsibilities prior to usage.

4. ELECTIONS

Election of water committees should be in accordance vith election of VIDCOs. Once every 2 years a general meeting of all members shall elect a committee which will serve for 2 years and consist of at least a chairman, 2 pump attendants, and a secretary. A minimum of 2 members shall be women. The Willage Healt Worker shall be coopted onto the committee in an advisory role. The Presiding officer for the Election shall be the WARDCO Chairman, assisted by the Willage Health Worker.

The old committee members shall show their successors how to carry out their duties, and help whenever necessary. All resolutions of a general meeting must be passed by a majority of those present. Each adult present shall have 1 vote.

5. REMOVAL FRON OFFICE

At any time during office, any committee member may be removed from office and replaced at a general meeting (without prejudice to his/her use of the water source) if:

A. He/she is prevented from work by illnes or absence.
B. He/she falls to attend three consecutive committee meetings without good reason.
C. He/she resings.
D. The members are not satisfield with him/her and give good reason for his/her removal.

6. MEETINGS

The committee shall meet at least once every three months, when the appropriate committee members will report on the state of the water source.

Any committee member can call a committee meeting, but must give several days notice, except for urgent matters. All committee resolutions must be carried by a majority of three committee members present. Half of the committee shall constitute a quorum.

7. POWERS AND DUTIES OF THE CHAIRMAN

A. To direct all committee meetings and any general meetings.
B. To arrange for the members to help build or repair borehole surrounds as the committee may decide.
C. To report to the water source committee, VIDCO, VARDCO, or police as appropriate, anyone found wilfully damaging the borehole pump or surrounds or interfering with the committees work.
D. To pass on any requests of the committee to the VARDCO.
E. To report to the WARDCO any disagreements which tne committee are unable to resolve.
F. To be responsible (with the WARDCO) for organising the allocation of irrigated garden or orchard sites and/or the distribution of produce.

8. POWERS AND DUTIES OF THE PUMP ATTENDANTS

A. To look after any tools for the borehole pump.
B. To maintain the supply in good working order, by tightening bolts as required.
C. To report damage or breakage of the pump to the local DDF Maintenance Camp.
D. To organise a regular roster of members responsibilities for cleaning and sweeping the pump surrounds.
E. To report any cases of wilfull damage to facilities to the committee.
F. To be responsible when necessary for ensuring that members adhere to any water use restriction imposed by the committee.

9. POWERS AND DUTIES OF THE SECRETARY

A. To keep a book of all resolutions of the committee and of general meeting, which shall be signed by the person running the meeting.
B. To keep all letters receiced and advise the committee when they arrive.
C. To write letters and sign them on behalf of the committee.
D. Under normal circumstances to call committee meetings and to keep a record of all meetings.

10. DELEGATION

Any committee member may delegate any of his/her powers to another committee member.

11. RECORDS

The secretary must show his/her records to any member who asks to see them.

12. WATER RESTRICTIONS

In the time of drought, the committee may impose restrictions on water use, which they will annonce at a general meeting.

13. CHANGES TO THE CONSTITUTION

Changes and additions to this constitution can only be made by resolution of a general meeting. Representatives of 1/2 the user households shall Constitute a general meeting quorum.

Appendix 3

MAINTENANCE SURVEY: RUWOMBWE

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CHAKUMA VILLAGE 9/10-87
Well, Nsimbi. NO apron & spillway
BRicks ready for washstand, have received 8 bags of cement.

CHAKUMA II 9/10- 86 *
Well, Nsimbi

CHIKUMA PRIMARY SCHOOL *
BH Bush

CHIKWENA *
Bush

CHIMENE I
Well

CHIMENE II 13/5-86 *
Well, Nsimbi, 160 l.

CHIMBONDI
Well

CHINEMBIRI PRIMARY SCHOOL
Well. worn down diesel pump.

CHINEMBIRI *
BH

DEKAYA * OUT OF ORDER
BH

DZUDA 4/5-86, 4/2-87
Well.
No spillway, no soakaway.
Children reported to have put a piece of wire through the guide pipe, so that water could not be produced. Pumpminder caMe and fixed it, according to Kraalhead.

GATSI
Well

GONESO I B 25/8-86 *
Well, Nsimbi.

GOMUTENA BC *
BH

GURURE B.C.

GURURE PRIMARY *
BH

GWANZWADZA BC *
Semi-Artesioan Borehole

KADZUNGE
Well. Dries up in September/October

KADZUNGE PRIMARY SCHOOL *
BH
Pump-handle has broken down twice, welded togehther, june 88 replaced June 88 withy new handle, by Mr. Kadzunge, pumpminder.

KADZUNGE SECONDARY SCHOOL *
BH
Has broken down 2-3 times . Main problem is the bolt fastening the pump rods. As yet, the teachers or pupils at the school manage to do the repair.
The user complain that the water has a rusty taste.

KANYONGAANA / TSANGA
Well
Active WPC, saving money for constructing washstand. Ask Z$ 1,- from nieghbouring communities if they want to use the well.

KUDZIWA 25/8-86 *
Well, 22 m. deep. with Nsimbi. DRY
Need a Bush-pump

MAPADZA, 8/12-86
Well, Bush pump.
No apron & spillway. No washstand.
Used by 36 families. To save water, the pump-minder do not allow water to be used for brickmaking (except to preapare for wash-stand, latrine and bathroom at the water point).

MAKURUMUDZE *
BH Bush
Breakdown for 6 moths (Dec 87 - June 88) . Had to wait for the mobile team, to get a new plunger. No report to DDF until June 88.

MANYORA / GOMOTENA B.C. 86
BH serving three villages (Murito, Nembaware, Manyora BC)

ST.JOHNS / MUPANGURI *
Bush

MUPANGURI VILLAGE
Well MoH

MURAHWA I
Well.

MURAHWA II
Well. Bush pump DRY

MHUKAYESANGO I 9/6-86, 9/12-86 * PROBLEM
Well. Nsimbi. No apron, spillway, washstand
Water in the morning, dry later in the day.

MHUKAYESANGO II 10/3-87
Well. Bush pump. No apron, spillway, washstand
Has been deepened once. no problems later.

MUTIRO 10/9-86 *
Well, Nsimbi

MUKAMBA CLINIC *
BH

MUZAMINDO *
BH

NDORA / MUSUWZI B.C. *
BH

NEMBAWARE *
BH

NYAROTA I 8/10-86 *
Well, bush

RUOMBWE SECONDARY SCHOOL 15/5-86 *
Well, Nsimbi.
Old site, rehabilitated by the LWF.
TORIO
BH

TSANGA / NYANGWE 9/12-86 PROBLEM
Well, Nsimbi.
No apron and spillway. Bricks ready
Not working properly. Wtaer in the morning, not later in the day (may collect one or two bucets, then the next person must wait for hours to get eater). Suspected foot walve problem and little water in the well.
WPC find their job difficult, say they are not trained.

TSOKA I B 10/10-86 *
Well, Bush, DRY

TUMBARE PROBLEM
Well

* pump cards in the DDF register
Total of 41 water points

Genral problem: Program was in Ruwombe twice; first 15 wells were sited, then another batch.
LWF sited some additional wells.