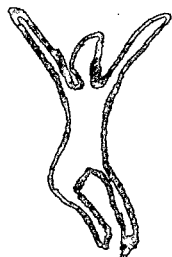




GOVERNMENT OF MALAWI
MINISTRY OF WATER DEVELOPMENT

COMMUNITY BASED
RURAL WATER SUPPLY, SANITATION AND HYGIENE EDUCATION



IMPLEMENTATION MANUAL

Ministry of Water Development
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January, 1999

FOREWORD

The Government of Malawi is committed to alleviating poverty in Malawi especially among the rural people through the provision of adequate social services of which water supply and sanitation services are high on the agenda. The Government is aiming at ensuring that its citizens have convenient access to safe water and improved sanitation, in sufficient quantity and acceptable quality for basic domestic needs. This is because the provision of water and sanitation services is considered to be an efficient way of improving the health of the people.

The biggest challenge for the Government is to meet the increasing demand for water supply and sanitation in rural areas. The major question to be addressed is **how to improve effectiveness and efficiency of the water supply and sanitation development efforts in terms of their impact on the health of the entire population.**

The most common answers available are based on cost containment in design and operation and stakeholders involvement. The purpose of these measures is to ensure overall sustainability, and in so doing avoid service disruptions or lack of water supply and sanitation facilities, which would affect the less privileged population.

Though the demand for drinking water and improved sanitation in rural Malawi is very high, the government has not been able to satisfy this demand because of inadequate resources. Consequently the rural water supply and sanitation program in Malawi has been financed by various donor agencies and implemented on a project by project basis governed by individual donor needs.

It has been realised that a lot of investment has gone into the development of the rural water supply and sanitation sub-sector but that services are deteriorating. Various studies that have been conducted by different agencies one of which is the Water Services Sector Study have confirmed that lack of ownership and community involvement in project implementation are paramount causes of lack of sustainability. A lot of recommendations were made from the WSSS one of which led to the development of the Water Resources Management Policy and Strategies.

Although a Water Resource Management Policy was developed in 1994, implementing and donor agencies continue to be governed by their parent organizations. This has been compounded by lack of coordination and guiding principles in the sector. The result of which has led to sub-standard facilities being installed and inappropriate technologies being adopted. In addition some of the conditions imposed by donor agencies are not conducive to achieving sustainability.

The main broad policy objective of the Ministry is the provision of adequate safe water within acceptable reach and sanitation facilities based on management responsibility and ownership by the users.

This broad objective can only be achieved with concerted involvement of all stakeholders

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In an effort to coordinate activities by different players and improve sustainability in the sub-sector, the Government of Malawi, with financial and technical assistance from the World Bank Credit under the National Water Development Project, has developed the Community Based Rural Water Supply, Sanitation and Hygiene Implementation Manual. This Manual provides guidelines for the development of the sub-sector in a programmatic manner with the aim of achieving sustainability.

The managerial principles and methods which have been selected to assist practitioners and decision makers are geared towards financial viability and sustainability. They are not ends in themselves but ensure attainment of broader public health and environmental objectives.

The purpose of the manual is to facilitate implementation of sustainable water supply and sanitation program in rural areas in the hope that this will contribute to the attainment of health and environmental benefits. While primarily designed as guide for implementation of sustainable Water Supply and Sanitation Programmes, the content of the manuals provides materials which can also be utilised for training purposes as well as promoting and creating receptive situations for sound planning. The manual is addressed to a wide range of planners, project officers and other professionals, policy makers, advisers, consultants and trainers of national external agencies.

The Implementation Manual is complemented by other documents, namely: the Technical Design Manual and a set of Training Manuals. The Technical Design Manual gives guidelines and technical specifications for the construction of water points and sanitation facilities, water quality and selection of sites for construction. The training materials provide basic reference materials for training at different levels.

This Manual is expected to harmonize efforts by different donor and implementing agencies in the development of the sub-sector. Its objectives are to assist the different players in:

- ensuring that policy, technical specifications and quality are adhered to.
- training and capacity building at different levels
- mobilising communities
- effective community monitoring and evaluation of the sub-sector.

The manual will ensure that all players in the sector have guiding principles in order to assist in achieving the Government of Malawi's objective of providing adequate, sustainable, safe water and sanitation services to the rural communities.

Ladies and Gentlemen water is life lets sustain it (the betterment of our livelihood is in our hands!!)



MINISTER OF WATER DEVELOPMENT

ACRONYMS AND ABBREVIATIONS

ADC	-	Area Development Committee.
CBM	-	Community Based Management
CDA	-	Community Development Assistant
CI	-	Cast Iron Pipe.
DDC	-	District Development Committee.
DDF	-	District Development Fund
DEC.	-	District Executive Committee.
DWO	-	District Water Officer.
EAC	-	Executive Area Committee
EW	-	Extension Workers.
FS	-	Field Supervisor.
GI	-	Galvanized Iron Pipe.
HA	-	Health Assistant.
HSA	-	Health Surveillance Assistant
KAP	-	Knowledge Attitude and Practice Study.
MASAF	-	Malawi Social Action Fund
MOHP	-	Ministry of Health and Population
MWD	-	Ministry of Water Development
MWYC	-	Ministry of Women, Youth and Community Services
NGO	-	Non Governmental Organisation
O & M	-	Operations and Maintenance
PVC	-	Poly Vinyl Chloride
RWO	-	Regional Water Officer
RWS	-	Rural Water Supply
T/A	-	Traditional Authority
TOT	-	Trainer of Trainers
T-WORKS	-	Treatment Works.
VHWC	-	Village Health and Water Committee
VGE	-	Village
VIP	-	Ventilated Improved Pit-latrine
WMA	-	Water Monitoring Assistant

PREFACE

The Government of Malawi is committed to alleviating poverty among the rural people through the provision of adequate social services. Water and Sanitation is one of the major priorities among all the other social services to be provided by government. This is because provision of water and sanitation facilities is considered to be an efficient way of improving the health of the people. The policy on water and sanitation services among other things aims at ensuring sustainable management use of water resources, water supplies and sanitation facilities as well as environmental protection and conservation. The long-term development objective is to ensure that all citizens of Malawi have convenient and sustainable access to water, in sufficient quantity and of adequate quality for the basic domestic needs and that they have available adequate sanitation.

In order to effectively implement the water and sanitation program, there is need to utilise already existing institutions and organisations, at community, district, regional and national levels. A co-ordination team will be established to facilitate and supervise the program. The team will consist of districts heads from relevant ministries. The ministries to be represented will be MoWD, MOHP, MWYCS, MoNR and NGO Representatives in the district. At Community Level there will be a Village Health and Water Committee (VHWC) that will be assisted by the Area Development Committee (ADC) which is directly linked to the District Development Committee (DDC).

It is critical that all stakeholders and partners act with a concerted effort and collaborate with government by closely following the policy guidelines outlined by government so as to achieve sustainable levels of water supply and sanitation.

Roles and responsibilities of key stakeholders are clearly outlined and streamlined for effective complementarity.

The Ministry of Water Development will take up a leading role of Supervision, Co-ordination, Monitoring and Evaluation as well as ensuring that policies and guidelines are adhered to by the different service provided.

The implementation strategies for rural water supply and sanitation are based on community empowerment through capacity building and effectively integrating water supply with hygiene education, sanitation, catchment protection and environmental management. the strategy also aims at institutionalising a multi-sectoral collaborative effort and cost effective implementation through utilisation of appropriate technology.

The financing mechanism and strategy will ensure sustainability while at the same time being sensitive to the plight of the poor and their inability to pay for the capital and recurrent cost of services. However, the principle for cost sharing with the communities in the initial capital costs will be maintained and encouraged. This is because sustainability depends on the sensitisation of communities not to solely depend on Government and other support agencies. For the program to be successful there is need to have an effective and efficient monitoring and evaluation mechanism which will provide reliable information on the status of Water Supply and sanitation Services at Community District, Regional and National Levels.

Monitoring and Evaluation will be done in Partnership with communities, women, men and village leaders who should participate in information collection and analysis. This ensures sustainability and builds capacity of communities in effective monitoring of their own progress.

After completion the manuals will undergo field testing for a period of 4 years.

The field testing period will be between 1999 and 2001. During this period the manual will be revised periodically based on lessons learnt.

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1.0 INTRODUCTION

1.1 Background

1.1.1 Water and Sanitation Situation

Malawi's population was estimated at 11 million in 1997 from the 1987 population census projections. 85% of this population live in rural areas. Poverty is widespread in Malawi with 47.7% of the total population living in human poverty. The Government of Malawi is committed to alleviating poverty among the rural people through the provision of adequate social services. Water and sanitation is one of the major priorities among the other social services that the government is committed to provide.

Currently, only 47% of the rural population have access to safe drinking water facilities. This figure is greatly reduced by non-functional water facilities and their geographical distribution. The majority of rural people continue to rely on unprotected wells and springs, rivers, lakes and ponds for their water supply.

On sanitation coverage, it is estimated that 70% of the population has access to traditional pit latrines (these consist of a hole in the ground with a wooden and mud platform; a mud or straw structure for privacy). Only 6% of the total population has access to improved sanitation (these are latrines with either a sanitation platform (sanplat) or a water carriage system or a ventilated improved pit latrine).

The Government is aiming at ensuring that all citizens of Malawi have convenient access to safe water, in sufficient quantities and acceptable quality for basic domestic needs. In addition the Government is also committed to ensuring basic sanitation and good hygienic practices for all its citizens. However, higher levels of such services can only be achieved if communities are convinced and accept their appropriateness as well as confirm their willingness to pay in cash and/or in kind.

Although the demand for drinking water and improved sanitation in rural Malawi is very high, the government has not been able to satisfy this demand because of inadequate resources. Consequently the rural water supply and sanitation program in Malawi has previously been implemented on a project by project basis and governed by individual donor needs.

The rural water supply and sanitation sub-sector in Malawi has had a lot of investments in the previous years especially during the International Drinking Water Supply and Sanitation Decade 1980 - 1990, (IDWSSD). Despite these efforts in providing improved water supply and sanitation, the facilities provided have not been sustainable. The Government of Malawi, in an effort to coordinate and improve the situation, carried out a Water Services Sector Study (WSSS) in 1994. The study highlighted the factors which affected the sustainability of the water and sanitation sector. It was noted that lack of community involvement and ownership were the paramount problems in

sustainability. A lot of recommendations were made from the WSSS one of which led to the development of the Water Resources Management Policy and Strategies

Although a Water Resource Management Policy was developed in 1994, implementing and donor agencies continue to be governed by their parent organizations. This has been compounded by lack of coordination and guiding principles in the sector. The result of which has led to sub-standard facilities being installed and inappropriate technologies being adopted. In addition some of the conditions imposed by donor agencies are not conducive to achieving sustainability.

In an effort to coordinate activities by different players and improve sustainability in the sub-sector, the Government of Malawi, with financial and technical assistance from the World Bank Credit under the National Water Development Project, has developed the Community Based Rural Water Supply, Sanitation and Hygiene Implementation Manual. This Manual provides guidelines for the development of the sub-sector in a programmatic manner.

1.1.2 Need for Sub-sector Implementation Guidelines

The process of developing this implementation manual involved consultations with officials from Government, Non Governmental Organisations and the donor agencies. It started with a brain storming session which drew participants from:

- (a) Government Ministries of :
 - Local Government and Rural Development
 - Women, Youth and Community Services
 - Health and Population and
 - Water Development

- (b) Non Governmental Organisations which included the following:
 - Save the Children Fund (UK),
 - World Vision International,
 - Concern Universal,
 - Canadian Physicians for Aid and Relief and
 - Plan International.

- (c) Donor agencies as follows:
 - UNICEF
 - The World Bank.

The main outcome of the brainstorming sessions was the realisation that the provision of water supply was done in isolation of sanitation. Previous experiences and lessons learnt from other developing countries indicate that maximum benefits from provision of potable water can be obtained through integration of sanitation and hygiene education. As a result it was strongly recommended that guidelines should be provided for the development of rural water supply, sanitation and hygiene education as an integrated intervention.

It was also realised that there was no clear policy on the development of community based managed water supply, sanitation and hygiene education. Further more, it was established that empowering communities to plan and manage their own water supply and sanitation facilities was a critical component for ensuring sustainability. Therefore the concept of Community Based Management was established to be central to the development of the sub sector. To this effect, it was agreed that a manual be put in place which would aim at addressing these issues.

1.2 The Implementation Manual

The Implementation Manual is complemented by the Technical Design Manual and a set of Training Manuals.

1.2.1 Purpose of the Manual.

This Manual is expected to harmonize efforts by different donor and implementing agencies in the development of the sub-sector. Its objectives are to assist the different players in:

- ensuring that policy, technical specifications and quality are adhered to.
- training and capacity building at different levels
- mobilising communities
- effective community monitoring and evaluation of the sub-sector.

The manual will ensure that all players in the sector have guiding principles in order to assist in achieving the Government of Malawi's objective of providing adequate, sustainable, safe water and sanitation services to the rural communities.

1.2.2 The Technical Design Manual

This manual describes the choice of technology in a given situation according to the prevailing physical situation. It also gives guidelines for procedures for construction and supervision of works. It will be primarily used by technical people although some information might be utilised by communities.

1.2.3 Community Based Manuals - Training Manuals

The Community Based Management Training manuals are:

- The Training of Trainers Handbook.
- The Extension Workers Guide
- The Community Handbook

The training manuals have been developed to provide basic reference materials for training at different levels. The Training of Trainers Handbook is for use by the trainers of District Co-ordination Teams.

The Extension Workers Guide provides reference material for working with and training the Community.

The Community Handbook is prepared for the Village Health and Water Committee (VHWC) and is designed as reference material for its members and the community as a whole.

1.3 Implementation Manual Layout

The Implementation Manual has been divided into six sections:-

- **Introduction**
- **Policy Framework, Objectives and Strategies.**
This section outlines the sub-sector's national policies, objectives and strategies which all players should adhere to.
- **Organisational structure.**
This section describes organisation framework of the programme. It gives details of players and their responsibilities.
- **Implementation Strategies**
This section provides guidelines for integration of water, sanitation, hygiene education and catchment protection. It emphasises the need for capacity building at all levels and community empowerment.
- **Financial Arrangements.**
This section gives details of financial arrangements for cost sharing, capital investments and subsequent operation and maintenance.
- **Monitoring and Evaluation.**
This section details how the monitoring and evaluation will be carried out, what will be monitored and the reporting mechanism.

2.0 POLICY FRAMEWORK OBJECTIVES AND STRATEGIES

2.1 Policy Framework

The Government of Malawi considers the provision of water and sanitation facilities to the people of Malawi as a priority as well as an efficient way of improving the health of the people. The Government of Malawi's Policy on water and sanitation services is aimed at ensuring the following:

- sustainable management and use of water resources, water supplies and sanitation facilities.
- that all Malawian's have access to safe water within a short distance and have adequate sanitation

The policy framework therefore covers:

- the management of the water resources for conservation and for the benefit of the community;
- stakeholder involvement to ensure maximum participation and ownership;
- the allocation of water that ensures economic benefits and environmental protection;
- the investment of public funds to achieve maximum sustainable benefits for the community and;
- pricing.

2.2 Objectives

The long term development objective for water and sanitation is to ensure that all citizens of Malawi have convenient and sustainable access to water in sufficient quantity and of adequate quality for the basic domestic needs and to have available adequate sanitation.

Specific Objectives:

The specific government objectives in rural water supply and sanitation sub-sector are to:

- promote the concept of community based management whereby communities are empowered to take charge of planning, implementation and management of their water supplies and sanitation services.
- promote the provision of convenient access to potable water supplies for rural communities within a maximum walking distance of 500 metres.
- ensure that all households have access to hygienic means of excreta and refuse disposal and other sanitation facilities.

- promote the provision of water and sanitation facilities that are affordable and appropriate for the rural communities.
- promote the economic value of water resources to the rural communities.
- build capacity at all levels in order to manage water and sanitation services.
- ensure coordination among the various players in the provision of water and sanitation services.
- ensure that the development of water and sanitation sub-sector is not harmful to the environment and to catchment areas.

2.3 Policy Strategies

The policy strategies outlined here are in line with the water resource management policy. The implementation strategies should ensure that community participation, including gender consideration, are prioritized in decision making, planning and design, implementation and maintenance, choice of technology, monitoring and evaluation in all rural water supply and sanitation projects and programs.

- The community, especially women are to be empowered through participatory methods to take charge of all stages of the project implementation cycle from the planning stage through to construction, operation and maintenance and finally monitoring and evaluation. During the planning stage, the community should identify their needs and be assisted in the choice of technology and levels of service for water supply and sanitation required.
- Communities are to have a gender sensitive and democratically elected committee that will manage the water supply system and act as a coordinating body between the community and the government.
- All programs related to water supply and sanitation services are to be implemented in a manner that mitigates against environmental degradation while at the same time promotes the enjoyment of the resource by all.
- The approach to allocation of water and sanitation services is to be designed in a way that recognizes water not only as a social but also as an economic good, that maximizes benefits to the community.
- The government is to facilitate and coordinate a multi-sectoral approach to the provision of water supply and sanitation services to ensure adequate participation of stakeholders (including users and special target groups) both in the public and private sector.
- The government through the ministry responsible for water supply and sanitation and in consultation with other stakeholders is to set standards and ensure that they are adhered to.

- Research is to be enhanced with a view to exploring appropriate, gender responsive and varied water and sanitation technologies.
- Investment of public funds in rural water and sanitation projects is to be guided by the expected net economic, social and environmental benefits of the program.

In addition to the water supply infrastructure, all rural water supply projects shall provide adequate financial and material resources to support the following:

- sanitation infrastructure
 - health and hygiene education
 - human resources development at all levels
 - logistical support
- Selection of sanitation technologies is to depend on affordability by the community. However, the sanitation platform is to be the basic infrastructure for improved low cost sanitation.
 - Prominence is to be given to catchment protection where involvement of local communities, government institutions and NGOs is to be guided by sector policies and legislation e.g. Forestry Act, Environmental Management Act, Water Resources Act etc.
 - Capacity building both for the short and long term is to be pursued at all levels for all rural water supply and sanitation projects.
 - All rural water supply and sanitation projects are to have a strong CBM component backed up by adequate provision of requisite resources.
 - The issue of sustainability is to be effectively addressed through clarification of roles of the communities, government, NGOs and the private sector.
 - Funds realized from sales of water are to be the responsibility of the community and utilized for the management of the schemes with technical assistance and advice from government when client.
 - Private connections in gravity-fed piped water schemes will only be done upon assertion of availability of water. However, the final decision lies with the beneficiary community. The provision of the connection and maintenance of the facilities from the connection point on the main line will be done at the expense of the client. In addition proper arrangements have to be made to recover the appropriate recurrent costs from the client.

3.0 ORGANIZATIONAL STRUCTURE

In order to implement water and sanitation sub-sector activities there is need to use existing institutions and organizations at community, district, regional and national levels.

3.1 Organization and Strengthening of Co-Ordination Team.

A District Co-ordination Team will be established comprising district heads from ministries of Water Development (MoWD), Ministry of Health and Population (MoHP) and Ministry of Women, Youth, Community Services (MoWYCS), Ministry of Natural Resources and Representatives of NGO's operating in the District.

The district coordination team will spearhead all the social aspects of the water supply and sanitation activities in the district. The team will specifically be responsible for planning community work, training their extension workers and overseeing implementation of all social aspects of the project. They will undertake community mobilization, organization and training activities. In the team the District Water Officer will play a leading role.

This tripartite arrangement at the district level will be replicated at the lower level with the extension workers forming a sub committee of the Area Executive Committee (AEC). The membership to the water and sanitation sub committee will include Water Monitoring Assistants (WMA) from MoWD, Health Assistants (HA) from MoHP and Community Development Assistants (CDA) from MoWYCS, and NGO representative. This will provide an interface between the community institutions and the implementing agencies. Activities by the extension workers will be coordinated and supervised by the district team.

Where a phased approach is adopted for the development of the rural water supply and sanitation, one district will be targeted at a time while taking into consideration other stakeholders that can only operate within particular areas. The coverage goal in each district will be to achieve an 80% coverage in terms of water supply and at least 80% in terms of sanitation. Efforts will be concentrated in the target district through community participation, capacity building and training, service delivery and institutional strengthening. Certain technologies will target only those areas that are technically feasible regardless of district boundaries.

3.2 Community Organization

At community level the communities will organize themselves by forming a Village Health and Water Committee (VHWC) that will be the communities representative body. The target institution within the community is the village. Therefore all interventions will be at village level. The VHWC will work through the Area Development Committee (ADC) which has access to the District Development Committee. For the gravity fed piped water schemes, other committees will be formed: section and branch committees at area level and main committee at district level. For

the gravity fed piped water schemes, other committees will be formed: section and branch committees at area level and main committee at district level. In cases of other technologies, other institutions will be formed at different levels to cater for the specific needs

3.3 Institutional Organizations

The entry point to the community will be through the District Development Committee (DDC) which is the overseer of all development activities in the district. The DDC will be responsible for the initial approval and acceptance of the project intervention, and decision making. The District Executive Committee (DEC) is the technical arm of the DDC responsible for planning, coordination, monitoring and evaluation of the water and sanitation projects.

The DDC composition is as follows:

Chairperson: District Commissioner
Members: Traditional Authorities
District Council Chairperson
Leaders of political parties
Representative of business Community
Members of Parliament
Representative of Women Groups
Representative of Youth Groups

The DEC composition is as follows:

Chairperson : District Development Officer
Members: All district heads of departments and ministries,
NGOs

The District Co-ordination-ordination Team which is a Sub Committee of DEC comprises MoWD, MoHP, MoWYCS , MoNR and concerned NGOs.

The national organization structure for project initiation and implementation for all rural water supply and sanitation is given in figure 1

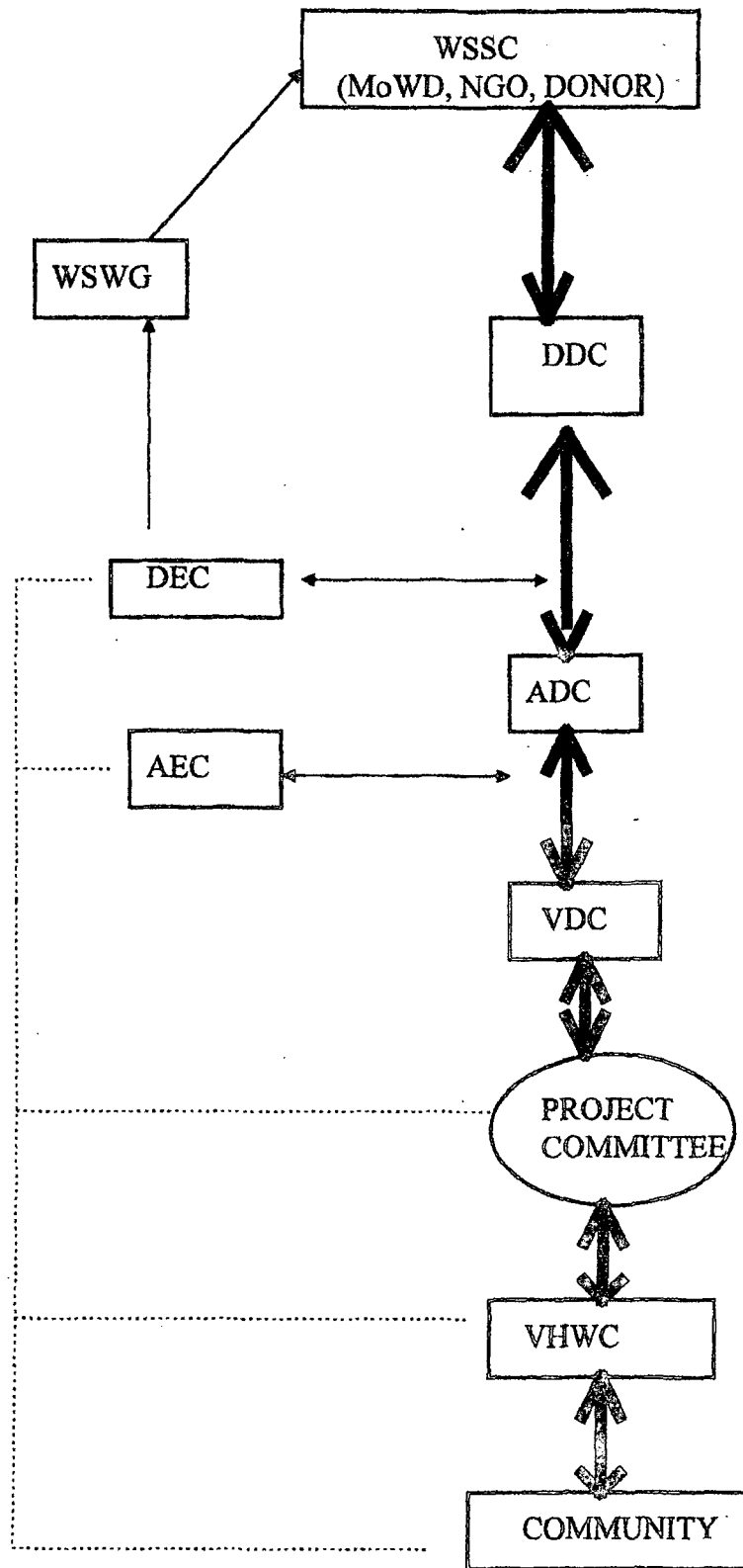


Figure 1. Organisation Structure for Water and Sanitation

3.4 Roles and Responsibilities of Committees

3.4.1 Project Committees

- Project implementation at the grassroots level
- Reporting to VDC

3.4.2. The Village Development Committee

- Responsible for the project cycle
- Community participation/mobilisation
- Management of locally generated resources
- Liaison with PC and ADC
- Working in partnership with AEC

3.4.3 Area Development Committee

The Area Development Committee will be responsible for the following:

- Project planning and formulation
- Liaison with VDC and DDC
- Working in relationship with AEC
- Management of the DDF generated and other resources specifically earmarked for the ADC.

3.4.4. District Executive Committee

- Technical advisor to DDC
- Prioritising water and sanitation projects coming from ADC for DDC approval. At the district level, rural water supply and sanitation activities are co-ordinated by district representatives of Sector Ministries and NGO's.

3.4.5. The District Development Committee

- District water and sanitation policy formulation and implementation in line with national development policy.
- Co-ordination with all organs of DDC
- Fostering working relationship with the DEC
- Management of funds earmarked for water and sanitation activities through the DDF.
- Fostering a working relationship with MoWD (CWSWG), donors, parliament, NGOs etc.
- Advising members of parliament on priority water and sanitation projects in the districts.

3.4.6 Village Health Water Committee

- Responsible for project identification
- Responsible for general operations and maintenance
- Liaison with VDC and ADC
- Management of VHWC generated funds

Table 3.1 summarizes the roles and responsibilities of different players in the Project Cycle.

TABLE 3.1 : ROLES AND RESPONSIBILITIES OF COMMITTEES

COMMUNITY BASED MANAGMENT	
Implementation Cycle	MoWD issues single contract with a Consulting agency
Community Mobilisation and Training	DEC and AEC
Signing of Community Project Agreement	Community DDC/ADC/VDC
Community Participation	VDC
Procurement of Water Systems	MoWD/Community
Project Supervision	DDC,ADC,VDC,DEC
Equipment site - location	VDC/ADC
Financial Management for cicil works	DDC (DDF)
Local Capacity Building	VDC/ADC/DDC
Long - term support to operation and maintenance	DEC

3.5 Service Delivery

The Ministry of Water Development will take up the leading role of supervision, coordination, monitoring and evaluation as well as ensuring that policies and guidelines are adhered to by the different service providers.

There are several options that can be considered for service delivery. The options that exist for the development of the rural sub-sector include:

- utilization of NGOs for both works and the software component
- procurement of works through the private sector such as the contractors
- utilization of government.
- utilization of private sector for management services
- utilization of the community

4.0 IMPLEMENTATION STRATEGIES

The rural water supply has a high priority within the broader context of water resources and supplies. As such the Malawi Government is focusing its strategies on the sustainable development of this sector.

The implementation strategies for rural water supply and sanitation sub-sector are:

- community based approach,
- multi-sectoral collaboration and coordination,
- capacity building at all levels and
- hygiene education and sanitation promotion.

The implementation strategies for rural water supply aims at:

- ensuring sustainability of water supplies through full community involvement
- effectively integrating water supply with hygiene education, sanitation, catchment protection and environmental management.
- institutionalising a multi-sectoral collaborative effort in rural water supply and sanitation programs.
- cost effective implementation through the utilization of appropriate technology.

These strategies will focus on the following activities:

- training and capacity building for Community Based Management
- water supply of surface and groundwater (constructions and rehabilitation)
- installation and improvement of existing sanitation facilities in institutions and in individual households
- increasing public awareness in hygiene .
- promote environment and catchment protection

4.1 Implementation Approach

The implementation approaches and guidelines will be multifaceted. They will take the form of several development approaches namely:- community based approach, participatory approach, integrated approach, capacity building approach and a multisectoral approach.

4.1.1 Community Based Approach

A community based approach is where communities are empowered to assume ownership and responsibility for their water supply. The objective of a community based management system for rural water supply and sanitation is to establish a self-sustaining community financed maintenance system operated and managed by the users. In order to achieve this, communities have to be actively involved in planning and decision making, implementation, monitoring and evaluation.

The communities in all the areas have in the first place to express need for the service. In response, an agency should work with the community to assess the identified needs and their capacity to meet the need. In order for the agency and the community to have a good overview of conditions and issues which have to be taken into account, it is necessary for the government to provide baseline data on population, water use and needs, socio-economic status, and health and hygiene conditions of the communities concerned.

An important aspect for planning community involvement is the identification and establishment of a strong gender sensitive community organisation such as the Village Health and Water Committee (VHWC) which takes on the initial decision making role on behalf of the communities. The Committee comprise of the chairperson and a vice, treasurer and vice treasurer, secretary and vice as well as committee members some of whom will be trained as maintenance technicians

To support community level activities, are local authority organisations such as District Development Committees (DDC), Area Development Committees (ADC) and Village Development Committees. With adequate capacity building this local level organisational set up, can ensure that community involvement can be fully realised.

The development of the rural water supply and sanitation sub-sector is a major component that requires a lot of financial support and commitment from both the user communities and the government. Given sufficient funding and commitment, the assets developed together with the communities will be based on the community needs, technical skills and appropriate technology.

Principles of community participation and the participatory approach will govern the operationalisation of the community based approach.

Community participation is viewed as the involvement of the communities in their own development where they achieve their set objectives. It is desirable in terms of project efficiency, cost effectiveness and sustainability.

Past experiences and lessons learnt point to more chances of project success in bringing benefits to the community if communities have a sense of ownership of the project. The likelihood of increasing project effectiveness and sustainability is a justification for utilising participation in rural water supply and sanitation programs.

The participatory approach is viewed to be a tool to ensure that the communities are fully involved in their water and sanitation programme through community empowerment and capacity building. Although this can be a slow and laborious process, it is critical for the sustainability of the water and sanitation programme.

The rights of the communities to pursue their own objectives, set their own priorities and critically examine their own situation is given as the rationale for participatory approach. This goes beyond cost sharing in benefits to a process of co-operative action, learning and confidence building. The main aim of the participatory approach is to have an empowered community through building their capacity to identify their own needs as well as be able to do something about it.

4.1.2 Integrated Approach

The integrated approach in this context means the inclusion of sanitation, hygiene education and catchment protection in water intervention activities.

An integrated approach for water, sanitation and hygiene education and catchment protection will be adopted for community management at district and national level. Benefits from the water intervention can be fully realised if integrated with sanitation, hygiene education and catchment protection components so as to achieve improved health standards.

Catchment protection will also be considered in order to improve both the quantity and quality of water resources. This will ensure adequate sustainable water supplies of good quality.

4.1.3 Capacity building approach

In order to achieve the above strategies there will be need to build capacity at community level. It has to be borne in mind that the majority of the population being dealt with is illiterate, hence special skills are required.

The training programs are to build capacity and gender sensitivity at community and district level. This will enable the community to take gender considerations throughout the program. Deliberate efforts have to be taken to encourage women to take a more active role in the water supply sub sector especially in decision-making, planning and management. Similarly deliberate efforts to encourage men to be more active in sanitation and hygiene education need to be initiated.

The water supply services and sanitation program will be demand driven. There is need to build needs assessment and prioritisation capacity at the lowest level to enable the communities initiate, implement, and sustain water and sanitation programs.

4.1.4 Multi-sectoral Approach

The Community Based Management (CBM) approach will be strengthened by a coordinated approach which will ensure the minimisation of fragmentation of efforts, waste of resources and competition among the different stakeholders. This calls for an active involvement of all key partners at all stages of the implementation of the rural water supply and sanitation program. The key partners are community, government, NGOs, private sector and the donor community.

4.2 Roles of Stakeholders

There is need to clearly spell out responsibilities for all stakeholders for the guidelines outlined herein to be followed effectively. The following are some of the responsibilities for the different key stakeholders:

4.2.1 Community Responsibilities

The community's main responsibility will be to initiate the program by identifying their needs and requesting for assistance. They will be given information through participatory facilitation and community mobilisation as well as through information flyers (annex 1a & b) on where financial and technical support can be obtained. Having understood the conditions and requirements they will sign a request form for assistance (annex 2). After which community training in organisational management, finance and operation and maintenance (O&M) will commence to ensure sustainability. It is important to note that community mobilisation is a continuous process and can be accomplished in phases (annex 3). The community will demonstrate its understanding and willingness to participate in the project through signing the project agreement (annex 4a & b).

The community through the local existing structures will be involved at all stages of the project implementation from planning, implementation, operation and maintenance and monitoring and evaluation.

Though choice of technology may be pre-determined by the topography, hydrogeology and standardisation policies, the communities will be guided to make an informed choice on the siting of facilities and modalities of managing them.

Community responsibilities are summarised as follows:

- identifying project
- forming committees
- choosing technology
- participating in design
- selecting site

- organising implementation
- providing labour towards clearing of site and construction of the water and sanitation facilities
- providing security of the facilities against vandalism
- providing locally available materials
- raising and management of funds
- protecting catchment areas
- maintaining facilities
- training
- reporting unauthorised water construction activity by any other agency to the District Development Committee.
- Establishing community support groups for operation and maintenance.

4.2.2 Government Responsibilities

- The government will be responsible for:
 - providing technical expertise and training.
 - carrying out studies to verify demand for water supply, sanitation and Catchment protection.
 - providing policy guidelines for development of the sector and enforcing regulations.
 - providing counter funding to eligible communities through projects to communities for capital items required for the development of the water supply and sanitation sector.
 - assuming a facilitator's role in assisting communities in selecting, planning and designing water supply and sanitation facilities which are affordable.
 - controlling quality and standards of facilities provided for water supply and sanitation.
 - monitoring water quality.
 - monitoring trend and changes in quality due to environmental and land use pattern changes.
 - carrying out technology research including, making recommendations on appropriate technology for various areas of water supply.
 - Maintaining an up to date database for Water Supply and Sanitation
 - dissemination of information
 - soliciting funding for the sector
 - supervising activities of other implementing agencies
 - monitoring and evaluation of the sector.
 - Facilitate support for O&M
 - Co-ordinating all efforts in the sector

4.2.3 The Private Sector Responsibilities

The private sector will work in partnership with Government in:-

- liaising with government on any new project.
- Providing funding, training and civic education for communities
- raising funds for implementation of Water supply and sanitation projects on contractual basis

- developing the sub-sector.
- conducting research.
- improving technology.
- ensuring supply of spare parts at the Community level.
- obtaining water abstraction licenses before implementing water projects.
- submitting all necessary construction data to the community and government.

4.2.4 The NGO Responsibilities

- liaising with the Ministry of Water Development on any new project
- providing assistance to communities and the government in implementing the sub - sector projects.
- soliciting and providing funding for the development of the sub-sector.
- working in partnership with the communities and the government in preserving the environment especially in activities that promote catchment protection.
- improving technology
- conducting research in various technologies and processes
- submitting all necessary construction data to the community and government.
- Obtaining water and abstraction rights from the Water Resources Board.

4.2.5 Donor Responsibilities

- providing technical assistance
- providing support in policy formulation
- providing funds

4.3 Training and Capacity Building for Community Based Management

At national level, the government is responsible for disseminating and implementing the sector policy and improving the performance of the different actors in their streamlined roles and responsibilities. The implementing agencies are required to provide training support to intermediary organisations, including NGOs, the private sector and community-based organizations, at district and community level. In the long-term, communities are expected to receive capacity building support from these district intermediaries with the government agencies only playing a co-ordination and supervisory role.

At the district level, capacity building will be required to support the intermediaries that will implement both the software and the hardware components of the project. The specific requirements may vary from one district to another based on the existing institutional capacities within the private, NGO and public sectors, and the project implementation strategy that is being adopted.

The training support will cover both the software and hardware components of the programme. At community level implementing agencies will have to strive to strengthen the work of private artisans by giving them appropriate training.

The training activities within the sector will be carried out as stipulated in the training manual. The training needs for the different target groups will be identified and training courses will be organised to suit each target group.

The Ministry of Water Development will be the focal point for steering these training activities. However, its focus will have to gradually change from that of providing direct intervention at the community level, to that of strategic planning for capacity building for different agencies, at the district level. The training strategy should also consider the changing role of government and the need to strengthen skills of private artisans so that they are enabled to provide continuous support to communities. While the Ministry of Water Development strengthens its capacity, it can also play a leading role in the sector and facilitate co-ordination with other ongoing water supply and interventions undertaken by other projects and agencies.

There is an enormous amount of work to be done in this area, and implementing agencies may want to consider allocating resources to MoWD activities even in communities served by other agencies. The Government will in addition ensure that there is training support to intermediary organisations, such as NGO's, and the Private Sector through its CBM Unit.

Training materials developed for the community based management of the rural water supplies will be the main references utilised at all levels of training. The materials are:-

- the Training of Trainers Manual.
- the Extension Workers Guide.
- the Community Handbook.
- In addition other supplementary materials may be deployed.

4.4 Water Supply and Sanitation

4.4.1 Groundwater Supplies.

The strategy to be followed for groundwater supplies will be targeting the least served districts in the country and those with no or minimal water and sanitation interventions. The eligible areas should not have any existing gravity fed piped water schemes nor the potential for one. Other options for sources of protected surface water should not be cheaper than the ground water option. However the community's informed decision can override the above choice of technology.

There are several options for the development of groundwater supplies for rural communities which include shallow hand dug wells, protected springs, collector wells and boreholes. Due to the recurrent dry weather conditions that are being experienced in the Southern Africa sub region, a lot of shallow wells have been drying up. For this reason, deep wells will be the first option of technology to be promoted for ground water supplies.

The first intervention in any area should be rehabilitation of the existing boreholes in order to restore them to their original state and maintain the level of service coverage in a given district.

4.4.1.1 Rehabilitation of Boreholes

All boreholes that are not working perfectly will have to be rehabilitated or new ones drilled to replace those that can not be repaired. The rehabilitation will either be partial or full depending on the extent of the failure of the borehole.

Partial Rehabilitation

Partial rehabilitation will include the replacement of the steel rising pipes with uPVC rising mains and the replacement of the non Afridev handpump with an Afridev handpump. In this case, all civil works have also to be repaired or replaced by new ones.

Full Rehabilitation

Any old borehole which the community categorises as not functioning well, whose original depth has been reduced by a third due to siltation, and whose yield has decreased will warrant full rehabilitation. Full rehabilitation will entail a complete replacement of all parts on the borehole. These old boreholes will be cleaned to almost the original depth, re-lined with uPVC casing pipes and proper gravel pack, fully developed and equipped with an Afridev hand pump. The cost implications of each form of rehabilitation and chosen hand pump are detailed in Table 4.1

4.4.1.2 Constructions of New Boreholes

There are three options of drilling methods for the construction of new boreholes. These are hand auguring, percussion and rotary drilling. The cost implications, as of January 1999, of each methodology and chosen handpumps are detailed in Table 4.1 The construction can be done through the utilisation of the private sector (drilling companies and Non Governmental Organisations) or the Government.

All new Boreholes constructed will be lined with uPVC pipes and equipped with Afridev handpumps. Boreholes for institutions, where water will be pumped into a reservoir and distributed by gravity, shall be equipped with Climax pumps. It is recommended that high yielding boreholes shall be lined using larger diameter casing for future motorised pumping and reticulation to other villages where groundwater and surface water resources may be limited.

All efforts should be made to engage local expertise for construction and maintenance of rural water supply facilities. Where capacity for construction and maintenance is lacking at community level higher levels of management will be requested for assistance, and in cases where required expertise is not available at District level then the Ministry of Water Development will assist to find such expertise.

TABLE 4.1

COSTS OF CONSTRUCTING BOREHOLES AND ACCESSORIES

TECHNOLOGY BOREHOLES.	HAND PUMPS TYPES	CAPITAL COST	MAINTENANCE COST.				
			Year 1	Year 2	Year 3	Year 4	Year 5
1. New Constructions							
(a) Rotary Driller							
	Afridev	138,000	130.00	500.00	2,000	10,000	50,000
	Malda	60,000	130.00	500.00	1,000	5,000	30,000
(b) Hand Augered	Afridev	85,000	130.00	500.00	1,000	5,000	30,000
2. Rehabilitations							
(a) Partial Rehabilitation							
	Afridev	65,000	130.00	500.00	1,000	5,000	70,000
	Malda	35,000	130.00	500.00	1,000	5,000	40,000
(b) Full Rehabilitation							
	Malda	40,000	130.00	500.00	1,000	5,000	40,000
	Afridev	70,000	130.00	500.00	1,000	5,000	may need complete replacement
3. Civil Works	-	40,000	130.00	500.00	1,000	200	may need complete replacement
4. Optional: Animal drinking trough. Fence	-	5,000				200	may need complete replacement

4.4.1.3 The Project Cycle

The cycle for borehole rehabilitation and construction will be based on demand articulated by communities to ensure that only communities who are in need of the service and are prepared and willing to meet part of the capital and full recurrent costs of the facilities are adequately served.

The number of steps in the project cycle to be followed will depend on whether an implementing agency is carrying out rehabilitation or new construction. Steps that are relevant to a particular situation will be utilised. The Ministry of Water Development will give specific guidance in this area on project by project basis.

The project cycle will consist of the following steps:

1. Project Preparation/Needs Assessment.
2. District Launch.
3. Information Dissemination to Communities.
4. Training of District Team (Extension Workers).
5. Community Mobilisation and Sensitisation.
6. Detailed Planning of Community Level Implementation Plan.
7. Verification of Community Requests and Community Mobilisation.
8. Community Project Agreement Signing.
9. Application for a Water Right.
10. Borehole siting.
11. Verification of Handpumps availability at distribution centre.
12. Community Training.
13. Preparation of tender documents for drilling, supervision and small works.
14. Procurement of drilling, supervision and small works contracts.
15. Drilling and Rehabilitation of Boreholes (By Contractors).
16. Drilling Supervision and Completion Certification.
17. Small Civil Works Construction and Handpumps Installation.
18. Completion of Civil Works Certification with Community.
19. Other Community Level Activities.

Project Preparations

As part of the preparatory work a rapid assessment of the water supply, sanitation, hygiene education and the environment will be carried out to determine the prevailing situation and update the current data. The implementing agency will mobilise communities in the target district and set up co-ordination sub committee as in the organisational structure outlined earlier.

Needs Assessment

An assessment of existing requests for new and rehabilitated boreholes will be undertaken in order to estimate the broad scope of work required in the area. However, this work will not result in the provision of a final list of communities eligible for project support, since the community itself will have to decide whether or not to participate in the project, once it has learned more about the project.

Before construction commences, there is need to establish the extent of the problem in the target areas. Needs assessment will be conducted using participatory methods. Baseline surveys will be conducted by the implementing agencies together with the communities. Tools for the baseline surveys will include Participatory Rural Appraisal techniques (PRA), and questionnaires. Community mobilisation/sensitisation and awareness on the project objectives will be conducted. The community's expected role and involvement in the activities will also be outlined.

District Launch.

Since DDC's are lead agencies of implementation of projects, a one-day DDC meeting will be held to discuss project objectives, community eligibility criteria and responsibilities of the different players in project cycle. The subsequent implementation and O & M strategy at the district level would also be discussed. In addition information flyers would be distributed to clarify project guidelines, as well as the standard community-project agreement. The initial list of community requests prepared by the DDC will be discussed during this meeting. District launching will only be done when funds for project implementation are made available. This is to ensure that communities are not made to wait for too long before the project commences.

Information Dissemination to communities

After the launch, the Technical Assistants will return to their communities to explain the project guidelines and verify community-initiated requests for boreholes. The flow of information to the communities will be facilitated by the information flyers. Once the communities have been consulted and agree to the project guidelines, a final list of community requests will be drawn up by the Technical Assistants and the ADC. (based on the funding available for the district).

Organisation and Training of District Co-ordination Sub Committees

The District officers of the key ministries will be supported by MoWD to train the district extension workers. This training will take about one week and will be undertaken within the district. After the training, the extension workers will be equipped with a series of training materials for use. Extension workers at supervisory level shall be provided with motor cycles while those at community level will be provided with bicycles to facilitate their mobility. However, the managing agency will provide the bicycles and motor cycles to the extension workers on loan.

Community Mobilisation and Sensitisation.

Community mobilisation and awareness raising on the project's objectives and expected community involvement in the activities will be conducted. During this period a strength, weakness, opportunity and threat analysis will be conducted. This will assist in the programme planning, choice of technology and implementation. The VHWC will be established during the sensitisation period.

Detailed Planning of Community-Level Implementation Plan

The district implementation plan will determine the logistical and human resource support that will be required for project implementation. The plan will take into account the expected number of communities that will be involved in the project as well and the number of extension workers who will participate. It will also consider the roles of other potential support agencies, such as NGOs and small contractors.

The strategy envisages that the district team will be supported by the managing agency to prepare its implementation plan, since it will then be responsible for implementation.

The work plan will follow a standardised format and will indicate responsibilities and accountability of all staff who are involved in the project at the district level and will also identify resource requirements. It will be used to monitor progress on a monthly basis. The District Water Officer, as a member of DEC, will prepare a brief monthly progress report for the rural water supply and sanitation program.

Verification of community requests and community mobilisation

Once the district has compiled a list of community requests, extension workers will visit communities concerned to ensure their adequate understanding and commitment to the project. Communities will receive a copy of the Community Project Agreement for review and discussion. Communities that do not want to participate in the project will be free to drop out and the extension workers will not continue with mobilisation activities.

The Area Executive Committee will be responsible for the mobilisation of the communities and facilitate the formation of the VHWC. During the planning stage, the communities will be assisted in the choice of technology and level of service for water supply and sanitation. Community preferences for the siting of the borehole will also be discussed in light of the technical requirements involved.

Community - Project Agreement Signing

Communities that are willing to participate in the project will be required to sign the standard Community-Project Agreement. This is a major requirement before any Borehole siting, drilling and construction activities can commence.

A copy of each signed Community agreement will be forwarded to MoWD central office before proceeding with procurement of works.

Application for a Water Right.

The community shall apply for a Water Right for abstraction using a hand pump where it does not already exist. The VHWC with the assistance of the Water Monitoring Assistant (WMA) will facilitate the application. The Water Right shall be granted to the village head on behalf of the community. Where more than one borehole will be required, the village headman shall make one application for them all, with the assistance of the VHWC and the borehole sub-committees.

Borehole Siting.

Standard MoWD procedures will be used for siting new boreholes. Borehole siting will be carried out by MoWD regional teams and the Private Sector.

Verification of Handpumps Availability at Distribution Centre

MoWD will sign a contract with a local distributor (such as Chipiku stores) who would be responsible for storing and selling handpumps at its existing outlets. It is expected that eventually the distributor could take over responsibilities for direct procurement of handpumps and ensuring quality control by providing a warranty on all pumps sold. The District Water Officer will ensure that sufficient handpumps are available at the distribution outlet.

Community Training.

Extension workers will continue to visit communities to assist in further mobilization and training. VHWC members will participate in a 3 day-training in groups of 3 villages at a time. Contents of these training sessions include: group dynamics, leadership skills, fund raising and management, training of the pump caretakers on maintenance of water and sanitation facilities and hygiene education. The VHWC will then assist in mobilizing the rest of the community to undertake the required activities prior to borehole construction. These include, labour during clearing of site and construction of the water point, contribution of locally available materials for the construction of the water point, construction of security fence, and the purchase of Afridev spare parts.

Preparation of Tender Documents for Drilling, Supervision and Small Works

The District Water Officer with other members of DEC will consolidate and forward procurement requests for drilling, supervision and small works construction to the central office of MoWD. It is expected that the rehabilitation and drilling of boreholes will be packaged in one contract for the entire district (and could possibly be further consolidated by the central office to include several other districts as well). In order to promote the participation of local contractors, small civil works will be packaged in groups of 10-20 communities.

Procurement of Drilling, Supervision and Small Works Contracts

The RWS Program will follow the procedures established between the GOM and the funding agency for the procurement of all goods and services. However, it is expected that this procurement will be initiated from the bottom, either from the community or the district offices.

Rehabilitation and drilling of boreholes by contractor)

The drilling contractor will be responsible for providing all materials for borehole construction, including the well casing. MoWD drilling standards will be applied. As a requirement for drilling to begin, communities will have to provide all required local materials at the site.

Drilling Supervision and Completion Certification

A drilling supervisor will be hired to oversee and certify adequate completion of all boreholes to agreed quality standards. A community representative will also sign the borehole completion certificate to be provided. A copy of the technical characteristics of the borehole will be left with the community by the driller.

Small Civil Works Construction and Handpumps Installation

MoWD's standard designs for the civil works will be applied. Wash slabs will only be constructed where communities provide the required number of bricks. The contractor will also be responsible for transporting the handpump to the community and installing it with the VHWC. The Water Monitoring Assistant will assist in handpumps installation and the exercise will be used as part of on-the-job training for the community. The community will have to purchase its set of Afridev spare parts before the handpump is installed.

Completion of Civil Works (Certification With Community)

Extension workers will help the community supervise the work of the small civil works contractor. Together with the community, they will certify that the works have been satisfactorily completed so that the contractor may be paid.

Other Community-Level Activities

The project expects to expand its range of community-level interventions to include other community development activities. However, these additional activities will be added on to the workload at a later date, once a proven implementation strategy has been established. These other activities include income generating activities, adult literacy, improved nutritional programs etc..

4.4.2 Gravity - Fed Piped Water Schemes

Gravity fed piped water schemes are constructed in areas where the population that has expressed the need for potable water are settled below a potential surface water source. Some areas which have already been covered by integrated borehole programmes but with the above characteristics may not be considered for GFS. It is deemed that the requirements for basic potable water supply to these areas will have been met. It is however, hoped that in future combinations of boreholes and GFS could be considered if the beneficiaries so demand and where resources are available. It is also hoped that in future GFS Policy will allow for in-house connections.

4.4.2.1 Rehabilitation of Existing Schemes.

Schemes that are old may need partial or full rehabilitation depending on their condition. Every existing scheme has a design life which is normally 10 years. After this the scheme may need upgrading.

Some pipelines in a scheme may be subject to frequent breakages or vandalism, thus paralysing part of the project. In some cases tanks may have developed severe cracks. Repairs to such kind of problems which would in general terms necessitate replacement or repair are considered to be partial rehabilitation.

If a project has surpassed its design life, it needs upgrading and/or replacement of whole main lines, hence the need for full rehabilitation. In this case there is need to go back to the drawing board for redesigning due to the nature of the work required. This may demand construction of new tanks, distribution lines, installation of additional taps etc.

4.4.2.2 Construction and rehabilitation of GFS.

The construction of a GFS will fall within a Project Cycle outlined below. A new project will follow all the steps outlined while for rehabilitation the steps to be followed will depend on whether it is partial or full.

The GFS Project Cycle

The Gravity-Fed Scheme Cycle has a lot of similarities to the borehole project as it involves the following:

1. Preparatory work
2. Design
3. District launch
5. Information dissemination to communities
4. Training of District implementation team (extension workers)
6. Formation of main committee
7. Community-Project Agreement signing
8. Procurement of materials

- 9 Mobilisation/orientation of the community
- 10 Marking of main and branch lines
- 11 Trench digging
- 12 Construction of intake , treatment works and tanks
- 13 Formation of tap committees
- 14 Verification of tap sites
- 15 Marking of tap lines/ digging and laying of tap lines
- 16 Small civil works construction and tap installation
- 17 Training of tap committees
- 18 Other community level activities

The Gravity – Fed Scheme cycle has been outlined in greater detail to show where it differs from a borehole project cycle in the write up that follows. The differences mainly arise from the type of technology used in the gravity –fed piped water schemes.

Preparatory work

Verification of Needs:

In some areas an assessment of existing requests for new and rehabilitation of existing schemes will be undertaken in order to estimate the broad scope of work required in the district(s). However, this work will not result in the provision of a final list of communities eligible for project support, since the community itself will have to decide whether or not to participate in the project after it has learned more about the project rules and procedures. Before construction commences, there is need to identify the extent of the problem in the target areas. A needs assessment survey will be conducted using participatory methods. In addition baseline surveys will be conducted by the implementing agencies together with the communities. Tools for the baseline surveys will include Participatory Rural Appraisal Techniques (PRA), questionnaires and focus group discussions. This will be followed by community mobilisation/sensitisation and awareness raising on the project objectives. In addition the expected role and involvement of the community in the activities will also be discussed. At the same time, a strength, weakness, opportunity and threat (SWOT analysis) analysis will be conducted. This will assist in the programme planning, choice of level of service and implementation procedure.

Design

The design for the piped water scheme will be based on the guidelines set out in the GOM Rural Water Supply design Handbook.

The implementing agency will take into consideration matters arising from the preparatory work wherever possible. The design is the sole responsibility of the implementing agency. The British Standards and other recognised standards should be used as references.

District launch

A one-day DDC meeting will be held to discuss: project objectives, community eligibility criteria and other partners responsibilities in the project cycle. Subsequent operation and maintenance, and the implementation strategy to be followed at the

district level will also be discussed. During the meeting, information flyers will be distributed to clarify project guidelines, as well as the standard Community-Project Agreement forms. The initial list of community requests prepared by the DDC will be discussed.

Training of District Co-ordinating Sub Committee (extension workers)

District officers of key ministries will be supported by MoWD CBM unit in training the district extension workers (Community Development Assistants, Health Surveillance Assistants and Water Monitoring Assistants). The duration of the training will be one week and will be undertaken within the project area. After being trained, the extension workers will be equipped with a series of training materials for use at the community level. In order to facilitate their mobility they will also be given bicycles or motorcycles as individual loans.

Information Dissemination to Communities

After training the District Co-ordination Sub-Committee and the agencies will facilitate dissemination of information on project rules and strategies and will also verify community-initiated requests for the piped water schemes. The flow of information to the communities will in addition be facilitated by the information flyers. Once the communities have been consulted and accept the project guidelines, a final list of community requests will be drawn up by the Chiefs and the DDC based on the funding available at that time for the district.

Formation of Main Committee

Once the district has compiled a list of community requests, extension workers will conduct meetings with the communities concerned to ensure their adequate understanding of the project. Communities will receive a copy of the Project-Community Agreement for review and discussion among themselves. The local co-ordination team of extension workers will then be responsible for the mobilisation of the communities and will facilitate the formation of the VHWC. During this planning stage the community will be assisted in choosing the appropriate level of service for water supply and sanitation. Community preferences for the siting of the taps will also be discussed. However, the total number of taps will be guided by the design of the project.

Community - Project Agreement Signing

Communities will be required to sign the standard Community-Project Agreement as a pre-condition for the procurement of construction activities. A copy of each signed Community Agreement will be forwarded to MoWD central office before proceeding with procurement of works (see Annex. 4B).

Procurement of Materials

Once the agreement has been signed, procurement of materials will commence. The Procurement of materials will be done by the GOM. The quantity, type and size will be according to bills of quantities prepared during the designs. The procurement procedures will be according to the guidelines stipulated by the particular donor agency.

Mobilisation/ Training of Communities

The Local Co-ordination Team of extension workers will be responsible for the mobilisation of the communities. The communities will elect branch committees with the help of the main committees. The branch committees will co-ordinate the election of the village committees. The main task of the committees is the efficient and proper organisation of the community contribution for any activity. The final location of the tap sites will also be decided by the community. The committees will be trained to enable them carry out their tasks efficiently. The training modules include; group dynamics , leadership skills, fund raising, maintenance of water facilities and hygiene education.

Marking of Main and Branch Lines.

Marking of main and branch lines will be done from aerial photographs . The lines should be as close as possible to that shown on the aerial photograph. River and gully crossings should be inspected and measured. Mainlines should be chained and pegged. Each peg distance between 30m should be numbered consecutively. Chaining should be done after clearing for accuracy.

Trench Digging

The marked line should be dug according to the following recommended trench depth; 0.75 metres for PVC lines smaller than 75mm and 1.00 metres for PVC lines above 75mm diameters. Excavated earth should be heaped on the uphill side on the trench. The trench should always be measured along the lower side. Adjust the actual depth of the trench, in case of fluctuations in the ground level to make the trench bed level.

Construction of Intake, T-Works and Tanks

The Construction of the intake, treatment works and storage tanks in some cases main lines will be done by contractors. Supervision of the Construction will be the direct responsibility of the Civil Engineer to ensure expected quality of the Construction. Siting of the intake, treatment works and storage tank is to be done by the Engineer. The sites cannot be changed by anyone without consultation with the Engineer. Completion certificate will be signed by the community for payment of the contractors. Co-ordination of the construction will be done by the co-ordinating sub-committee.

Formation of Tap Committees.

When branch lines have been constructed, Tap Committees will be formed. The branch committee will supervise the formation of Tap Committees. The responsibilities of Tap Committees are to organise the construction of tap lines, construction of taps aprons and washing slabs. The Monitoring Assistant will assist in tap installation.

Verification of Tap Sites

Tap sites are tentatively located on the aerial photographs during the design. The aerial photographs show the approximate locations of the tap. The exact location however, will be chosen by the community after discussions with the design engineer who will provide technical information on how best to select a good site to the community.

Ideally the tap site should be at a central place in a village, or at an intersection of paths. The tap site should not be more than 50m away from the site shown on the aerial photograph, to avoid a change in pressure due to difference in levels.

Marking of Tap Lines /Digging and Laying of Tap Lines

Having laid the branch lines, the project will now be ready for installation of taps. The implementing agency will already have established the total number of taps that the project will have (using RWS design Handbook guidelines). The exact positioning of the tap lines will be carried out as a compromise between the technical staff of the implementing agency and the communities. The tap committee will assist in the marking of tap lines, trench digging and laying of the tap lines. Marking the tap lines remains to be the responsibility of the community under the supervision of WMA.

Small Civil Works and Tap Installation

As part of capacity building, the project will promote an increased community participation and local builders participation in certain activities. These activities include: storage tank building, construction of intake, construction of filters, construction of supporting pillars/crossing, dealing with a rock problem, building of a dam, construction of a booster line, building valve chambers, building of a tap apron and a washing slab, and fitting of specialised connection. This will ensure the development and retention of capacity of skilled labourers closer to the communities, which is an important component for achieving sustainability. MoWD's standard designs for these works will be applied. The local builder will be supervised by the implementing agency with the assistance of the community. The local builder will only be paid upon filling in of a certificate of completion of various stages of civil works. The certificate will be signed by the contractor, the community and the Government.

Training of Tap Committees.

Prior to the installation of a tap, there is need to first construct the apron, drain and washing slab. The VHWC will assist in the training of the tap committee together with the implementing agency. The tap committee will be trained in cleaning the water point surroundings contribution of materials for the construction of tap apron, washing slab and the maintenance of such structures including the maintenance/replacement of the bib cock. The tap committee will also be sensitised on the need to purchase spares/cement for any repairs.

Other Community-Level Activities.

These have been outlined in section 4.1.1

4.4.3 Conjunctive Use of Boreholes and Gravity Schemes and Other Technologies.

The choice of using either Boreholes or Gravity Piped Water Schemes in isolation has some limitations. These limitations arise from either hydrological or hydrogeological factors.

Due to the prevailing weather conditions, a lot of dry spells have been experienced in Malawi. This coupled with poor land use management has rendered some catchment s to change in both the hydrological and hydrogeological patterns.

Streams that were once perennial and acted as feeders to gravity piped water schemes have now become seasonal. To complement such systems one would, therefore, look at whether the hydrogeology in the proximity of the original catchment area can act as sources of groundwater.

MoWD has also realised that boreholes that do not have water storage systems could not ably supply large populations that are concentrated in one area. In this regard the drilling of large diameter boreholes that have to be motorised is encouraged. The whole system should include a storage tank and some piping network from the storage point to lead to various villages.

The government would like implementing agencies to look at other areas of the hydrological cycle and see how each point of the cycle can be utilised as a water supply source. The most notable technology that has arisen from such observations is the Rainwater Harvesting which agencies should further explore. The use of water sources like springs is also encouraged.

The implementing agency should clearly explain options for water supply and the cost implications of each technology to be utilised to the communities since they are to be fully responsible for maintenance. It is important that the final choice of technology should, wherever possible, be left to the community.

4.5 Hygiene Education and Sanitation Promotion

Provision of water supply alone will not result in the desired benefits of improved health. It is therefore imperative to include sanitation and hygiene education.

Cultural beliefs and taboos, are believed to contribute to hindering progress on sanitation and hygiene education. This has been compounded by the limited resources available in this area. In order to forge ahead in the implementation of the hygiene education and sanitation promotion, a Knowledge, Attitude and Practice study will have to be undertaken before any intervention commences. The results will determine the type of technology and messages to be deployed and will also assist in establishing monitoring and evaluation tools. The KAP study will be done soon after the communities have signed the project agreement form.

This component will support the provision of various types of sanitation facilities in the villages, households and primary schools. The provision of these facilities will be integrated with the promotion of their utilisation and other hygienic messages that will promote good behavioural change. The component will be implemented together with all types of water supply interventions.

4.5.1 Sanitation at household level

To maximise benefits of water supply interventions, sanitation and hygiene will be promoted. The integrated approach will ensure improved health and environmental protection.

Sanitation will be promoted through the VHWC which will have two of its members trained as sanitation artisans. The VHWC together with the extension workers and the local contractor will promote the construction of the sanitation facilities. They will be trained specifically in skills for constructing pit latrines, casting of sanitation platforms and slabs and construction of other sanitation facilities. These skills, will be used to assist other villagers in casting their own sanitation slabs and platforms and for supervision of small contractors.

The training will be facilitated by a team of extension workers working in that catchment area. The training methods to be used will be participatory techniques and training for transformation techniques. The training materials are standardised as detailed in the Training and Capacity Building section.

The environmental sanitation facilities to be promoted are:-

- improved pit latrines (pit latrines with sanitation platforms/slabs and hand washing facilities.)
- garbage pits
- bath shelters
- dish racks

The choice and type of facilities to be promoted will depend on particular situations. However each household must be encouraged to at least own an improved pit latrine. Details of construction of a pit latrine domes and slabs are in the Technical Manual. Local artisans will be utilised for the other facilities that are already common in the communities such as the dish racks, bath shelters and kitchens.

Hygienic practices to be promoted are:

- hand washing after using pit-latrine and handling of child faeces
- hand washing before eating anything
- hand washing before preparing meals
- washing of vegetables and fruits
- frequent baths (daily)
- 2 cup system for drinking water.
- Sweeping of houses and surroundings and proper storage and covering of drinking water will be promoted.

All the facilities and practices to be promoted will take into consideration gender needs and the cultural beliefs and taboos in that particular society .

4.5.2 Sanitation at Village level

Sanitation at this level will be a community effort unlike the household sanitation component. Provision and management of these facilities will be along the same lines as that for water supply.

For the villages the sanitation facilities to be promoted will be the following:

- drainage facilities at the water points
- drainage facilities for the village in general to avoid pools of water around the households
- security facilities for the water points to avoid animals from using the same water facility
- animal drinking troughs where the available water supply can allow.

The provision of these facilities will also be promoted through the VHWC and the team of extension workers who will facilitate the implementation of the programme. The water points that do not have proper drainage facilities need to have some constructed. This will comprise washing/laundry facilities, drainage channels, soak-away pits or gardens at the end of the drainage channels.

Management of the excess water at the end of the drainage channel will take into consideration the differences in soil types and infiltration rates from one area to another.

4.6 Catchment Protection and Environmental Issues.

Catchment protection will be promoted to ensure good quality and quantity water resources and sustainable water supplies. Sanitation facilities that will be promoted will protect the environment from pollution thus ensuring improved quality of the water.

The activities that may be promoted will be extension services to assist in protecting and conservation of agricultural land that is at risk from erosion.

4.6.1 Primary Environmental Care.

The growing population of Malawi is putting a lot of pressure on the limited land available. This is forcing settlements to be opened in areas that were originally designated as protected areas and these include: river banks, dambos and the steep slopes. The community will be empowered to take up the protection of the environment to curb further degradation

The communities will be encouraged to set their own bye-laws and monitoring activities to control any adverse activities that promote environmental degradation. Positive action to address some of the negative practices include :

Replacement of natural vegetation through wood lots on every household plot, wood lot for the village. For example a nursery for these could be established at a tap point for the community as well as at a tap point in a school. Nurseries in schools could be managed by the pupils with the assistance of teachers and the school committees already established in most schools. Excess water from the water point could be used to irrigate the nursery. Pupils could, therefore, be provided with seedlings to take home so that

they establish their own wood lots with their parents. Other catchment protection measure are:

- planting of grass on river banks.
- discouraging cultivation and settlement in protected areas.

Thus all these activities will have to be done by the communities using the existing institutions.

4.7 Choice of Technology and Standards

In community water supply and sanitation the choice of technology is essential for sustainability. Selected technology should be appropriate, that is, it should be simple enough for communities to operate and maintain, but also affordable. The following factors need to be considered in the selection of technology in the sub-sector:

- Communities should be provided with adequate information to enable them make an informed choice on the appropriate technology.
- Existing non standardised technologies will be replaced by appropriate technologies during rehabilitation of existing facilities.
- Where facilities are protected, assessment will be done on their condition and remedial measures prescribed. Where there are no existing protected sources, new ones will be constructed.
- The chosen technology should be appropriate (but reliable enough to provide expected results to the community especially in terms of subsequent operation and maintenance)
- The government of Malawi has standardised a few technologies that can be utilised in rural water supply. The standardisation includes the use of PVC in borehole casing and piped water systems. It also involves use of Afridev pumps for deep wells and Malda for shallow wells. In institutions such as schools and health centres use of Climax pumps is recommended.
- Other types of pumps that are solar or wind driven can be considered. However research and studies need to be conducted in order to come up with the technology best suited for the country's and user's needs and sustainability.

Since there is no policy on sanitation, standardisation of sanitation technology has not been made. However, the ministry responsible for environmental health advocates and promotes the use of the following standards:

- sanplats/slabs on pit latrines in areas where soils are stable at household level
- dome slabs on pit latrines in areas where soils are loose at household level
- VIP's at institutions such as schools and health institutions
- Lined refuse pits and incinerators at institutions
- Ordinary refuse pit at household level

5.0 FINANCIAL ARRANGEMENT

One of the fundamental problems faced in Malawi for accelerating coverage is that of lack of adequate financing for rural water supply and sanitation. This is compounded by the fact that previous investments (many of which were donor supported) have mostly fallen into disrepair. This strongly suggests that the financing mechanism and strategy must be developed in such a way that it ensures sustainability. At the same time, the project funding limitations, and the inability of the poor to pay for the capital and often the recurrent costs of services indicates that the financing strategy must be sensitive to the plight of the poor.

The RWSSP policy should be based on increasing coverage and promote effectiveness of investment allocation in the water and sanitation sector. This can only be achieved if ensuring sustainability is taken as a primary goal. Sustainability can be promoted by shifting away from dependency on Government towards greater self-reliance by user communities. The RWSSP provides a framework within which Community demands for services in the project cycle; planning, design, construction, operation and maintenance of improved water supply and sanitation facilities can be met, and through which financial assistance for capital and recurrent costs can be channelled.

5.1 Cost Sharing Principles

The principles for cost - sharing with the communities of the initial capital costs should be maintained and encouraged. This in essence implies that Communities shall be sensitised not to solely depend on Government and other support agencies for provision of water supply and sanitation services in rural areas. Communities will further be made aware of the Government financial support, which will be restricted to a level equal to the per capita costs of the basic service. All other costs in excess of this basic level, including those for higher service levels will be borne by the users. These principles are fundamental for the sustainability of rural water supply and sanitation services.

Sustainability of water supply and sanitation facilities is very much dependent on community participation. In financial terms this means the communities will be encouraged to contribute towards capital cost and all of the recurrent costs of their water and sanitation services. These community contributions also encourage effective resource allocation by making communities weigh up costs and benefits of services.

5.2 Community Contributions.

In order to build community confidence, the community contributions will be collected when the project has been initiated, (i.e. when counter funding is available and the first phases in the project cycle, up to Project Agreement signing, have been achieved). Payments will be made only after the water source has been satisfactorily tested for capacity and quality.

5.2.1 Capital costs

Community contributions towards capital costs shall total at least 5% of the total costs of the basic water facility, which may be a borehole or a piped water scheme. This contribution may be made at least partly in cash, but may also be contributed partly or wholly in kind. In gravity fed piped water schemes part of the 5% will be covered through labour such as trench digging, laying of pipes as well as provision of local materials such as sand, aggregate stone, bricks etc. In groundwater facilities it is the provision of security for the drilling equipment and locally available materials as for gravity schemes.

For higher levels of services the users will bear 100% of the costs. This means that costs for individual connections to the gravity fed piped water schemes shall be borne by the users. The same applies for mechanisation of boreholes. For basic sanitation facilities, the capital contribution shall be 50% of the capital cost and 100% for higher service of facilities. Construction will commence once the community meets its obligations.

The above-specified contributions have the following benefits:

- If proportional to capital costs, they serve as a guide to help communities choose a system that is within their financial means.
- They provide an indication as to whether or not beneficiaries will be willing and able to raise the funds required to maintain their systems (being about the same amount as a community would need to raise in future to cover recurrent costs).
- They provide a basis for community ownership of the system.

The breakdown of the contribution is given in table 5.1

The cash equivalent of the total contribution must be deposited in a joint signatory account. Preferable signatories include the Treasurer and Chairman of the VHWC, and the Village Headman who is the ex-officio member of the VHWC. If a community meets its obligations on schedule and in surplus, the cash equivalent of its contribution will remain in its account and can be used to pay for operations and maintenance. In some cases, cash to cover the in-kind contribution should be encouraged. If cash is not available, and a community's in-kind obligations are not met on schedule due to negligence, construction should be suspended until payment is made. Where communities are unable to meet these obligations, a socio-economic study shall be conducted. Where it is justified and shown that the communities are living below poverty line, the government or other funding agencies shall intervene by raising its funding levels.

Table 5.1

Community Contributions are presented in the following table.

Facility Type	Estimated Cost	Percentage Contribution	Total Contribution	Equivalent cash of in-kind	Cash total	Per capita
1. Community Water Supply:						
Borehole-handpump	160,000	5	8,000	4000	4000	16
Gravity piped water scheme (10,000 users)	10,000,000	5	500,000	400,000	100,000	10
Mechanized borehole		100	Actual	Actual	Actual	
Individual connection		100	Actual	Actual	Actual	
2.0 Sanitation: Public toilet (VIP)	15,000	50	7,500	5,500	2000	2
Household toilets (with sanplat)	1200	50	600	600	0	0

5.2.2 Recurrent costs

The community will take full responsibility of all recurrent costs of operation and maintenance of boreholes, taps and other relevant facilities. Before the installation of the handpump or the tap, the community will contribute cash enough for one years-operational cost. This will be equivalent to 10% of the cash equivalent of the capital contribution. The collection of the funds shall be the responsibility of the VHWC. This amount shall be deposited in the community's account at a local banking agency and will have the same signatories as for capital investment. For users with higher levels of services, they will pay for the operation and maintenance in full as required. The individual connections to gravity fed piped water schemes shall be metered. Where meters are not feasible, a monthly flat rate, that will cover O&M will be charged and paid to the Treasurer.

Communities shall be sensitised on different fund raising activities. The money realised would help in the management of operation and maintenance.

5.3 Channelling of Funds.

To a large extent the RWSS Program and the financing/executing agency will govern the financial arrangement. The Ministry of Water Development shall provide guidelines to donors and NGO's for accessing the most needy districts/communities and possible technological options, which could be developed.

Funds for water supply and sanitation development may be channelled through the Ministry of Water Development or directly to the DDC which will in turn deposit them into the District Development Fund (DDF). There shall be four signatories to the account for water supply and sanitation development. Two signatories will be from the government side and two from the user community.

The District Commissioner (DC), as the chairperson of the DDC, will be the controlling officer. The DC and the District Water Officer will be the signatories on the Government side while the community will choose their own. For purposes of withdrawing funds from the account, signatories at any such time will either be the DC or the DWO with one of the alternate signatories. No cash withdrawal will be allowed should this requirement be breached. The DC should approve all financial transactions.

Communities shall identify the need for water supply and improved sanitation. They will communicate this requirement to the DDC through the Area Development Committee (ADC) or any other established Mechanism in the area. The DDC will analyse and assess the request before forwarding it to the Ministry of Water Development for funding on a cost-sharing basis.

In the long term, all districts will play a major role in pre-financing rural community water supply and sanitation programs and supervising, planning and construction contracts. At present, this may not be feasible in some districts, until such a time that all

districts have the financial and human resources and the private sector capacity to help the communities plan and construct their systems. DDC participation will therefore be built up in stages depending on the available capacity.

5.3.1 Donor Funds

The Ministry of Water Development shall identify a donor and will accordingly inform the DDC of the availability of funding. The ministry shall regularize funding sources identified by communities.

Adequate financial resources will be allocated out of the total project cost for supervision by national and regional staff in the line Ministries. Allocation of financial resources will depend on the number of technical visits and geographical location from Headquarters and Regional Offices.

Though funds will be channelled through the DDF, no funds intended for water supply and sanitation development shall be used for any other projects other than what was it was originally intended for. The DDC will be required to submit regular written financial expenditure returns to the Donor. The financial books will be audited regularly by a private company.

6.0 MONITORING AND EVALUATION

Monitoring and Evaluation are important tools for management and improvement of both projects and existing services. Knowledge of the progress and performance of a project is essential for its effectiveness and completion. Details of water supply and sanitation facilities pumps, taps (and committees) are required so that proper action is taken. Monitoring and evaluation are continuous processes, which should be built-in from the very beginning of every project. Monitoring is an ongoing activity and it provides a continuous picture as to whether projects or services are proceeding or functioning according to the plan or not

Evaluation is carried out at intervals either in response to a problem or when a project phase or period is completed. Monitoring is an internal activity, whereas evaluation may be carried out also externally or in a combination. It is a tool necessary to review the process and status of implementation. This ultimately aims at reviewing the activities on water, sanitation, hygiene, the environmental protection at community level.

Monitoring and Evaluation data are not to be used as a tool for criticising communities and/or staff because progress or performance are below expectation or average standards. This actually may result in the people not collecting reliable information in future. Instead, the focus should be on learning, and on adapting and improving procedures, activities and results.

6.1 Monitoring

6.1.1 Broad Objective

The broad objective of monitoring is to provide reliable information on the status of water supply and sanitation services at community, district, regional and national level.

6.1.2 Specific Objectives are:

- (i) to check the water and sanitation committees.
- (ii) to ascertain the continued functioning of the district maintenance support to the community.
- (iii) to check the coverage of service on water and sanitation.
- (iv) to check the use of the available water and sanitation facilities.
- (v) to check quality changes and ascertain suitable sources.
- (vi) to check the performance of water and sanitation facilities.

6.2 Evaluation

6.2.1 Broad Objectives

The broad objective of evaluation is to assess the impact of the project during and/or at the end of the project.

6.2.2 Specific Objectives

- to compare achievement to goals/target
- to find out problems encountered during implementation.
- to carry out assessment on the impact on living standards such as reduction of water related diseases, reduction on time spent and distances walked for water collection.
- to come up with recommendations for improvement of existing and future projects.

A good monitoring system will provide a valuable basis for evaluation of water supply and sanitation projects. Every project should have mid term and end of project evaluations done; preferably conducted by both the beneficiaries and external evaluators. For community-level and project-level evaluations the active involvement of all people concerned is essential. The lessons learnt during mid term evaluations should be utilised to review and redirect if necessary the project implementation.

6.3 How to Carry Out Monitoring and Evaluation In Sub-Sector

As tools to support and improve the project performance, monitoring and evaluation should be done in partnership with communities. Women, men and village leaders should participate in information collection and analysis. The VHWC will spearhead monitoring at community level.

6.3.1 Indicators

Monitoring indicators are required to measure or point out progress impact and effects. These indicators should be based on the project objectives. Some of them are as follows:

6.3.1.1 General Information

- population served
- number of villages served
- number of water points installed
- number of sanitation facilities installed
- number of Specialised Committees formed
- number of Specialised Committees trained

6.3.1.2 Water Supply and Sanitation Facilities

- sufficient water available or not and at what times
- type and frequency of breakdowns
- general operation
- repairs (ease, frequency, waiting time)
- quality of water.
- types of sanitation facilities (housing, fencing, drainage and surrounding).
- utilisation of sanitation facilities.

6.3.1.3 Managerial Performance of Committees

- frequency of committee meetings, active attitude of committee and gender representation
- recording of contributions/ payments, book keeping
- accountability.
- Number and types of committees.
- Available funds

6.3.2 Methods of Data Collection.

Communities should be encouraged to keep record books not only for local funds but also on water and sanitation within their respective villages such as number of families covered etc.

Data and information for baseline and continuous monitoring and evaluation, can be obtained using the following methods:

- PRA methods
- interviews
- pre-designed monitoring forms
- checklists
- questionnaires

For effective and reliable collection of data by people directly concerned, it is important to be aware of the natural human tendency to ignore information that warns of poor performance or to exaggerate positive developments.

6.3.3 Reporting

To ensure that communities are involved in monitoring, a mechanism should be put in place for their involvement in some analysis of the data. The suggested method is to ensure that before extension workers collect the filled monitoring forms from the villages a meeting should be held with the community to discuss the data. Similarly at district level the collected information should be discussed and consolidated before forwarding it to the regional level.

At village level, monitoring by the community and its water/health committee will be done monthly. The suggested frequency for collection of the monitoring data from the village by extension workers is also monthly. At district level the information will be consolidated and then sent to the regional level for analysis and feedback. From regional level, reporting both narrative and as data files, will be done quarterly to the national level. Field visits will also be encouraged for extension staff, supervisors and national staff.

6.4 Structure of The National Monitoring System

Existing staff in the line ministries will be utilised for monitoring water supply and sanitation services. This will include all extension workers of all the involved ministries at community level, the supervisors at district level and the regional staff.

Monitoring and Evaluation Unit within the Ministry of Water Development will reconcile and consolidate all data collected

Communication will go along the lines as stipulated in the figure 2 and 3. Figures 2 gives details of reporting including line Ministries while Figure 3 gives the overall Monitoring of the sector for both the community institutions and the Ministries.

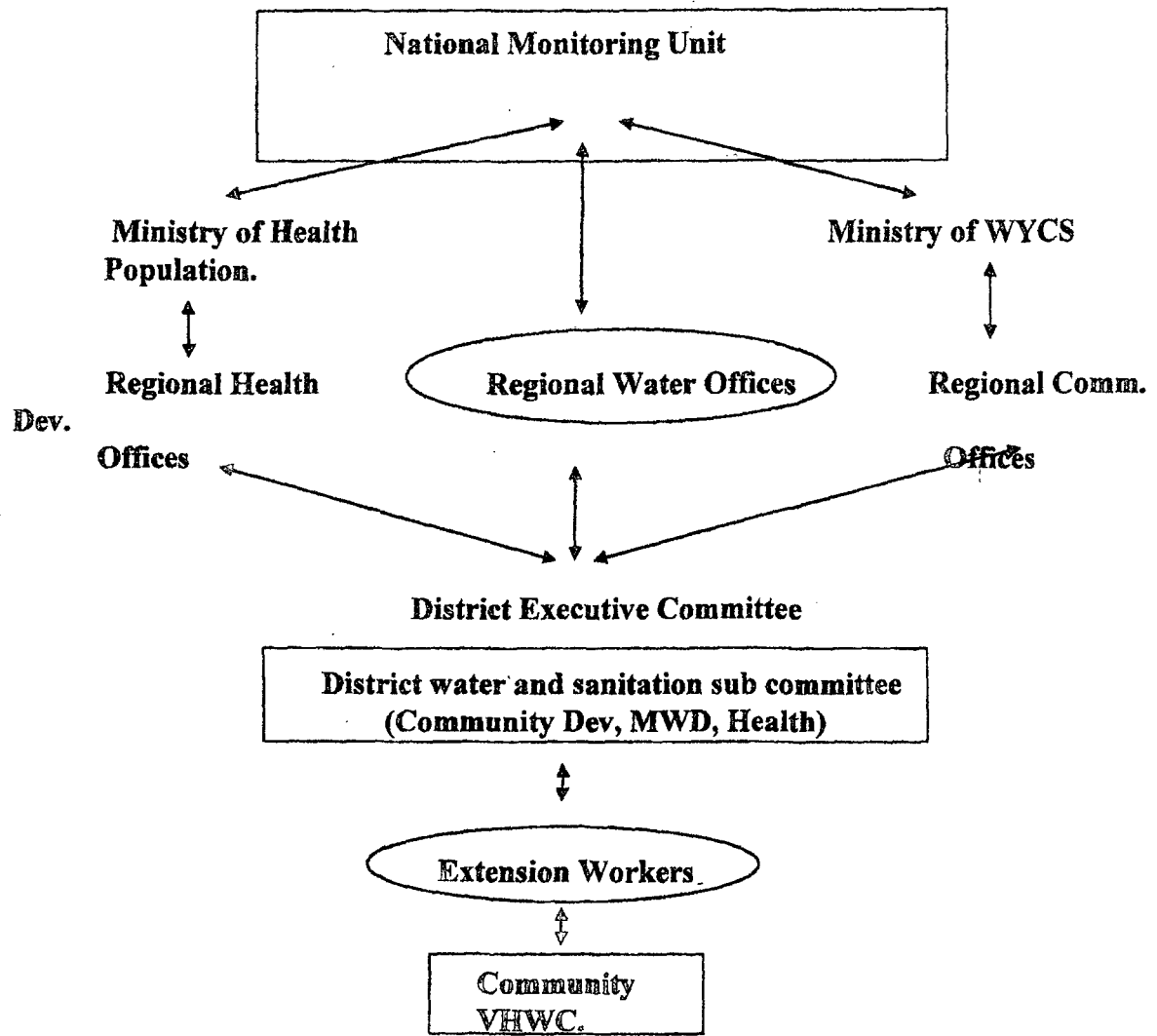


Figure 2 Structure of the National Monitoring System

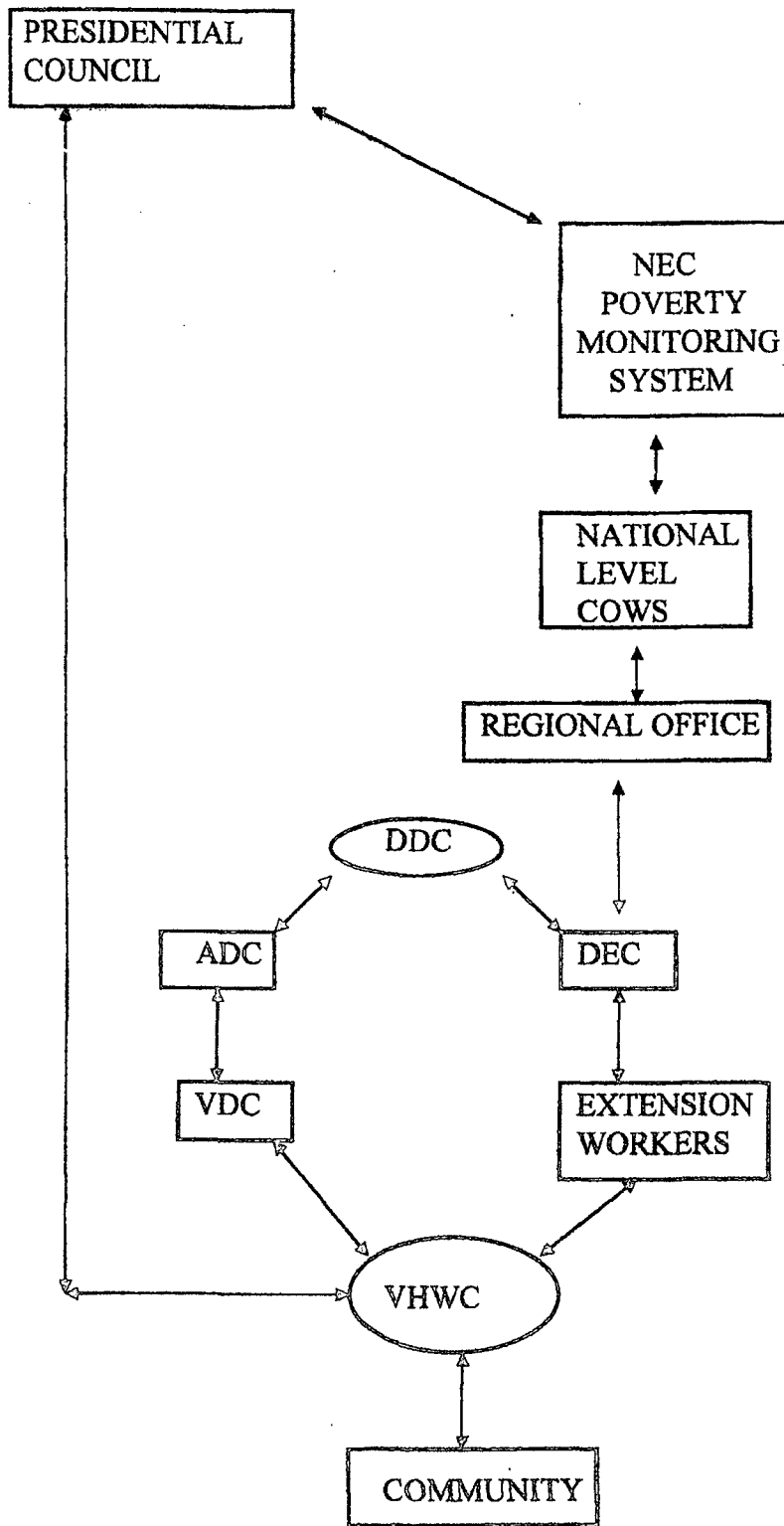


Figure 3 Overall Monitoring System

ANNEX 1a

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY PROGRAMME**

INFORMATION FLYER

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY PROGRAMME**

INFORMATION FLYER

If you are experiencing water problems in your village/area and you would like Government to assist. There is a chance through the Rural Water Supply Component.

Criteria for a New Borehole

Your village should not have a protected source of water supply within an radius of 500 metres. The population of your village should not be less than 250 people.

Conditions

Ministry of Development will assist if you are willing to:

take full responsibility of the water point including an active role during the construction and operation and maintenance period of the borehole.

form a village health and water committee.

make financial and material contribution towards construction and maintenance (as in Project Agreement Form).

attend training courses.

assist in contracting and supervision of the contractors,

Criteria for rehabilitation of existing boreholes:-

If you have a borehole and are experiencing problems such as:-

Inadequate water coming out.

Frequent breakdowns of handpumps

Have to wait 5 minutes before filling a 20 litre bucket.

Your borehole requires rehabilitation!!

Government through the Ministry of Water Development will assist you have clean and safe water supply.

If you are willing to take part and agree to the above conditions, contact the Water Monitoring Assistant or the Health Surveillance Assistant or the Community Development Assistant in your area (Traditional Authority).

ANNEX 1B

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

INFORMATION FLYER

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION**

INFORMATION FLYER

If you are experiencing water problems in your village/area and you would like the Government to assist, there is a chance through the.....
Rural Water Supply and Sanitation Component

Criteria for new Piped water Scheme

Your Village/Area should not have a concentration of portable sources of water supply within a radius of 500m in various villages.

There should be a perennial stream with its source located in a protected Catchment.

Conditions

The.....will assist if you are willing to:

- take full responsibility of the water point including an active role during construction, operation and maintenance period of the scheme.
- form a Village Health and Water Committee
- make financial and material contribution towards construction
- attend training courses
- assist in procurement and supervision of the contractors

Criteria for Rehabilitation of existing Scheme:

If you have a piped water scheme and are experiencing problems such as:

- Inadequate water coming out of the tap/or water only coming out at certain times of the day
- Frequent breakages on the piping
- You have to wait on long cues just to draw water from the tap
- Your Water Scheme needs rehabilitation

If you are willing to take part and agree to the above conditions, contact the Community Development Assistant in you area.

ANNEX 2

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME
COMMUNITY REQUEST FOR BOREHOLE(S), PIPED WATER
SCHEME(S) AND PIT LATRINES**

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

**COMMUNITY REQUEST FOR BOREHOLE(S), PIPED WATER SCHEME(S) AND
PIT LATRINES**

District.....Traditional Authority.....Village.....

I Village Headman of..... Village on behalf of

people of Village certify that the people of this village having

read the information in the INFORMATION FLYER given are requesting for

construction of..... borehole(s)

rehabilitation of.....borehole(s)

construction of.....piped water schemes

rehabilitation of.....piped water schemes

support to construct.....pit latrines

and agree to the conditions provided in the Information Flyer.

On behalf ofVillage

On behalf of the Water Project

Signed.....

Signed.....

Designation

Designation.....

Date.....

Date received.....

ANNEX 3

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

**COMMUNITY BASED MANAGEMENT STRATEGY
COMMUNITY-LEVEL MOBILISATION AND TRAINING
REQUIREMENT**

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAM**

**COMMUNITY BASED MANAGEMENT STRATEGY
COMMUNITY-LEVEL MOBILISATION AND TRAINING REQUIREMENT**

1. Community mobilisation and training for project implementation before siting and drilling for entire community
 - project promotion, dissemination and discussion of project rules
 - outreach to ensure inclusion of all community members and community mobilisation to provide sufficient information to allow members to decide if they would like to participate in project
 - discussion of community ownership of water system and required contributions, responsibilities in project implementation and subsequent O&M.

* proceed only if all community members agree

support to community in understanding the functions of the VHWC and selecting a gender-balanced VHWC .

assistance to community in submitting community-project request form, to be signed by members of VHWC (or project committee?)

- promotion of sanitation through hygiene education.
- discussion of community role in borehole siting, and oversight of drilling and civil works contractors.
- Baseline data collection for Monitoring and Evaluation.

Relevant for: VHWC (or project committee) members

- leadership skills and responsibilities
- organisation of community for collecting contributions (materials for apron and washstand, cash for spares, participation in borehole siting and supervision and construction of fence).
- problem solving: how to handle people who are unwilling to contribute
- financial management (only for relevant members of committee)
- in some cases, how to open bank account, purchase materials, select and supervise contractor (pilot areas with MASAF and NGO support)
- assistance in siting and latrine construction (if requested)

2. **Hygiene Education** - throughout project implementation for entire community (or target groups such as mothers, children, pump caretakers, etc.)

- if M and E is to be undertaken, collection of baseline data by community members
- explanation and analysis of water and sanitation related diseases
- improve hygiene practices : water handling, hand washing, bathing, waste water disposal

- safe excreta disposal/promotion of latrines
- waterpoint sanitation: fencing, cleaning, drainage, soakpit and garden

3. **Administration, operations and maintenance of water point - during handpump installation (relevant for VHWC or Borehole Committee Members) :**

- familiarisation with handpump parts
- borehole O & M and preventive maintenance
- where to purchase spare parts and where to go if there is a problem
- Motoring and Evaluation.

ANNEX 4A

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

WATER PROJECT AGREEMENT

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

WATER PROJECT AGREEMENT

District.....Traditional Authority.....Village.....
I/We Village Headman of..... Village on behalf of
people ofVillage have reviewed the information provided by MWD and
understand the conditions for requesting a water point (s) and latrines. The village understands
that this is a community- based project and that it will take the lead in all decision making.
We certify that the people of this village have requested for construction/ rehabilitation of
borehole(s) and the support to constructingSanslab/dome for pit latrines.

We agree to the following :-

- form a democratically elected and gender balanced Village
- Health and Water Committee (VHWC) attached list of members.
- Contribute 2% towards the construction of the borehole
- Participate actively and provide leadership in all phases of waterpoint implementation
- Select and clear the site for the borehole.
- Purchase the first year supply of spare parts before the hand pump is installed
- Provide security for the plant and equipment during construction
- Provide locally available building materials (bricks, sand, crushed stones and water) for construction of an apron, drain and washing basin/slab.
- Supervise borehole drilling and civil works contractors
- provide materials and construct fence around water points
- take full responsibility of management and maintenance of
- the hand pump(s) and the surrounds
- Participate in all community mobilisation and training events.
- Assume ownership and full responsibility of management and maintenance of the handpumps and the surrounds.

In addition, each family that requests a latrine will be responsible for digging the pit, providing materials and constructing the superstructure.

The project shall provide the following:-

- technical expertise to verify chosen site, construct / rehabilitate the borehole(s), build the apron, drain and washing basin / slab
- Expertise, skilled labour and materials for the construction / rehabilitation of the borehole, apron, pumpstand, wash basin and sanslabs for latrines (based on requests - pits will have to be dug first)
- Afridev / Malda hand pump(s) for each borehole.

- training in organisation, leadership, financial management, hygiene education and hand pump operation and maintenance materials and expertise

On behalf ofVillage

On behalf of the Water Project

Signed.....

Signed.....

Designation.....

Designation.....

Date.....

Date.....

ANNEX 4B

MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME

WATER PROJECT AGREEMENT PIPED WATER

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAMME**

WATER PROJECT AGREEMENT PIPED WATER

The project shall provide the following:-

- 1 Technical expertise during the project cycle from Preparation- Appraisal/ Approval- Monitoring- Evaluation- Completion.
- 2 Advise on skilled labour to be engaged.
- 3 Pipes fittings, materials for other structures within the project area and only those which are not locally available.
- 4 Training in Organisation, Financial management, Hygiene Education and Operation of the system (Treatment Works where applicable).

We agree to do the following:-

- 1 Form a democratically elected and gender balanced VHWC for all villages where the pipelines will pass through and Main Section Committees.
- 2 Participate actively and Provide leaders in all phases of water structure implementation.
- 3 Dig, lay pipes and backfill pipelines.
- 4 Select and clear sites for tanks, crossings, and water points including washing slabs.
- 5 Provide locally available materials for tanks, tap aprons, soakaway pits, intakes (e.g. bricks, sand, water, stones).
- 6 Supervise labour Contractors, and the Community in excavation of trench, pipe laying, back filling and protection of pipes.
- 7 Participate in community mobilisation and aid training events.
- 8 Assume ownership and full responsibility of management and O & M of the Scheme facilities including employing Caretakers for the intake.

On behalf of..... VGE
Signed.....
Designation.....
Date.....

On behalf of the Water Project
Signed.....
Designation.....
Date.....

ANNEX 5

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAM**

**CERTIFICATE OF COMPLETION
BOREHOLE WORKS**

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY AND SANITATION PROGRAM**

**CERTIFICATE OF COMPLETION
BOREHOLE WORKS**

This is to certify that.....Contractors have satisfactorily completed the drilling / rehabilitation of number..... borehole(s) to a depth ofmetres and the following materials have been installed

plain PVC pipes (number).....3m lengths (.....metres)

slotted PVC pipes (number)..... 3m lengths (.....metres)

Gravel pack (number)..... buckets (.....cubic metres)

Borehole number.....

Village.....

Traditional Authority.....

District.....

Name.....

Signed.....

On behalf of
Community..... **Contractor**..... **Government**.....

ANNEX 6

**MINISTRY OF WATER DEVELOPMENT
RURAL WATER SUPPLY PROGRAM**

**CERTIFICATE OF COMPLETION
(Civil Works)**

MINISTRY OF WATER DEVELOPMENT

NATIONAL WATER
DEVELOPMENT PROGRAM

RURAL WATER SUPPLY

CERTIFICATE OF COMPLETION
(Civil Works)

This is to certify that.....(Contractors) has satisfactorily

- completed the construction of an apron, drain, washing slab/ basin and livestock drinking trough for each borehole.
- The contractor has also installed an Afridev hand pump on each borehole and has trained at least 3 members of the VHWC in handpump installation and preventive maintenance.
- Cast San Slabs/dome

Borehole number.....

Village.....

Traditional Authority.....

District.....

Name and signatures of persons trained:

Name.....

Name.....

Name.....

Signed.....

Signed.....

Signed.....

On behalf of the community Contractor Government