DRAFT

GOVERNMENT OF MALAWI
MINISTRY OF WATER DEVELOPMENT

COMMUNITY BASED
RURAL WATER SUPPLY, SANITATION AND HYGIENE EDUCATION

IMPLEMENTATION MANUAL

Ministry of Water Development
Private Bag 390
Lilongwe 3
Malawi

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Acronyms and Abbreviations

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

PREFACE

The Rural Water Supply, Sanitation and Hygiene Education Implementation Manual aims at providing guidelines and assistance to any Implementing Agency in the development of the Sector.

The Manual is complemented by the Technical Design Manual and the Community Based Management training Manuals.

The main document provides assistance in the processes to follow in community mobilisation, training and capacity building, technology and monitoring and evaluation when implementing a community based water supply and sanitation project using the demand responsiveness approach.

The Techical 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 manuals provide basic reference materials for training at different levels.

These are not exhaustive and as such should be read in conjunction with other technical manuals available on the various technologies to be adopted. Further reference should also be made specifically to the Rural Water Supply Design Handbook (1990).

These Rural Water Supply Manuals are subject to review periodically based on lessons learnt during its testing, period which rains for from 1998 to 2001.

Table of Contents

		Page Number
Acronyms and Abreviations		
Preface		
1.0	**Introduction**	**1**
1.1	Background	1
1.2	Implementation Approach	4
2.0	**Policy Framework and Objectives**	**7**
2.1	Objectives	7
2.2	Policy Statement	8
3.0	**Organization Structure**	**11**
3.1	Organization and Strengthening of implementation teams	11
3.2	Community Organisation	12
3.3	Institutional Organisation	13
3.4	Service Delivery	17
4.0	**Implementation Strategies**	**18**
4.1	Implementation Guidelines	19
4.2	Training and Capacity Building	22
4.3	Choice of Technology	23
4.4	Groundwater Supplies	24
4.5	Gravity-fed Piped Water	31
4.6	Conjuctive use of Borehole and GFS and other Technologies	37
4.7	Sanitation and Hygiene Education	38
4.8	Catchment protection and Environmental issues	41
5.0	**Financial arrangement**	**42**
6.0	**Monitoring and Evaluation**	**46**
6.1	Introduction	46
6.2	Objectives	46
6.3	How to carry out monitoring in the Water and Sanitation Sector	47
6.4	Structure of the Monitoring System	50

List of tables

1 Training schedule
2 Service delivery options
3 Borehole costs
4 Community Contributions

Annexes

1(a) Information flyer boreholes
1(b) Information Flyer piped water
2 Community request
3 Community Based Management Strategy
4 (a) Project agreement form Boreholes
4(b) Project agreement form Piped Water

1.0 INTRODUCTION

The rural water supply sub sector in Malawi has had a lot of investments in the previous years especially during the International Drinking Water Supply and Sanitation Decade, (IDWSSD). Just like many other countries like it, the facilities have not been sustainable. The Government of Malawi in an effort to coordinate and improve the situation had a Water Services Sector Study carried out in 1994. The study highlighted the problems in the sector which are tantamount to sustainability. It was noted that lack of ownership and community involvement were the paramount problems in sustainability

Lack of policy, coordination and guiding principles in the sector has led to sub-standard facilities installed, inappropriate technologies adopted and the whole process adopted may be detrimental to the sustainability of the sector. A lot of recommendations came up from the WSSS study and one of which led to the development of the Water Resources Management Policy and Strategies (Ministry of Works, Supplies and Water Development May, 1994).

There are a lot of players in the sector from implementing agencies to donor agencies whose activities are governed by their parent organizations. This has led to donor agencies imposing their rules and regulations which are adverse to sustainability. In an effort to coordinate activities by different players in the sector, the Government of Malawi with the financial and technical assistance from the World Bank credit under the National Water Development Project has developed this draft Implementation Manual.

1.1 Purpose Of The Manual

The Community based rural water supply, sanitation and hygiene education implementation manual is part of two other documents that complement each other - the main document, which is divided into two sector and the technical design manual.

The Main Community Based Manual

This implementation manual is expected to harmonize efforts by different donor and implementing agencies in the development of the sector. The objectives of these documents are to assist the different players in

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

This will ensure that all players in the sector will have guiding principles in order to achieve the Government of Malawi's objective of provisions of sustainable water services to the rural communities.

The Technical Design Manual

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

The Rural Water Supply Manual is complemented by the **CBM Training Manuals** which are:

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

The training manuals have been developed to provide basic reference materials for training at different levels. The Trainer of Trainers is for use by the trainers of District Implementation Teams.

The Extension Workers Guide provides reference material for extension workers when training the Communities.

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.

Background

The coverage of water supply and sanitation is generally low in Malawi with less than half of the rural population with access to safe and adequate water supply and almost none with adequate sanitation.

The rural water supply and sanitation sector will be developed under the general policy guidelines of the "National Water Resources Management Policy and Strategies", 1994.

Situation summary

Malawi's estimated 1997 population of 11 million is 85% rural based. The Government of Malawi is committed to alleviating poverty in Malawi especially to the rural people through provision of adequate social services of which water supply services is high on the agenda.

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. The same commitment by government for water supply, applies for basic adequate sanitation. Higher levels of such services are available only when communities agree to their appropriateness for which they confirm their willingness to pay in cash and/or in kind.

Up to 47% of the rural population have access to safe drinking water supplies but this figure is greatly reduced by non functional water facilities and geographical distribution. The majority of rural people 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 with only 4% having an improved latrine. About 7 million are in need of an improved system of excreta disposal. Other people still rely on forests and bushes, rivers and lakes for their feacal disposal.

Demand for safe drinking water and improved sanitation in rural Malawi is very high and in most cases the Government has not been able to satisfy this demand using its own resources. Therefore the development of the sector has been donor dependent.

In an attempt to reduce the gap between the served and the un-served population, the government seeks support from bilateral and multilateral donor agencies for the development of the rural water supply and sanitation sector. As a result the rural water supply and sanitation program in Malawi is being implemented on a project by project basis and governed by the donor needs.

One of the objectives of the government of which all the sector's projects have to meet is to ensure the sustainability of the water facilities. This is to be achieved through an approach that pays closer attention to consumer demand for services, that strengthens community capacity to manage their facilities, and considers longer-term institutional arrangements for the selling of spare parts and technical assistance to communities.

For the development of the sector, guidelines that support a demand-responsive approach have been developed. These guidelines clearly define the roles and contributions of service users, the government, NGOs and the private sector, in terms of facility design, construction and (O&M). Once a clear financial arrangement has been established for each financing agency, communities need to be provided with information that will allow them to choose their preferred technology and level of service options, based on their willingness to pay and accept responsibilities for subsequent O&M.

1.2 Implementation Approach

1.2.1 Community Based Management.

The development of the rural water supply and sanitation sector is a major component which requires a lot of financial assistance and commitment from both the user communities and the government. If given sufficient funding and commitment , the assets developed in conjunction with the communities need to be based on the community needs, technical know how, should be simple and easy to maintain. This in turn should ensure that assets are sustainable. In addition to the financial requirements and commitment, organisational structures that will support the sector to ensure sustainability of the facilities need to be developed.

Therefore, the implementation of the rural water supply and sanitation projects will be governed by some principles which will promote community participation and ensure community based management of the facilities.

- **Community Participation**

Community participation is viewed as the involvement of the communities in their own development, achieving their set objectives and is considered as a process. It has been viewed as desirable in terms of project efficiency and cost sharing.

Past experiences and lessons learnt points 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 the project effectiveness and sustainability is, therefore, a reason for utilising participation in development programs of rural water supply and sanitation.

- **Participatory approach**

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. This being a slow but important process is crucial for the sustainability of the water and sanitation programme. It has to be borne in mind that the majority of the population being dealt with is semi-literate. This calls for special skills on the trainers.

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 here is

community improvement through building capacity and requires a more proactive than reactive role from the beneficiaries. The communities need to take full responsibility towards management, operation and first and second level maintenance of their facilities for both the water supply and sanitation.

Many water and sanitation programmes have failed because of various issues including inappropriate technology, inaffordability, weak operation and maintenance system and lack of social acceptance which hinges on inadequate community involvement and lack of sense of ownership. In addition there are other institutional problems including inadequate financial and human resources and development system which has the interests of the developer, thus donor/developer led rather than beneficiary led.

- **Integrated approach**

Benefits from the water intervention can be fully realised if coupled with sanitation and hygiene education components in order to achieve improved health standards. Therefore an integrated strategy for water, sanitation and hygiene education will be adopted for community management and also the district and national level co-ordination of the sector.

Catchment protection will be considered in order to improve both the quantity and quality of water resources. This will ensure adequate sustainable water supplies of good quality and quantity. Improved practices in daily ergonomic aspects, agricultural practices in the Catchment area in order to protect it need to be considered together with the improved technical aspects of water supply and sanitation facilities.

- **Capacity building**

This will be done through a training program as detailed in the training schedule see **Table 1**. The training programs are to build capacity at district and community level precipitating responsibilities right to the grass root taking into consideration gender issues right through the program. Deliberate efforts have to be taken to encourage women to take a more active role in the water supply 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 itself will depend on community requests. There is therefore, need to build capacity at the lowest level to enable the communities initiate programs, implement , and sustain them.

	.Training of district officers	Regional Coordina-tor	3Days	District level
	.TOT(Ext.Workers)	District Coord.	1Wk	" "
May need to consi-der Com-munity Level.?	.Needs assess-ment for the distri-ct	Distr.Coo-rdinator	" "	District
	.Base line survey for the district	" "	1mnth	" "
	.Promotion of spare parts distribution	" "	conti-nuous	" "
	National Steering Committee Meeting	PM	1Day (quarterly)	Headquarters
?	.Reg.Steering Com-mittee Meeting	Regional Officer	" "	Region
	.District Steering Committee Meeting	District Coordina-tor	1Day mnthly	District
	.Reveiw Meetings	District Officer	2Days	District Office
	.Development of M&E tools	PM	1Wk	Headquarters

No.of district officers trained	Stationery	
Train all ext.wrkrs trained	"	"
Report on needs	"	"
Report	"	"
Spares available within reach	"	"
Reports	"	"
"		
Reports	"	"
Reports	"	"
Tools developed	"	"

	.M&E	PM	Yearly	" "
	.M&E	Regional Coord.	Quarterly	Region
	.M&E	District Coord.	mnthly	District
	.Project Evaluation	PM	Annually	Headquarters
		Coord.		
III.Comm-unity mobiliza- and Orga-nization	.Sensitization of local leaders and communities Needs assessment for the district.	CDA	1Wk	Catchment area
	.Demand assess- ment for water and Sanitation.	CDA?	1Wk	Village Catchment Area.
	.Formation of Committees	CDA	1Day	" "
	.Signing of agree-ment form.	WMA	1Day	" "
	Baseline Survey	VHWC	2Days	" "
	.Setting by-laws	VHWC	1Day	" "

Reports	" "	
"	" "	
"	" "	
"	Evaluation report	National & Exte- rnal expert
No. of meetings initiated by CDA	Stationery, CBM Manuals,Trans-port and funds Project Agree-Forms flyers, certification completion Forms	
No. of requests submitted by community.		
No. of committees formed.	" "	Lifespan 3years/comp-osition 60% women and men.
No. of Agreement forms signed	Project Agree-ment Forms	
Data Report	Baseline Data Report.	WMA,CDA.HSA/HA
By-laws set	" "	

.Training of VHWC on leadership .HESP Training for VHWC HESP.	CDA HSA	3Days	" "
.Development of Work plans and sharing of respo-nsibilities.	VHWC? Ext. Works	1Wk	" "
. Mobilization of Local resources (eg	VHWC	2mnths	" "
.Provision of skilled committee and unskilled labour	VHWC	2Wks	" "
.Initiate field visits	VHWC	2Days	Outside catchme-nt area.
.Reviving inactive Committee.	CDA	-	" "
,Working out simple indicators and tools for M&E	VHWC	2Days	Catchment area

No. of Committes trained.	CBM Manual Leadership.	WMA, CDA, HSA/HA
	HESP Manual	
Plans developed	Stationery	
Amount/Quantity of materials and	Buckets,oxcarts shovels, hoes.	
personnel identi-fied.	S	Sand, Bricks, Water, Personnel for Labour.
No. of labourers and man hours spent.		
Report	Transport, funds stationery.	
Active member-ship.	Stationery, funds and transport	
Tools identified	Stationery and funds.	

	.Identification of Contractors.	Disctict Teams.	2Wks	Within/from out-side district
	.Signing of Contract	VHWC	1Day	Catchment Area
	.Community driven HESP Campaigns.	VHWC	Conti-nuous.	" "
	.Review meetings	VHWC	1 Day (mnthly)	" "
	. Monitoring and Evaluation.	VHWC	Conti-nuous.	
III.Const-ruction Phase.	.Identification of water source (gravity fed).	AHWC	1Wk	" "
	. Siting of water points and Sanita-tion facilities.	VHWC	1Wk	" "
	.Clearing sites and access roads.	VHWC	2Wks	Catchment Area
	.Purchase and Mobilization of and equipment.	Contra-ctor.	1Wk	Within and out-side the district.

Contractor identified	Stationery and transport	
Signed contract	Contract do	
signed.	Cement.	
No. of activities carried out partaining to HESP.	Stationery	
No. of reports/ minutes.	" "	
Data Reports	" "	
Sources identified	" "	
No. of Water Point Sits identified.	" "	With the Community approval.
Sites cleared and access roads made.	Shovels, hoes.	
Stock available	Stationery	

equipment.			
.Digging Pitlatrines	Owner	1Wk	Household
.Drilling	Contructor	1Wk	Catchment Area
,Trenching	Commu-nity	2Mnths to 1Year	Catchment Area
.Civil Works	Local Contractor	1Wk	Site
.Promotion of other Sanitary facilities	HSA	Conti-nuous	Village
.Installation of handpump.	Contractor	2Days	Site
.Laying of Pipes	VHWC		Catchment Area
.Installation of taps			" "
.Casting of San Slabs.	HSA	Conti-nuous	Village
.Establishment of Maintenance Funds	VHWC	Conti-nuous	Catchment Area
.VLOM Stage1 training.	WMA	3Mnths	Catchment area

No. of Pits dug. available	Guidelines for pitlatrine, const-ruction man-power hoes, picks	Guided by HSA
Hole Drilled	Sand, Drilling Equipment, Cement.	
Open Trench	Hoes, Axes, Picks.	
Structure No. of hand-washing facilities, refuse pits e.t.c.	Cement, Trowel, sandy, sprit level Mansonary " "	
Pump Insatlled No. of pipes laid No. of taps insta-lled No.of SS Casted	Pump, Pipes, Spanners	Support from HSA
Funds Available	Stationery	
Caretakes trained	Stationery Funds,	CBM Manuals

	.Supervision	District	Conti-nuous	Catchment Area
	.Payment of Contractor.	VHWC		
	.Certificate of completion of works.	VHWC		
	.Celebration of Project completion	Communi ty.		Catchment Area
Phase IV O&M	.Duty Roster for cleanliness of water point surrounding.	VHWC	Mnthly	Catchment area
	Practicing cleaning	VHWC	Daily	On Site
	Practicing Preve- ntive maintenance	Caretaker s	3Mnths	On Site
	.Procurement of spares.	VHWC	Every 6 Mnths	Catchment Area

	Transport	
Report	Stationery Funds. Transport.	
Received voucher	Funds	
	Completion Certificate.	
	Funds	
Duty Roster	Stationery	
Clean Surrounding	Brooms/Hoes	
Good Performa-	Tools, Spares	
nce of the pump system.		
Stock of spares	Funds, transport	Together with Treasurer
available	Stationery.	

.Review meeting	VHWC	Quarterly	Catchment Area
.Supervision	WMA	Monthly	Catchment Area
.VLOM training	Mech.	3Days	Catchment Area
Stage II	Engineer		
.Communtity Based HESP, Campaigns	VHWC	Counti-nuous	Catchment Area
.M&E	VHWC	"	" "
.Refreshers Course	WMA	2Days	Catchment Area
for Caretakers and VHWC.		Every Year	
.Refreshers Course for Extension Workers.	District Coordina-tors	3Days every 3 Years	District

Reports	Stationery transport, funds
Reports	Transport, Funds
Training Reports	Transport, Funds and Stationery.
Reports	Visual Aids
"	Stationery, transport, funds
Training Reports	Transport, Funds Stationery
Training Report	Stationery, Transport, Funds.

- **Sustainability**

This will be through a critical analysis of community needs and demand. The involvement of user communities in all stages of implementation and cost sharing of capital investments and sole responsibility of operation and maintenance will increase self sufficiency.

Involvement of all stake holders in the sector such as the communities, private sector, NGO's etc. is also an important element in the sustainability of the sector.

2. POLICY FRAMEWORK AND OBJECTIVES.

Broadly, the Government of Malawi Policy on water and sanitation services is aimed at ensuring :

- that its citizens have access to safe water and adequate sanitation
- sustainable management and use of water resources, supplies and sanitation facilities.

2.1 Objectives

The broad long term development objective for the government is to improve the quality of life of rural and urban communities. This can be achieved in part through eradiction or reduction of poverty; provision of adequate social services such as health care, schools and the provision of affordable potable and adequate water and sanitation services in a sustainable manner.

Specific Objectives:

The specific government objectives on water are to:

- provide its citizens with convenient access to potable water supplies for domestic use for rural communities within a 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.
- reduce the incidences of water and sanitation related diseases
- build capacity at all levels from grassroot to formal institutions in order to manage the water and sanitation services in a sustainable manner.
- promote linkages for coordination between various players in the provision of water and sanitation services.
- ensure that the development of the water and sanitation sector should not mitigate against the environment and the protected Catchment areas.
- raise awareness of the rural communities of the economic value of water resources.

2.2 Policy Statements And Objectives

The following constitute the policy statements:

- All programs related to water supply and sanitation services should be implemented in a manner that mitigates environmental degradation and at the same time promotes the enjoyment of the asset by all.

- The approach to allocation of water and sanitation services should be designed in a way that recognizes water not only as a social but also as an economic good, that maximizes benefits to the country.

- The government shall facilitate the 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 to ensure that the needs of the relevant interests are taken into account in the development of water and sanitation systems.

- The Government of Malawi shall ensure quality control and standardization of facilities in the provision of water and sanitation services.

- The government through the Ministry responsible for water supply and sanitation will ensure that standards are adhered to in terms of:
  - Water quality
  - Technology choice of procedures
  - Construction and
  - Prevailing physical conditions

- Research should be enhanced with a view to exploring appropriate and varied water and sanitation technologies.

- Gender consideration will be prioritized in decision making, planning and design, implementation and maintenance, choice of technology, monitoring and evaluation and other related issues for all rural water supply and sanitation projects/programs.

- Investment of public funds in rural water and *sanitation* programs should be guided by the expected net economic, social and environmental benefits of the program to the country as a whole.

- All rural water supply programs shall provide adequate financial and material resources to cover the following:

  -Sanitation infrastructure
  -Health and hygiene education
  -Human resources development at all levels
  -Logistical support

- The sanitation slab will be the basic infrastructure for improved low cost sanitation. However, other developed technologies will be acceptable depending on affordability.

- Prominence will be given to watershed management where involvement of local communities, government institutions and NGOs will be guided by sector policies and legislation e.g. Forestry Act, Environmental Management Act, Water Resources Act etc.

- Capacity building both for short and long term shall be pursued at all levels for all rural water supply and sanitation programs.

- All rural water supply and sanitation projects/programs must have a strong CBM component backed up by adequate provision of requisite resources. Therefore the issue of sustainability should be effectively addressed through clarification of roles of the government, communities, NGOs and the private sector.
- The management of water supply and sanitation systems should be done at the lowest level possible with back-up support services in the community. Community involvement in operation and maintenance of their water supply and sanitation services implies, safety skills, financial and human resources supplied by the community.

- The community will be involved in all stages of the project implementation cycle with a lot of consultation from planning stage through to construction operation and maintenance and finally monitoring. During planning stage the community will identify their needs and assisted in choice of technology and levels of service for water supply and sanitation. They will also apply for an Abstraction Water Right.

- In terms of private connections in gravity-fed piped water schemes – this shall be done upon assertion of availability of water. Individuals shall pay a fixed amount in addition to the monthly contributions for maintenance where as institutions shall be metered. However, the final setup lies in what the beneficiary community will agree

- The provision of the connection and maintenance of the facilities within his/her boundary will be done at the expense of the client.

- Funds realized from sales of water will be the responsibility of the District Water committee and utilized for the management of the schemes by the community with technical assistance and advice from government.

- Communities will have a gender balanced and democratically elected committee which will be the coordinating body between the community and the government.

3.0 ORGANIZATIONAL STRUCTURE

3.1 Organization and strengthening of implementation teams:

Where a phased approach is adopted for the development of the rural water supply and sanitation sector district will be targeted at a time and the goal will be to achieve a high level coverage in terms of water supply (at least 80%) and adequate sanitation (60%). Efforts will be concentrated in the target district through community development, capacity building and training, service delivery and institutional strengthening.

A district implementation team will be established comprising district heads from ministries of Water Development (MWD), Ministry of Health and Population (MOHP) and Ministry of Women, Youth, Community Services and Social Welfare (MWYCS).

The district Implementation team will be established comprising:-

- district heads from:
  - MWD
  - MOHP
  - MWYCS

- Representatives of NGO's operating in the District.
- Private Sector :
  - Chipiku Stores
  - Retail Shops.
  - Any other reputable organisation in the sector

These will spearhead all the social aspects of the water supply and sanitation activities in district. They will undertake community mobilization, organization and training activities. The District Water Officer (who will have lead responsibility), the District Environmental Health Officer and the District Community Development Officer will specifically be responsible for planning community work, training their extension workers and overseeing implementation of all social aspects of the project.

The tripartite arrangement at the district level will be replicated at a lower level with the extension workers forming a team in Traditional Authority. The team of extension workers will consist of Water Monitoring Assistants (WMA) from MWD, Health Assistants (HA) from MOHP and Community Development Assistant (CDA) from MWYCS will provide an interface between the community institutions and the implementing agency. Activities by the extension workers will be coordinated and supervised by the district team.

Each extension workers team will report to the head of implementation district

implementation team (DWO) who reports to the Regional Water Officer (RWO). The RWO will report to the Controller of Water Services (COWS). Where capacity is lacking especially in the lead Ministry of Water Development, the funding agency for the district may hire a short term consultant, a Field Supervisor (FS), to assist in this process. The field supervisor will liase with the Regional Water Officer.

The strategy of using staff from three different ministries will be tested and evaluated to ensure its effectiveness and efficiency in meeting the Government's objectives (especially in terms of community development and training).

The implementation approach will allow for capacity to be organized and strengthened in a sequential way starting with the support implementing agency. This will start with the district heads and then the extension workers team. Once the district team has been strengthened during a 1-2 month period, it can then continue larger scale implementation within the same district. The team will require less support from the central office of MWD. The central office can then focus its efforts on initiating implementation in new districts while continuing to provide a supervisory role to the on-going investment programs of the earlier strengthened districts.

The approach for some gravity fed piped water schemes will be to target only those areas that are technically feasible. Some sources of water may benefit more than one district or parts of a district. An implementation team will be organized per scheme which will also comprise members from the other two ministries responsible for health and community development, NGO's and the Private Sector. The district head from the Ministry of Water Development will assume a leading role over the other officers and will be the Scheme Engineer.

3.2 Community organization

At community level the communities will organize themselves by forming (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.

3.3 Institutional Organizations

The entry point to the community will be through the District Development Committee (DDC) which is the overseeing body of all development in the district. The DDC will be responsible for the initial approval and acceptance of the project intervention, decision making, coordination, monitoring and evaluation. DEC is the water and sanitation arm of the DEC which will be responsible for closely following implementation and ensuring inter-agency coordination. DEC shall also ensure compliance (in all project phases) by implementing agencies of the guidelines set in the project manual.

The DDC composition is as follows:

Chairperson:	District Commissioner
Members:	Traditional Authorities / chiefs (TAs)
	District Council chairman
	Leaders of all political parties,
	Representative of business Community

The DEC composition is as follows:

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

The water and sanitation arm of DEC comprises MWD, MOHP and MWYCS.

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

NATIONAL ORGANISATION STRUCTURE

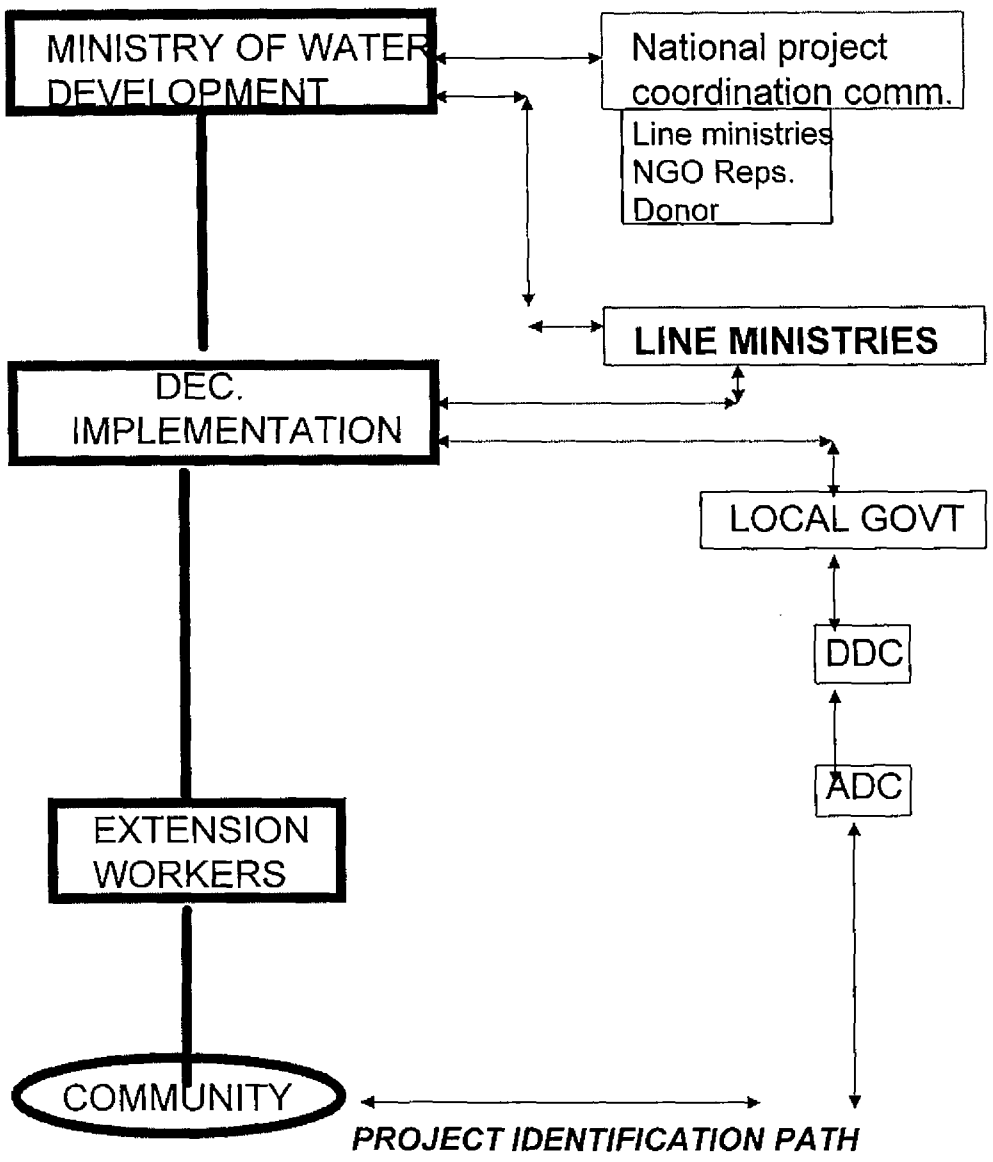


Fig. 1 National Organization Structure for Project initiation and implementation.

Specific Projects for different technologies will have different organization structures as shown in figures 2 and 3.

Figure 2. Institutional organizations for groundwater supplies:

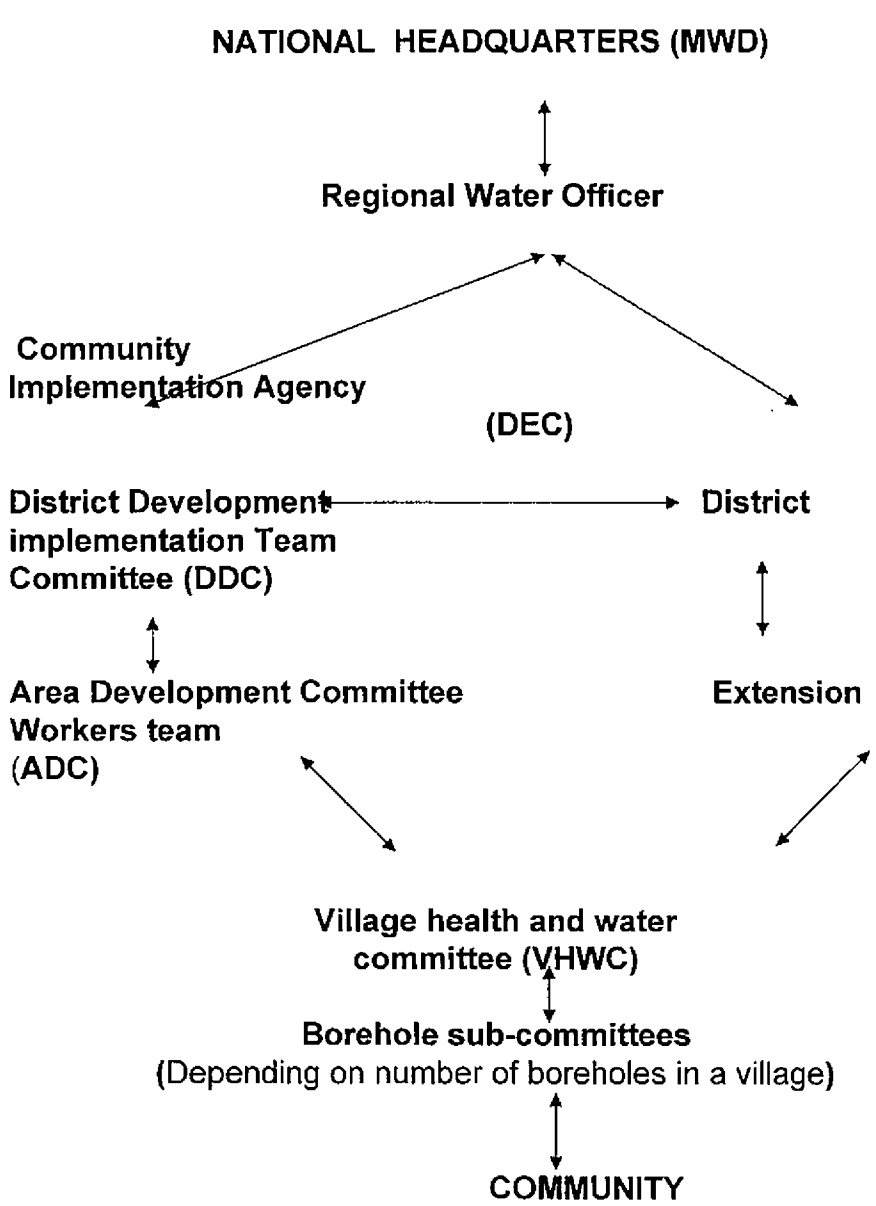
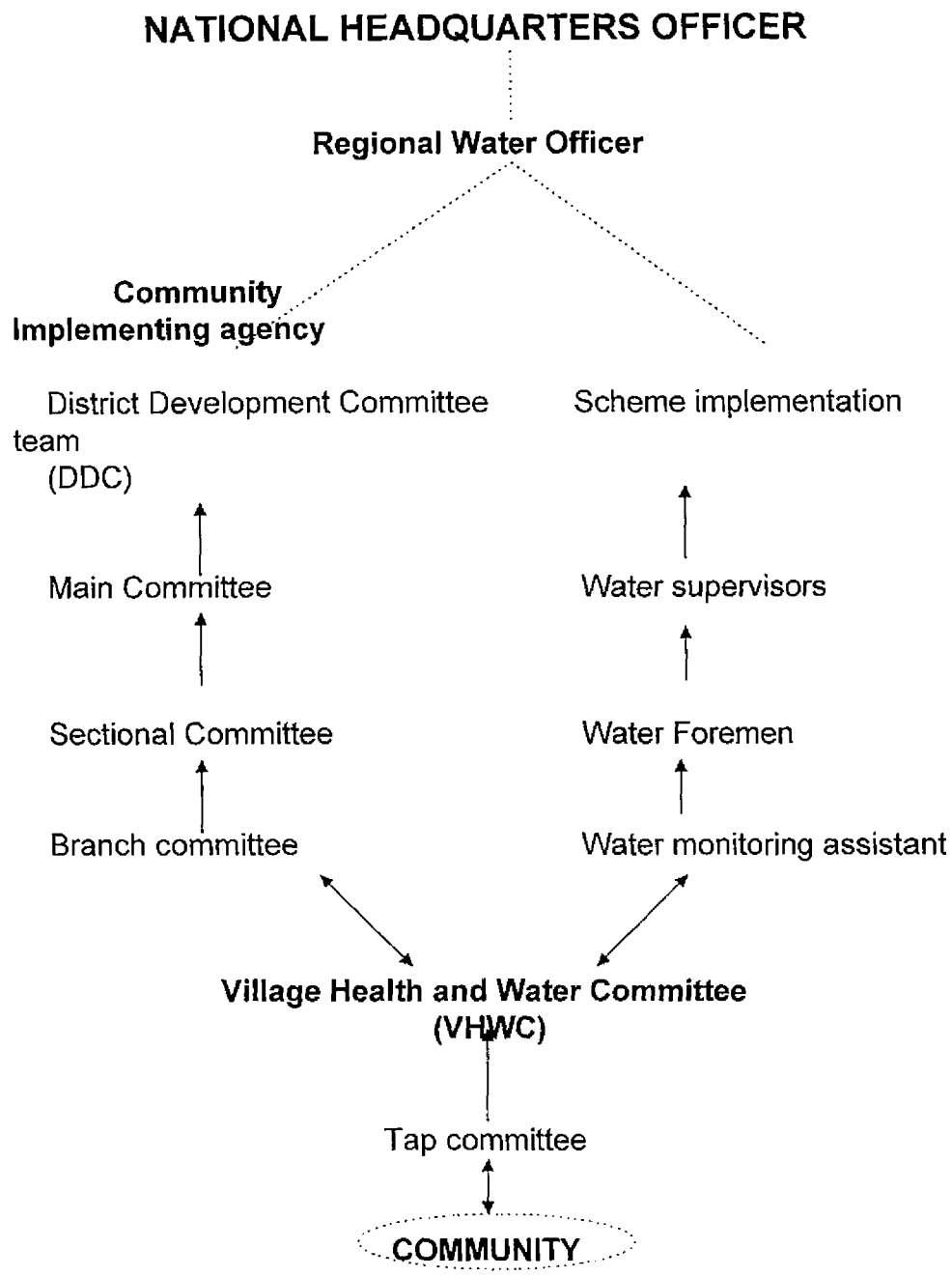


Figure 3. Institutional organization of piped water schemes



3.4 Service Delivery

There are several options that can be considered for service delivery. As much as possible this will have other agencies taking a leading role instead of the ministry using direct labor. This will leave the ministry taking a different role of supervision and monitoring ensuring that policy and guidelines are adhered to. The options that exist for the development of the rural sector are:

- utilization of NGOs for both works and the software component
- procurement of works through the private sector such as the contractors and
- probably works done by the government.

Details of the activities for each option are detailed in **Table 2**.

Table 2. Borehole Rehabilitation and Construction Component Service Delivery Models

>>>Increase Community Management Progress.>>>			
	Model 1	**Model 2**	**Model 3**
Implementation cycle	MWD - direct	MWD contracts private sector	MWD issues single contract with NGO
Community Mobilization and training (phase 1)	MWD-EW	MWD-EW	NGO and EW
Signing or community-project agreement.	Community	Community	Community
Community organization and training (phase 2)	EW	EW	NGO-EW
Community contribution	Community	Community	Community
Signing of siting and drilling batches 0f 30-50)	MWD	MWD	NGO with community (MWD no-objection)
Borehole siting and drilling	MWD	Contractor	NGO or Contractor
Drilling Supervision	MWD	MWD or contractor with community.	Community-NGO if contractor drills or MWD if NGO drills
Signing or Civil works and handpump installation contracts (batches 5 - 20)	MWD	MWD	Community - NGO
Training of small contractors	MWD	MWD	NGO -MWD
Financial management of civil works.	MWD	community	NGO (with Community approval).
Civil works HP installation and training.	MWD	Small Contractors	Small Contractors
Civil works supervision	MWD	MWD-Community	Community - NGO
Community training (phase 3)	EW	EW	NGO-EW
Long-term support to O&M	*EW/MWD*	*EW/MWD*	*Small Contractor-EW.*

EW community extension workers drawn from MWD (WMA), MoH (HSA)and/or MoWCAC's (CDA) WMA, District-Level Water Monitoring Assistant from MWD.

4.0 IMPLEMENTATION STRATEGIES

The components for rural water supply and sanitation programme which will target the villages and rural institutions are:

- training and capacity building for Community Based Management
- water supply (surface and groundwater - new constructions and rehabilitation of old ones)
- sanitation (new installation and improvement of existing facilities) both in institutions and in individual households
- hygiene education for positive behavioural changes.
- environment and Catchment protection

The strategies for implementation of rural water supply aims at:-

- Ensuring sustainability of rural water supplies implemented with full community involvement;
- Effectively integrating water supply, hygiene education and sanitation;
- Institutionalizing multi-sectoral collaboration in rural water supply programs.
- Cost effective implementation through the utilization of appropriate technology.

The strategies give priority to the Community based management; partnership approach, multi-sectoral collaboration, capacity building and integration of hygiene education and sanitation.

Community Based Approach.

For rural water supply to be sustainable, communities have to be involved in planning and decision making.

The communities in all the areas have in the first place to express need for the service, and in response an agency should work with them to identify their needs and capacities.

To give both the agency and the communities a good overview of conditions and issues which have to be taken into account, it is necessary to collect baseline data on population, water use and needs, socio-economic status, and health and hygiene conditions of the communities concerned.
Another important aspect for planning community involvement is the identification and establishment of strong community organizations such as Borehole Committees and Village Health Committees which take on the initial decision making role on behalf of the communities.

The Committees comprise ten members. Gender and social discrimination is discouraged in the committees

Also available to support community level activities, are local authority organizations such as District Development Committees. Area Development Committees and Village Development Committees.

Through this local level organizational set up, community involvement can be fully realized.

Multi-sectoral Approach

The Community Based Management Project approach emphasizes on multi-sectoral collaboration in order to minimize fragmentation of efforts, waste of resources and competitiveness for participatory actions. From the very beginning implementation responsibilities for rural water supplies should involve three Ministries, namely, Ministry of Health, Ministry of Women, Children Affairs and Community Services, and Ministry of Water Development.

Partnership Approach

The approach as advocated in the rural water supply programme promotes increased involvement of local communities in planning and implementation

4.1 Implementation Guidelines

For this strategy to work effectively, there is need to clarify responsibilities for all Stakeholders. The following are some of the responsibilities for the key Stakeholders i.e. the Community, Government agencies, the Private sector and Non- Governmental Organisations.

4.1.1 Community Responsibility

The main community responsibility will be to initiate the program by identifying their needs and requesting for assistance. They will be given information through an information flyer **(annex 1 a&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).** Once these stages are done, this will warrant further consultation with the communities and community mobilization and training process will commence. Community mobilization is a continuous process that is done in three phases **(annex 3).**

The community will be involved at all stages of the project implementation cycle with necessary consultation from planning stage through to construction, operation and maintenance and monitoring and evaluation. During planning stage the community will identify their water supply and sanitation needs through a baseline survey that will give basic information on the status of the water supply and sanitation in the village given support wherever necessary.

Though choice of technology may be pre - determined by the topography, hydrogeology and standardization policies, the communities may be guided to make an informed choice and also decide on the sitting of facilities and modalities of managing the facilities. The community will be assisted in choice of technology and levels of service for water supply and sanitation that are affordable to them in terms of both the capital investments during construction and subsequent operation and maintenance. Through training the community will be equipped with necessary skills and knowledge that will enable them to fully participate in the implementation of the project and take full responsibility in the management of the water supply and sanitation facilities.

Community involvement in (O&M) of its water supply and sanitation services implies safety and sustainability of the facilities and therefore the communities are to provide skills, financial and human resources. The community will demonstrate its understanding and willingness to participate in the project through signing the Project Agreement **(annex 4 a&b).**

The community responsibilities in areas of

- assessment of the existing water supply and
- community mobilisation/sensitisation, awareness and involvement; is summarised as follows:-

- formation of VHWC
- choice of technology
- participating in design for community water supply
- selection of site
- organisation towards implementation
- labour towards clearing of site and construction of the water point
- provision of security of the systems inorder to ensure that they are not tempered with
- provision of locally available material

4.1.2 Government responsibility

The government will be responsible for:

- providing technical expertise for works and training of communities and government officials at district and community levels.
- carrying out studies in rural areas to verify needs and demand for water supply, sanitation and Catchment protection.
- providing policy guidelines for development of the sector and ensuring that the policy in place is adhered to.
- providing counter funding through the project to the communities for capital items required for the development of the water supply and sanitation sector.
- assuming a facilitatory role in assisting the communities in choosing, planing and designing water supply and sanitation facilities that are affordable to them.
- controlling the quality and standard of facilities provided for water supply and sanitation.
- check water quality to ascertain whether the water is suitable for drinking.
- to monitor trend changes in quality due to environment and land use pattern changes.
- to carry out technology research and verification, plus adoption of imported technology in various areas of water supply.

4.1.3 The private sector responsibility.

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

- provision of funding and training plus civic education of communities.
- raising funds for carrying out contractual works in the sector.
- implementation and development of the sector and carrying out contractual works in the sector.

4.1.4 The NGO Responsibility

- The NGO though being independent can be responsible for providing assistance to communities and the government in implementing the sector projects.

- The Soliciting and Providing funding for the development of the sector.

- Working in partnership with the communities and the government in preserving the environment especially in activities that promote Catchment protection.

4.2 Training And Capacity Building

4.2.1 Capacity building

At national level, the project has the objective of disseminating and operationalising the sector policy and improving the performance of the changed roles of the different actors. At district and community levels, training support to intermediary organizations, including NGOs, the private sector and community-based organizations, is needed. In the long-term, communities are expected to receive capacity building support from these district intermediaries with the government agencies playing only a coordination and supervisory role.

At the district level, training and capacity building will be required to support the work of 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 CBM unit within MWD provides a good basis for steering these training activities. However, its vision should gradually be expanded from providing direct intervention at the community level, to strategic planning for capacity building of a range of agencies, both public and private, at the district level. This strategy should also consider the changing role of government and the need to strengthen private artisans who can provide continuous support to communities. As the CBM unit strengthens its capacity, it can play a leading role in the sector and facilitate coordination with other ongoing water supply interventions undertaken by other ongoing projects and agencies. There is an enormous amount of work to be done in this area, and the project may want to consider allocating resources to CBM activities even in communities served by these other agencies.

Any implementing agency in Rural Water Supplies must consider its involvement in Capacity building at all levels. The Government will ensure that there is training support to intermediary organisations, such as NGO's, and the Private Sector through its CBM Unit.

The Training Support will be in the software and hardware components. At Community Level the project should strengthen the work by private artisans.

4.2.2 Training

The training activities within the sector will be carried out as stipulated in the training schedule in the **Table 1**. The training needs will be identified and tailor made for each target group.

The training materials/manuals developed for the community based management of the rural water supplies will be the main reference materials utilized in all the levels of training. Other supplementary materials may be deployed. The Manuals will include:-

- the Trainers of Trainers Manual.
- the Extension Workers Guide.
- the Community Handbook.

4.3 Choice Of Technology

The following factors need to be looked at when making a choice of technology to be used in provision of Water Supplies,

- If the 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.

- Facilities will be installed depending on available resources. Development of such resources will be based on user needs and affordability.

- The technology chosen should be of low cost but giving the expected results to the community especially in terms of subsequent operation and maintenance

- The government of Malawi has standardised on a few technologies that can be utilised in rural water supply. For rural groundwater use of PVC has been recommended, and surface, use of PVC , CI, and GI pipes has been recommended. For handpumps, the Afridev has been recommended for all community water points that have deep water tables and the Malda for shallow water tables. All rural physical institutions shall be equipped with Climax pumps.

- Other types of pumps can be considered that are solar or wind driven. 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.

4.4 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 from other agencies. The 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 less expensive than the ground water option.

There are several options for the development of ground water supplies for rural communities which include shallow hand dug wells, protected spring, 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, the first option of technology to be promoted for ground water supplies will be the boreholes.
As in all other supplies the first intervention will be the rehabilitation of the existing ones in order to restore them to their original state and maintain the level of service coverage in a given district.

4.4.1 Rehabilitation and New Construction of boreholes

Partial rehabilitation

Boreholes that were recently drilled following the 1985 revision of technical specifications by Ministry of Water Development may need to be equipped with an Afridev pump. Partial Borehole rehabilitation includes the replacement of PVC lining and the replacement of the old pump. All headworks are also restored to their original state.

Full rehabilitation

All old boreholes which the community categorises as not functioning well, whose original depth has been reduced by a third due to siltation, and whose yield has also been decreased will warrant full rehabilitation. These old boreholes will be cleaned to almost the original depth, re-lined with uPVC pipes and proper gravel pack and equipped with an Afridev hand pump.

The cost implications of each form of rehabilitation and chosen hand pump are detailed in **Table 3.**

Constructions of New Boreholes

There are three drilling methodologies that can be opted for the construction of boreholes which are hand auguring, percussion and rotary drilling. The cost implications, as of March 1998, of each methodology and chosen handpumps are detailed in **Table 3**. The construction can be done utilizing the private sector (drilling companies and Non Governmental organizations) or Government. However Government drilling is being phased out.
All new Borehole constructions will be lined with uPVC pipes and equipped with an Afridev handpumps. Borehole for institution 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.

4.4.2 The Borehole 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 recurrent costs of the facilities are adequately served.

The Construction or rehabilitation of boreholes will follow the implementation strategies outlined earlier in this chapter.

The number of steps in the cycle to be followed will depend on whether an implementing agency is carrying out rehabilitation or new construction. Thus only the 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:

The project cycle will consists of the following phases:

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.

TABLE 3

COSTS OF CONSTRUCTING BOREHOLES AND ACCESSORIES

TECHNOLOGY BOREHOLES.	HAND PUMPS TYPES	CAPITAL COST	RECURRENT COST. MAINTENANCE.			
			Year 1	Year 2	Year 3	Year 4
1.New Constructions						
(a) Rotary Driller	Afridev	68,500				
	Malda	64,000				
(b) Hand Augered	Afridev	45,000				
2. Rehabilitations						
(a) Parlial Rehabilitation						
	Afridev	25,000				
	Malda	20,000				
(b) Full Rehabilitation	Malda	40,000				
	Afridev	44,000				
3. Civil Works	-	10,000			200	
4. Ophonal:	-	2,000			200	
Animal drinking trough.						
Fence	-	6,000	-	-		-

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.

1. **Project preparations**

The implementing agency will mobilize into the target district, set up an implementation team and organization as in **Section 3.**
As part of the preparatory work a rapid assessment of the water supply, sanitation and hygiene education will be carried out to determine the prevailing situation and update the current data.

Needs assessment

In some areas, 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 guidelines.

Before construction commences, there is need to identify 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 mobilization/sensitization and awareness on the project objectives, expectations, involvement and activities will be carried out.

2. **District Launch.**

Since DDC's are existing organs of implementation of projects a one-day DDC meeting will be held to discuss: project objectives, community eligibility criteria and responsibilities in project cycle and subsequent operation and maintenance, and implementation strategy at the district level. During the meeting, information flyers will 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 workshop.

3. **Information dissemination to communities**
After the launch, the TAs 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 TAs and the ADC based on the funding available for the district.

4. **Organisation and Training of District Implemetation Team**
The District officers of the three involved ministries will be supported by MWD central office staff and the FS to train the district extension workers (CDA's, HSA's and WMA's). 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 at the community level and push bikes to facilitate their transportation. MWD will transfer the bikes to the extension workers for on loan.

5. **Community mobilisation and sensitisation.**
Community mobilisation/sensitisation and awareness on the project objectives, expectations, involvement and activities will be done. 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 this sensitisation period.

6. **Detailed planning of community-level implementation plan**
The strategy envisages that the district team will be supported by the FS to prepare its implementation plan, since it will then be responsible for its implementation.

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 work plan will follow a standardized format and will indicate responsibilities and accountabilities 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, and the FSs and District Water Officer will prepare a brief monthly progress report for the RWS Program.

7. **Verification of community requests and community mobilization**
Once the district has compiled a list of community requests, extension workers will approach communities to ensure their 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 no longer continue with mobilization activities.

The local coordination team of extension workers will be responsible for the mobilization of the communities and facilitate the formation of the VHWC. During this planning stage the community will be assisted in the choice of technology and levels of service for water supply and sanitation. Community preferences for the siting of the borehole will also be discussed.

8. **Community - project agreement signing**
Communities that are willing to participate in the project will be required to sign the standard community-project agreement as a requirement for any Borehole siting, drilling and construction activities. A copy of each signed community agreement will be forwarded to MWD central office before proceeding with procurement of works.

9. **Application for a water right.**
The community shall apply for a water right of abstraction using a hand pump where it does not exist. The VHWC with the assistance of the 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 both, facilitated by the VHWC and the borehole sub-committees.

10. **Borehole siting**
Borehole siting will be carried out by MWD regional teams and the Ministry's regular Survey fee will apply. Some boreholes that are old may need partial or full rehabilitation depending on their condition. Partial rehabilitation includes those boreholes that were recently drilled and are PVC lined but do not have an Afridev of handpump. These will have the old pump removed and an Afridev installed. Full rehabilitation includes those old boreholes that have no PVC casing or that are short of water. In these cases the boreholes will be deepened, cleaned, re-lined and equipped with an Afridev pump. Standard MWD procedures will be used for siting new boreholes.

11. Verification of handpumps availability at distribution centre

During the initial year of the project handpumps will be procured by MWD. MWD 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. Eventually this same 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 and the FS will ensure that sufficient handpumps are available at the distribution outlet.

12. 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 batches of 3 villages. Contents of these training sessions include: group dynamics, leadership skills, fund raising, training of the pump or tap caretakers on maintenance of water 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, including: labour towards clearing of site and construction of the water point, contribution of materials for the construction of the water point, construction of security fence, and the purchase of Afridev spare parts.

13. Preparation of Tender documents for drilling, supervision and small works

The District Water Officer will consolidate and forward procurement requests for drilling, supervision and small works construction to the central office of MWD. It is expected that the rehabilitation and drilling of new 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, the small civil works will be packaged in groups of 10-20 communities.

14. Procurement of drilling, supervision and small works contracts

The RWS Program will follow the procedures established by 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-up, that is through requests from the district offices.

15. Drilling and rehabilitation of boreholes (by contractor)

The drilling contractor will be required for providing all materials for borehole construction, including the well casing. MWD drilling standards will be applied, as stipulated in the tender documents. As a requirement

for drilling to begin, communities will have had to provide all required local materials at the site.

16. 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.

17. Small civil works construction and handpumps installation

As part of capacity building, the project will promote an increased community and local builder participation in pump pedestal, apron, drainage and wash stand construction and handpump installation. This will ensure the development and retention of capacity of skilled laborers closer to the communities, an important component of sustainability. MWD's standards designs for these works will be applied.

Washstands will only be constructed if the communities provides the required number of bricks. The contractor will be responsible for providing all materials, except for those that are provided by the communities. The contractor will also be responsible for transporting the handpumps to the community and installing it with the VHWC. The Water Monitoring Assistant will assist in handpumps installation and the exercise will be used to conduct on-the-job training of both the community and the contractors. The community will have to had purchased its set of Afridev spare parts before the handpump is installed.

18. Completion of civil works (certification with community)

The Water Monitoring Assistant 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.

19. Other community-level activities

The project expects to expand its range of community-level interventions to include more intensive hygiene education, household and community sanitation and community-based monitoring and evaluation. However, these additional activities will be added on to the workload at a later date, once the project has established a proven implementation strategy.

4.5 Gravity - Fed Piped Water

Gravity fed piped water projects are constructed in areas where the population that has expressed the need for portable water is generally located below the suggested stream source. The general topography of Malawi has had the result that most of the existing gravity schemes are either located in the Northern or the Southern Region because these are the areas that are mostly mountainous. Some areas which have already been covered by integrated Borehole Programmes but with the above characteristics have not been considered for GFS because it is deemed that that the requirements for basic portable water supply to these areas have been met. It , however , is 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.

4.5.1 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.

Partial Rehabilitation

Some pipelines in a schemes may be subject to frequent breakages or vandalism and thus paralysing part of the project. In some cases tanks my have developed severe crackes. Repairs to these kind of problems which would in general terms necessitate replacement or repair are partial rehabilitation.

Full Rehabilitation.

Every scheme has a design life which is normally 10 years after which the population will not be served adequately.

It a project has surpassed its design life it needs upgrading and/or replacement of whole main lines then there is need for full rehabilitation. In this case there is need to go back to the drawing board. Due to the nature of the work there is need for redesigning. In this instance some new for redesigning. In this instance some new tanks may even be constructed, most of the lines will also be replaced.

4.5.2 Construction and rehabilitation of GFS.

The Construction of a GFS will fall within a Project Cycle outlined in the next paragraphs. A new project will follow all the steps outlined while Rehabilitation will not necessarily folly the complete path deepending on whether it is partial or full.

The GFS Project Cycle

The Gravity-Fed Scheme Cycle will be as follows:-

1. Preparation 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

1. Preparation work

Needs Assessment: 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, once 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. 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 group discussions. Community mobilisation/sensitisation and awareness

on the project objectives, expectations, involvement and activities. During this period a strength, weakness, opportunity and threat analysis will be conducted. This will assist in the programme planning, choice of level of service and implementation.

2 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 sore responsibility of the implementing agency. The British Standards and other Engineering literature will also be used as references.

3 District launch

A one-day DDC meeting will be held to discuss: project objectives, community eligibility criteria and responsibilities in project cycle and subsequent operation and maintenance, and implementation strategy at the district level. During the workshop, information flyers will be distributed to clarify project rules, as well as the standard community-project agreement forms. The initial list of community requests prepared by the DDC (including requests initiated by MASAF) will be discussed during this workshop.

4 Training of District implementation team (extension workers)

The District officers of the three involved ministries will be supported by MWD central office staff and the FS to train the district extension workers (Community Development Assistants, Health Surveillance Assistants and Water Monitoring Assistants). 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 at the community level and push bikes to facilitate their transportation. The bike is given as a loan to each community worker.

5. Information dissemination to communities

After the training of the District Implementation team, the Agency will facilitate explaining of the project rules and strategies and verify community-initiated requests for the piped water schemes. 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 rules, a final list of community requests will be drawn up by the Chiefs and the DDC based on the funding available for the district.

6 Formation of main committee

Once the district has compiled a list of community requests, extension workers will approach communities to ensure their understanding and

commitment to the project. Communities will receive a copy of the project-community agreement for review and discussion. local coordination team of extension workers will now be responsible for the mobilization of the communities and facilitate the formulation of the VHWC. During this planning stage the community will be assisted in choosing levels 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 designer.

7 **Community - project agreement signing**

Communities will be required to sign the standard community-project agreement as a requirement for the procurement of any construction activities. A copy of each signed community agreement will be forwarded to MWD central office before proceeding with procurement of works. Annex. 4B.

8 **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.

9 **Mobilisation/ Orientation of Communities**

The local coordination 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 coordinate the election of the village committees. The main task of the committee is the efficient and proper organisation of the community contribution to any activity. The final location of the tap sites is also decided by the community. The committees are trained to carry out their tasks properly. the contents of the training sessions include; group dynamics , leadership skills, fund raising, maintenance of water facilities and hygiene education.

10 **Marking of main and branch lines.**

Marking will be done from aerial photographs onto which the lines have been marked . 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 in order to be accurate.

11 Trench Digging

The marked line should be dug according to the following 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.

12 Construction of Intake, T-Works and Tanks

The Construction of the intake, treatment works and storage tanks will be done by contractors. Supervision of the Construction will be the direct responsibility of 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 anybody without consultation with the Engineer. Completion certificate will be signed by the Community for payment of the Contractors. Co-ordination the Construction will be done by the implementation team.

13. Formation Of Tap Committees.

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

14 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 is chosen by the community itself following a meeting where the design engineer provides advise to the community. Ideally the tap site should be at a central place, or at the intersection of paths. The tap site should not be more than 50m away from the site as shown on the aerial photograph, to avoid a change in pressure due to difference in levels.

15 Marking of tap lines /digging and laying of tap lines

Having marked 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 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 the tap lines. Trench digging for the tap lines remains the some responsibility of the community. Trench digging assistants (WMA). The W.M.A. will guide the community on how to lay the tap lines.

16. **Small Civil Works and Tap Installations.**

As part of capacity building, the project will promote an increased community and local builder participation in certain activities. These activities will 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 live, building value chambers, building of a tap apron and building of a washing slab, and fitting of specialized connection. This will ensure the development and retention of capacity of skilled laborers closer to the communities, an important component of sustainability. MWD's standard designs for these works will be applied. The local builder will be supervised by the implementing agency who will get assistance from 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.

17. **Training of Tap Committees.**

Prior to the construction of a tap there is need for construction of a water point. The VHWC will assist in the training of the tap committee together with the implementing agency. The tap committee will be trained towards clearing of the filter contribution of materials for the construction of tap apron, washing slab and the maintenance of such structures including the maintenance/replacement of the bibcock. The tap committee will also be sensitized on the need to purchase spares/cement for any repairs.

18 **Other community-level activities**

The project expects to expand its range of community-level interventions to include more intensive hygiene education, household and community sanitation and community-based monitoring and evaluation. However, these additional activities will be added on to the workload at a later date, once the project has established a proven implementation strategy.

4.6 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 areas to bring about changes in both the hydrological and hydrogeological patterns.

Streams that were once perennial and acted as feeders to Gravity Piped Water Systems 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. In this case the available water from boreholes can be pumped into the existing pipe network. The motorisation of such pumping sources could be from electricity generated from various methods including appropriate technologies and renewable energy sources.

The Ministry of Water Development 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 Ministry encourages the drilling of large diameter boreholes that have to be motorised. The whole system should include a storage tank and some piping network from the storage point to lead to various villages.

The Ministry of Water Development would like implementing agencies to look at the other areas of the hydrological cycle and see how each point of the cycle can be used as a water supply source. The most notable technology that has risen from such observations is the Rainwater Harvesting. The Ministry of Water Development is currently conducting experiments in this area. The use of water sources like springs is also encouraged.

The options for water supply and the cost implications on each technology to be utilised will have to be properly explained to the Community that an implementing agency is dealing with as the full responsibility for maintenance will lie in their hands.

The final choice of technology should wherever possible be left to the Community to decide.

4.7 Sanitation And Hygiene Education

Sanitation and hygiene education results and benefits are difficult to assess. This has had the result that little attention has been paid to these issues in the development of water systems as the community needs in Sanitation and Hygiene Education were not properly felt at the onset.

A lot of cultural beliefs and taboos, have also contributed to the hindering of the 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 sanitation and hygiene education, a Knowledge, Attitude and Practice (KAP) study to determine the prevailing culture and sociological practices will have to be undertaken before any intervention on sanitation and hygiene education are done. The results of which will determine the type of technology and messages to be deployed and also for monitoring and evaluation to measure the impact of interventions. The KAP study will be done soon after the villagers 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 hand in hand with the promotion of their utilisation and other hygienic messages that will promote good behavioural change. The component will be implemented together with the water supply interventions (either groundwater or piped water facilities).

4.7.1 Sanitation at household level

To maximise benefits of water supply interventions, sanitation and good behavioural change 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, when acquired, 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 the team of extension workers working in that Catchment area using the participatory techniques for training for transformation. The training materials to be utilised are the standard training schedules as detailed in the Training and Capacity Building Section presented earlier on.

For households, 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 of what type of facilities to be promoted will depend on the particular situation. However each household must be encouraged to own an improved pit latrine. **See section 12** for details of construction of a pit latrine domes and slabs. 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.

Good personal hygienic behavioural practices such as

- 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

Sweeping of houses and surroundings and proper storage and covering of drinking water will be promoted.
All these facilities and practices that are being promoted will take into consideration the cultural beliefs and taboos in that particular society and gender needs.

4.7.2 Sanitation at Village level

Sanitation at this level will be a community effort unlike the household sanitation component. This activity should not take long to achieve. 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 are:-

- 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 amount of water 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 be constructed. This will comprise a washing/laundry facilities, drainage channels, a soak-away pits or a garden at the end of the drainage channel.

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.

Good hygienic practices will be promoted which includes cutting of grass in all common places such as meeting places this includes graveyards.

4.8 Catchment Protection And Environmental Issues.

The Catchment protection will be promoted to ensure good quality and quantity of the water resources in order to have 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.

Primary Environmental Care.

The Community will be empowered to take up the protection of the environment to curb further degradation. The ever expanding 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 includes river banks, dambos and the steep slopes.

The Communities will be encouraged to set their own bye laws and monitoring activities to control any adverse activities that promote environmental degradation. The control measures will discourage stream bank cultivation, but encourage improved water control in irrigation that will permit expansion of dambo cultivation in order to maximise out puts without draining the system. 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. As an example a nursery for these could be established at a tap point at a school. This could be managed by the school committees which are 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 and establish their own wood lot.
- planting of grass on the river banks
- discourage cultivation and settlement in protected areas.

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

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 coupled with the fact that previous investments, much of them through donor support, have mostly fallen into disrepair strongly suggests that the financing mechanism/ strategy must be based on the criteria of sustainability. At the same time, the funding limitations and the inability of the poor to pay for the capital and often the recurrent costs of services means that the financing strategy must be sensitive to the plight of the poor.

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

The RWSSP policy should be based on increasing the currently low effectiveness of investments in the water and sanitation sector by making sustainability a primary goal, and shifting away from dependency on Government towards greater self-reliance by user communities. The RWSSP should provide the frame work within which Community demand for services in planning, design, construction, operation and maintenance of improved water supply and sanitation facilities can be met, and through which financial assistance for capital costs can be channelled.

Communities are reluctant to give cost in return for a promise of a new Water Supply, while government is reluctant to invest time and money to help a Community obtain an improved water supply system if it will not meet its commitments. To build confidence, community contributions will be collected and deposited in the their bank account in instalments during the planning process, starting with an initial deposit at the planning and design process, and ending when their full capital cost contribution has been deposited, at which time construction contracts can be prepared. Actual cash transfer will be required only after the water source has been tested for capacity and quality.

Wherever, possible a Community's cash contribution should be made for something tangible like its handpump or piping. This would establish a precedent for the Community replacing its handpump or adding to its piped distribution network. Consideration will also be given to providing a fixed government contribution for handpumps to communities through a voucher system and allowing communities to purchase the pump and (spare parts) of their choice from a local distributor. The together with external support agencies (ESA), active in the sector, will ensure that recommended hand-pumps are locally available.

For piped systems, the cash equivalent of the total contribution (cash plus kind) must be deposited in a joint signatory account. If a community meets its obligations on schedule, the cash equivalent of its in - kind contribution will remain in its account and can be used to pay for operations and maintenance. In the case of spring catchments and dug wells, cash to cover the in - kind contribution is encouraged but not required. If it is not deposited, and a Community's in-kind obligations are not met on schedule due to negligence, construction should be suspended until payment is made.

Community Contributions to Capital Costs.

Sustainability of water supply and sanitation facilities is based on community participation. In financial terms that means the beneficiaries must pay part of the 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. Higher levels of water and sanitation service are encouraged, but the beneficiaries are required to pay for the added cost.

Community contributions should be paid at least partly in cash, but may also be contributed partly in kind (labour such as trench digging, laying of pipes and local materials such as sand, aggregate stone, bricks etc). Such contributions may have several benefits:-

- If proportional to capital costs, they serve as a guide to help communities choose a system that is within their financial means.

- Being about the same amount as a Community would need to raise in future to cover recurrent costs, they provide an indication as to whether or not beneficiaries will be willing and able to raise the funds required to maintain their systems.

- They provide a basis for community ownership of the system.

Channelling Funds.

In the long term, districts will play a major role in pre-financing rural community water supply and sanitation facilities and supervising, planning and construction contracts. This is not feasible, however, until they have the financial and human resources to do this and the private sector capacity to help communities plan and construct their systems is available. DDC participation will therefore build up in stages according to the capacity available.

To a large extent the financial arrangement will be governed by the RWSS Program and the financing/executing agency. 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.

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.

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

Funds from the donor community will be channelled through the Ministry of Water Development to the DDC. Adequate financial resources will be allocated out of the total project cost for supervision by national and regional staff in the Ministry Allocation of financial resources will depend on the number of technical visits and geographical location from Headquarters and Regional Offices.

A Cash account will be operated at the District Centre and it will have four signatories, two from the Government Side and the other two representing the beneficiary community. The District Commissioner (DC) who heads the DDC will be the controlling officer at District level. The DC and the District Water Officer (DWO) will be signatories on behalf of Government while the Communities will choose their own signatories to the account.

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 when this requirement has been breached.
All financial transactions should be approved by the DC.

The DDC will be required to submit written monthly financial/ expenditure returns to the Ministry of Water Development.

Table 4

Community Contributions are presented in the following table.

PRIVATE	FACILITY TYPE	BASIC SERVICE LEVEL.		COMMUNITY CONTRIBUTION
		Basic Service Level.		Incremental cost of higher service level.
Community Water Supply		36LCP	5%	50%
		27LCP	1%	50%
Individual Connections		-	-	100%
Public Toilets		VIP Latrines	5%	50%
Household Toilets	Sanplat Toilets		50%	50%
1 Piped Systems Groundwater				

Recurrent Costs.

Beneficiary Communities are required to pay all recurrent costs.

6.0 MONITORING AND EVALUATION

6.1 Introduction

Preamble

(I) **Purpose and focus**

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 broken-down boreholes, dried-up wells, broken pumps and taps are required if remedial action is to be taken. Monitoring and evaluation are continuous processes, which should be built in from the very beginning. monitoring is an ongoing activity to provide a continuous oversight as to whether projects or services are proceeding or functioning according to the plan. 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 of implementation. This ultimately aims at reviewing the conditions of water, sanitation, hygiene and the environment at community level, thus the focus is geared at changes of these aspects.

6.1.2 Main areas identified for monitoring

(i) Gravity fed piped supply
(ii) Ground water supply through Boreholes and shallow wells.
(iii) Community Based Management
(iv) Hygiene and Sanitation Education.
(v) Catchment Protection
(vi) Water Quality
(vii) Operation and Maintenance
(viii) Environmental Management.

6.2 Objectives

6.2.1 The broad objective of monitoring is to provide reliable information and data on the status of water supply and sanitation services at community, district, regional and national level. This data will be used in planning, implementation and management of new and rehabilitation projects and for decision making at all levels in Malawi.

6.2.2 Specific Objectives include:

Monitoring

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

Evaluation

(I) to compare achievement to goals/target
(ii) to find out problems encountered during implementation.
(iii) 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.
(iv) to come up with recommendations for improvement of existing and future projects.

6.3 How To Carry Out Monitoring And Evaluation In The Water And Sanitation 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 data collection and analysis. The following steps are suggested for monitoring and evaluation.

6.3.1 Baseline Survey

Establish baseline data for each new project in a community. One baseline survey should be carried out on all the main project components of water, sanitation and hygiene. Therefore co-ordination is essential with line ministries on topics as suggested for doing monitoring and evaluation.

A baseline survey not only aims at providing project staff with a good understanding of people's knowledge, attitudes and practices towards water, sanitation and health, but it includes more information on the socio-economic situation and local water and sanitation conditions. It covers individual household as well as community-level.

6.3.2 Indicators

Monitoring indicators are required to measure or point out progress impact and effects. These indicators should be based on the project objectives. Suggested indicators can be grouped in the following categories:

(I) **technical performance** of the water supply and sanitation facilities including VLOM aspects:
- sufficient water available or not and what times
- type and frequency of breakdowns
- general operation (housing, fencing, drainage, surroundings, distribution)
- repairs (ease, frequency, waiting time)
- quality of water.
- efficiency of sanitation facilities.
- usage of sanitation facilities.

(ii) **managerial performance** of committees:
- frequency of committee meetings, active attitude of committee
- registration of contributions/ payments, book keeping and treasuring
- accounting for performance to users.

6.3.3 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:

(i) PRA methods
(ii) interviews
(iii) pre-designed monitoring forms
(iv) checklists
(v) questionnaires

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. The only effect will be that they will not collect reliable information in future. Instead, the focus should be on learning, and on adapting and improving procedures, activities and result.

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.

6.3.4 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 for in-depth analysis.

At village level, monitoring by the community or its water/health committee will be done monthly. The suggested frequency for collection of the monitoring data from the village by extension workers is quarterly. 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.

6.3.5 Evaluation

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.

6.3.7 Funding for monitoring and evaluation

Because of the importance of monitoring and evaluation, each new project aimed at providing, extending or rehabilitating water supply and/or sanitation services should provide separate funding for these activities. Part of it will be used during the life of the project, but there should be also funding available for the post-evaluation of the project after some years and the inclusion of the new/rehabilitated services in the monitoring system of the government ministries. This is very important as already pointed out that monitoring is the basis for the design and implementation of new projects to come.

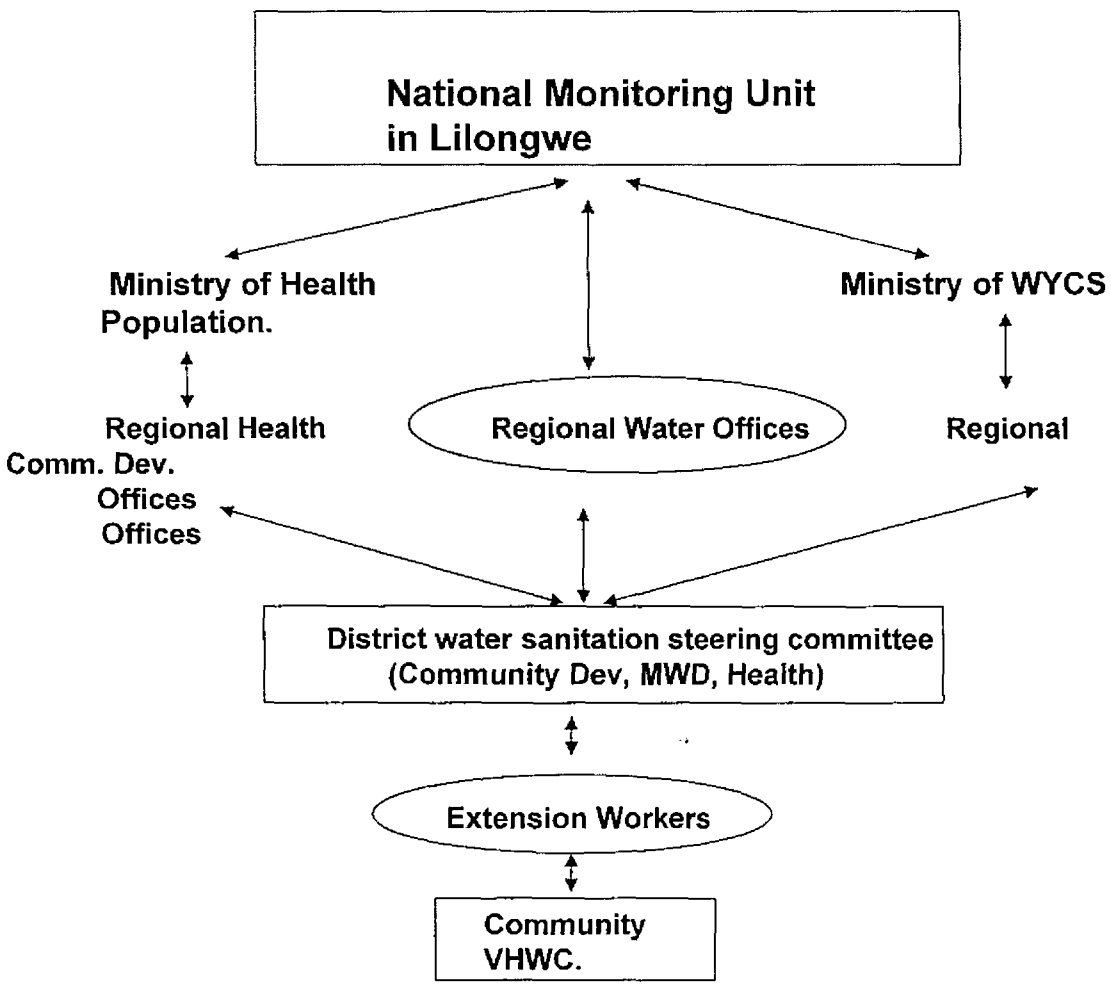
6.4 Structure Of The National Monitoring System

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. This Unit should be staffed with at least four professionals as follows:

(i) a water professional officer (hydrologist, water engineer, mechanical engineer)
(ii) Social Workers
(iii) a data analyst/computer assistant
(iv) sanitation engineer

Communication will go along the lines as stipulated in the figure below:



ANNEX 1a **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

INFORMATION FLYER

RURAL WATER SUPPLY AND SANITATION (PIPED WATER SCHEME)

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 perenial 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

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 of .....Village	**On behalf of the Water Project**
Signed.....	**Signed.....**
Designation	**Designation.....**
Date.....	**Date received.....**

ANNEX 3 MINISTRTY OF WATER DEVELOPMENT

COMMUNITY BASED MANAGEMENT STRATEGY

COMMUNITY-LEVEL MOBILIZATION AND TRAINING REQUIREMENT

1. **Community mobilization 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 mobilization 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 from, to be signed by members of VHWC (or project committee?)

- promotion of sanitation through hygiene education.
- discussion of community role in borehole sitting, 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
- organization 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 targett 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 waterpoint** - during handpump installation (relevant for VHWC or Borehole Committee Members) :

- familiarization 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

District……Traditional Authority……Village……
I/We …… Village Headman of…… Village on behalf of
people of ……Village 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 constructing ……Sanslab/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 hand pumps 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 of ……Village	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

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