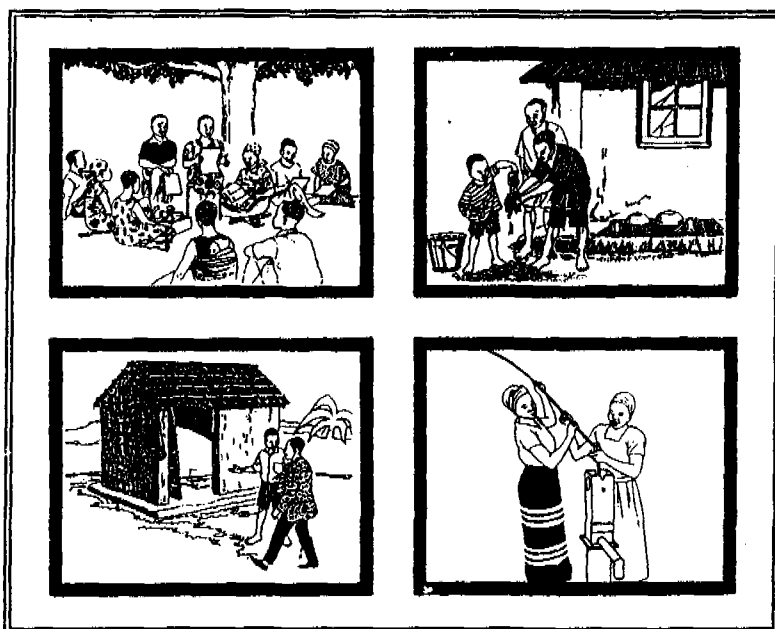


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**GUIDELINES FOR THE INTRODUCTION OF COMMUNITY BASED  
MANAGEMENT OF GROUNDWATER RURAL WATER SUPPLIES IN  
MALAWI.**



THE CBM UNIT, FLOOR 4, TIKWERE HOUSE, WATER DEPARTMENT, MINISTRY OF  
IRRIGATION AND WATER DEVELOPMENT, PRIVATE BAG 390. LILOMFWE 3.

# GUIDELINES FOR THE INTRODUCTION OF COMMUNITY BASED MANAGEMENT OF GROUNDWATER RURAL WATER SUPPLIES IN MALAWI

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## 1. INTRODUCTION

This document will set out to give guidelines on the recommended approach of introducing Community Based Management (CBM) to rural communities who operate groundwater supplies in Malawi.

The purpose of the document is three fold:

- \* As a Reference.
  - To inform and give advise to interested parties on how they should go about implementing a CBM programme.
- \* As a Standard.
  - To ensure uniformity of approach and standards amongst the many agencies that are implementing CBM nationally.
- \* For Continuing Development.
  - To encourage discussion and debate such that all implementing agencies can share their own experiences and thus ensure the continuing development and refinement of all aspects of CBM.

With particular regard to the last point these guidelines should therefore not be read as being definitive. It is intended that they should be regularly amended and up-dated to reflect the latest developments and consensus on the most effective approach that should be adopted.

The CBM unit would therefore appreciate comments and feedback from all interested parties such that relevant amendments can be incorporated in future editions of the guidelines.

## 2. BACKGROUND

### Existing Centralised Borehole Maintenance System

Traditionally the government of Malawi has maintained all rural boreholes and handpumps through the Water Department's long established centralised maintenance system. Under this system each district has its own mobile crew equipped with a pick-up and tools which responds to reported breakdowns.

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However, in recent years this approach has been unable to cope with the workload due to an ever increasing number of boreholes, coupled with insufficient funding and worn out equipment and transport. The wide diversity of over 15 types of handpumps, most requiring different spare parts, has also exacerbated the situation.

The result is that a large proportion of rural boreholes are broken down at any given time and it is often several months before they are repaired.

### **Introduction of Community Based Management (CBM)**

During the past decade or so there has been much effort directed towards the development of Village Level Operation and Maintenance handpumps - often referred to as VLOM type handpumps. Such a pump should be capable of being easily repaired by the rural community using simple tools and given some basic training.

The handpump that has been adopted by the government of Malawi as the standard VLOM handpump to be fitted to boreholes is the Afridev. This will normally operate on boreholes or wells within the depth range of 10m to 45m. Standardization on one type of handpump will also greatly ease the logistical problems regarding the procurement and distribution of spare parts.

At present there is no VLOM handpump that has been adopted by the government as a standard on shallow wells i.e. on depths below 15m. However, currently there is a locally manufactured, direct- action handpump undergoing trials in Malawi - the MADA. It is hoped that this will also become a national standard if the trials prove successful.

In the meantime the Water Department recommends that the standard Afridev is also fitted to all shallow wells and tube wells. Although it is not designed for shallow settings the Afridev has been found to operate satisfactorily and will enable CBM to be introduced as well as complimenting the policy of handpump standardization .

With the Afridev pump available and now being put in place through new projects and numerous rehabilitation programmes, the government is committed to a community based management system in which caretaker committees are responsible for the care and upkeep of the water points.

However, in the introductory and initial phases the communities will only be expected to deal with minor breakdowns which require the replacement of fast wearing spare parts. Major breakdowns will still require the support and attention from the district borehole maintenance crew.

In addition to this support role the district crews will still be required to maintain the non-VLOM type of handpumps, such as the Climax, which are often located in institutional settings, such as health centres, schools, etc, as well as fitted to very deep boreholes.

### **The Three Tier Maintenance System**

Maintenance of Afridev handpumps is therefore envisaged as a three tier system. In the first instance any maintenance or breakdown should be dealt with by the community themselves. If they are unable to deal with the problem because it lies outside the areas covered by the current CBM training syllabus, or there is some other difficulty, then the local Water Monitoring Assistant (WMA) should be requested to assist.

At present there are around 60 Water Monitoring Assistants employed by the Water Department to implement and support the CBM programme. On average there are only two or three serving each district and they therefore tend to be based at the Boma. However it is generally recognised that more WMAs need to be recruited so that they can be based at an area level and be more accessible to the communities.

If a problem with the borehole/well or handpump is beyond the WMA's capability then she/he should arrange for the district borehole maintenance team to carry out the necessary repairs.

The last point is important in that ideally it should only be the WMA who requests assistance from the borehole maintenance team to carry out repairs in a CBM trained community. This should prevent further cases where the borehole maintenance team have carried out simple borehole repairs in CBM communities and have thus undermined the community's responsibilities.

### **The National CBM Programme**

A CBM Unit has been created within the Water Department and given the responsibility of implementing the National CBM Programme.

However at present the CBM Unit does not receive a recurrent budget to fund a programme on a national basis and its activities are therefore restricted. In addition to this the available resources, in particular human resources at all levels, are insufficient in relation to the workload. Given these constraints the CBM Unit's current role is somewhat limited to that of promotion and support.

The National CBM programme is in fact made up by a number of donor funded groundwater projects and the many Non-Governmental Organisations operating in the rural water sector. The CBM Unit promotes the adoption of the Afridev hardware and CBM software components in all such projects and provides support with regard to community trainings. With virtually no funding it is however reliant upon each project or NGO to cover all the direct training costs.

In the past there has been a number of groundwater installations that have been constructed by projects and NGOs and 'handed over' to the Water Department without any CBM component. In such cases the project or NGO has either expected or requested the CBM Unit to organize and fund the CBM community trainings which, for lack of funds, it is currently unable to do. This has therefore led to the current backlog of

untrained communities increasing and placing further burden on the Water Department's limited resources.

### 3. GENERAL APPROACH

The long term success and sustainability of CBM will depend upon many inter-related factors and these should be borne in mind during the implementation stage of any programme.

Generally speaking the most important aspects to consider and address are as follows:

#### **Community Commitment**

In most cases communities are only too aware of the limitations and poor service delivery of the centralised borehole maintenance system. Most will have experienced long delays before a repair is carried out and will therefore be receptive to a new approach which can eliminate these delays.

The concept of CBM and the roles and responsibilities needs to be discussed fully with each community, and in particular the financial outlay that will be required in purchasing spare parts. No attempt should be made to introduce CBM until the community is fully aware of what is involved and is committed to it.

In some cases this commitment will be easier to obtain than others. In 'concentrated' CBM programmes a community may already be aware of the benefits of CBM from neighbouring villages which already operate the system. In such cases the community is often ready and only too willing to participate in CBM.

However, in 'dispersed' CBM programmes and in areas where CBM has not yet been widely introduced the reverse may apply. Here communities will not yet have witnessed the benefits of CBM and may not be so willing to take on the new financial burden, especially as they see that their neighbours still enjoy the free service provided under the centralised system. Local politicians can often highlight this inequity and thereby further complicate the issue.

#### **Developing Necessary Skills**

CBM is introduced through a short training course given to a representative Borehole Committee elected by the community. Many consider that as soon as this course has been concluded then the community can be regarded as sufficiently trained and then left to put CBM into practice.

However, it should be realised that this formal course does not mark the end of CBM training but merely its beginning. The information gained has still to be put in practice. There will therefore be an on-going process of learning through experience which may take years rather than months.

The Borehole Committee will need time to develop the necessary management skills and team approach that CBM will demand. The Pump Caretakers may not be called to dismantle the handpump until some months after their training. It may also take time for the new concept to win the trust and full support of the community at large, especially as they may initially be sceptical when they are asked to hand over money to purchase spare parts.

There is therefore a need for regular follow-up visits during which advice and support can be given to each trained community to ensure that the learning process moves forward and that any problems that arise are properly resolved.

### **Utilizing Government Extension Staff**

For sustainability such continuous support is best delivered by the existing extension workers who would routinely be visiting the community through the course of their normal duties. It is with this objective in mind that NGOs and projects should always fully involve and utilize the local extension network when implementing a CBM programme.

It is also widely recognised that CBM demands a multi-sectoral approach. This is especially so if the fundamental issues of hygiene education and sanitation promotion (HESP) are also to be addressed.

For these reasons it is vital that during the introductory stages all key ministries are involved and that they continue to do so thereafter. In Malawi the three key ministries are the Ministry of Irrigation and Water Development (MoIWD), Ministry of Health and Population (MoHP), and Ministry of Women and Children's Affairs and Community Services (MoWCACS)

At district level each ministry has extension workers who operate in different catchment areas which cover a number of communities. When introducing CBM those extension workers who normally work in the community should be utilised at all stages. They should also actively continue to assist the community on all CBM and HESP issues on a on-going basis.

In the early planning stage of any CBM programme it is therefore essential to identify the key extension workers and ensure that they are suitably trained to enable them to implement and continue to support CBM.

## **4. KEY STAGES IN IMPLEMENTING COMMUNITY BASED MANAGEMENT.**

### **Formation of District CBM Team**

As a multi-sectoral approach is at the core of CBM activities it is vital that a District CBM Team comprising the senior district representatives from the key ministries is used in order to ensure close collaboration and co-ordination of the extension workers.

In some districts this team will already have been established. In others where there has been little or no previous CBM activity it will need forming. An NGO or project wishing to implement a CBM programme may therefore need to take the lead in establishing a District CBM Team. Many implementing agencies employ their own Project Co-ordinator to work with and assist this team.

The District Commissioner should first be approached and informed of the intended programme. As chairman of the District Development Committee he will be able to inform all the party leaders, heads of government departments, traditional chiefs, and other leaders, of the programme and request their support.

The District CBM Team should usually consist of the District Environmental Health Officer (DEHO) from MoHP, the District Community Development Officer (DCDO) from MoWCACS and a representative from the Water Department. This last post is usually that of a Water Monitoring Assistant (WMA) or Borehole Maintenance Assistant (BMA).

The team can identify those extension workers that should be involved in the CBM programme and form them into local area teams depending upon the overlap of each extension worker's catchment area.

The team should also raise initial awareness of CBM amongst the traditional chiefs and attend the early community committee training courses when these begin. Their general role will be to provide supervision and co-ordination of the activities of the extension workers, organise regular review meetings, and provide reports on progress and problems encountered.

### **Training of Extension Workers**

In some districts where there has been previous CBM activity the extension workers may have already attended a Training of Trainers (TOT) course to familiarise them with the programme. However, in many areas extension workers will not yet have been introduced to CBM and there will therefore be a need to organise and fund a TOT course.

Participants are usually Health Surveillance Assistants (HSA), Health Assistants (HA), Community Development Assistants (CDA) and Water Monitoring Assistants (WMA).

The course is based on a standard syllabus and timetable which is obtainable from the CBM unit. It is given by either members of the District CBM team or other suitably qualified staff who may need to be brought in. Participants are usually provided with notebooks, pens, files and course note handouts. A standard course usually lasts 5 days and is held at a suitable local venue on a residential basis. The participants should therefore be paid the standard government night allowance rate. Currently these are:

TA/STA	=	MK160.00	} revised
STO/EO	=	MK210.00	
CTO	=	MK230.00	

## **Community Borehole Committee Formation**

The local area teams of extension workers should produce action plans for implementing CBM into communities within their area. Once this has been done a meeting should be arranged with the Group Village Headmen and any local influential leaders to discuss the programme.

Following this meeting another meeting may be required to discuss CBM with the Village Headmen from each targeted community.

These preliminary meetings are important to ensure that all the local influential leaders are aware of the intended CBM programme. It would be inappropriate and unwise to bypass these key people and deal immediately with the communities themselves. If any subsequent problems or lack of commitment to CBM is encountered then leaders will be able to assist in resolving the matter. They may, however, not be so supportive if they have not been informed or involved beforehand.

After the Village Headman has informed the community discussions can then take place which will hopefully lead to a consensus commitment to take on the responsibilities with regard to the upkeep of the borehole.

Arrangements can then be made for the election of a Borehole Committee, unless of course the community feel there is already an existing committee which can take on the extra borehole responsibilities. The arrangement and election should be attended by the team of extension workers to provide guidance and deal with any queries.

The committee will normally consist of ten members of which it is hoped that there will be an equal number of men and women. The composition of the committee is;

chairman	vice chairman
treasurer	vice treasurer
secretary	vice secretary
Plus 4 other members	

From the committee three members who can read and write should be appointed as Pump Caretakers. At least two of these Caretakers should be female.

## **Community Borehole Committee Training**

After awareness raising and the election of the committee the community's interest and enthusiasm for CBM is usually quite high. Ideally committee training should therefore take place as soon as possible, and preferably within three months. With seasonal workload demands this may not be achieved, but six months should be regarded as a maximum time lapse. Long delays will allow enthusiasm to dampen and lead to a loss of confidence in the programme's ability to meet its promises.

The training course consists of two components. Leadership training for the entire



committee, which lasts two days and covers leadership skills, committee procedure, introduction of VLOM, HESP, and financial management. The Village Headman should also be invited to attend this course.

Some projects consider that the two day Leadership training course does not give sufficient time to adequately cover issues on hygiene education and have therefore extended the course to three days.

The second component deals with technical training for the three Caretakers and lasts three days. This covers operation and maintenance of the Afridov handpump and involves practical demonstrations.

The venue for the course is often a local church or farmers club. The ideal number of committees trained together is 3 which gives a total of 33 participants for the leadership training. Some programmes train 5 committees together, for economy and to accelerate the programme. This is not ideal, as a large group of 50 people or so will be difficult to address effectively.

The location of the training will very much depend upon the nature of the programme and the dispersal of participating villages. If very dispersed it may be necessary to provide transport so that the remotest committee can reach the chosen venue.

Allowances, as such, should not be paid to the committee members or caretakers while attending the course. Usually participants are given a pen and notebook, soft drink refreshments at break time, and if it is impracticable to provide lunch then a nominal amount can be given in lieu of this. Currently the amount paid varies between MK 10- MK 20. It should always be emphasised to participants that this is not a standard government allowance to which they are entitled, but a discretionary sum given by the project when lunch itself cannot be provided. Clarification of this will help to prevent the already thorny issue of allowances also becoming a problem at community level.

The local team of extension workers should deliver the training courses based on a standard training manual which has been developed and is available from the CBM unit. A government lunch allowance of MK 35 is usually paid to the extension workers when they are able to return to their bases each afternoon.

If they are forced to stay overnight away from their station then they should be paid a night allowance. As the standard government rate of MK 160 is considered by many to be prohibitive, some projects have negotiated and agreed with the extension workers a lesser sum which more closely reflects the expenses involved. Whilst the government does not readily approve of this, at least such a compromise solution can ensure that the extension workers remain actively involved and do not boycott a project due to not being paid a reasonable night allowance.

## **Issue of Afridev Tools and spares**

When purchased each Afridev pump arrives with a VLOM tool kit and a spare parts pack.

The toolkit consists of :

Fishing tool  
17mm/19mm spanner  
24mm socket spanner

This should ideally be issued to a Pump Caretaker during their technical training course.

The spare parts pack should not be issued free of charge as this will only perpetuate the perception that the borehole is owned by the government and is therefore to be maintained free of charge. The concept of CBM is based on instilling a sense of community ownership and the issuing of free spare parts will only negate this.

Committees should always be encouraged to adopt a policy of preventive maintenance and not wait until a breakdown occurs. The purchasing of spare parts as soon as funds are raised will enable Caretakers to practice this. It will have the added benefit of avoiding the many problems associated with either keeping cash in the community or having to travel to distant banking facilities.

## **5. SPARE PART DISTRIBUTION**

### **Chipiku Stores**

In the long-term it is hoped that the commercial sector will take up the supply, distribution and sale of all Afridev spares needed to support a national CBM network. However, at present the somewhat dispersed nature of the market and the lack of sufficient demand has yet to lead to any commercial manufacturers or retailers in Malawi fully taking on this role.

In the interim period The Water Department has introduced a distribution system in partnership with Chipiku Stores, a national wholesaler with more than 70 outlets throughout Malawi. The Water Department imports Afridev spares into Malawi and supplies Chipiku Stores on a consignment basis whereby Chipiku Stores remits sales monies to the Water Department less a percentage commission.

At each Chipiku Store outlet five fast wearing items are stocked; bush bearing, U-seal, bobbin, O-ring, and pump rod centralizers. These are parts that most frequently wear out and the Pump Caretakers will have received training on their replacement.

In addition to these parts each Chipiku Stores regional warehouse has been supplied with a small number of other Afridev 'hardware' spare parts. These are all the other components that are fitted to the handpump and would not normally wear out but may need replacement as a result of accidental damage or poor maintenance. These items are

only supplied from the warehouse following a special customer order from one of the district stores.

At the present time Borehole Committees are not expected to purchase or replace these hardware parts as they are not covered by the present CBM training course. Therefore in theory they can request that the Water Department deals with any breakdown that requires the fitting of any part other than a fast wearing item. However, in reality in most districts the Water Department's capacity to respond to a breakdown is limited and a community with a broken down handpump could end up waiting several weeks for assistance. In such cases the community has the option of taking the initiative and directly purchasing the defective part.

For the fast wearing spare parts a price structure has been set which gives a 'wholesale' price to be charged by Chipiku Stores and a slightly higher 'retail' price which local grocers can charge as an incentive for them to stock these items and sell directly to Borehole Committees. To date this has had limited success in both Karonga and Mchinji districts and it remains to be seen whether communities are prepared to pay a slightly higher price for the convenience of having the spares more locally available.

Monies raised from Chipiku Stores sales are remitted to the Water Department in Lilongwe less a commission charge. This money is being kept in a separate account with the intention that it should be used as a revolving fund to import further consignments of spares to supply Chipiku Stores.

### Price List

The current prices for Afridev spares are as listed below;

<u>Fast Wearing Items</u>	<u>Retail Price MK</u>	<u>Wholesale Price MK</u>
Bush bearing assembly	22.50	19.15
U-Seal	10.00	8.50
O-Ring	6.00	5.10
Bobbin	16.00	13.60
Pump rod centralizer	23.80	20.25

<u>Hardware Items</u>	<u>Wholesale Price MK</u>
Pump rod	250.00
Fulcrum pin	490.00
Hanger pin	300.00
Pumphead	1120.00
Cover	460.00
Rod hanger	290.00
Handle - front	970.00
Handle - rear	400.00
Cylinder and suction tube	1260.00

Plunger/footvalve body	210.00
Pumprod fitting - bottom (plunger rod)	460.00
Footvalve fitting (U-hook)	90.00
Hexagonal bolt D-156/F-255 (Handle/rod hanger)	5.00
Hexagonal bolt L-559 (Plunger & footvalve)	20.00
Hexagonal bolt A-18 (Cover)	5.00
Hexagonal bolt A-19 & nut A-20 (pumphead flanges)	5.00
Hexagonal nut special C-126 (Fulcrum pin)	10.00
Hexagonal nut C-131 (Hanger pin)	5.00
Compression cone	100.00
Pipe centralizer	50.00
Spanner (socket)	240.00
Fishing Tool	240.00
Rising Main Tube	200.00

## 6. CONTINUING GOVERNMENT EXTENSION SUPPORT

The key to the sustainability of effective CBM may well prove to be ensuring that there is on-going support and encouragement to the communities from the key extension workers. This is needed to ensure continuing development and built capacity as the community embark on what is in essence a learning by experience process. Without this support there is a danger that early problems will not be overcome and the whole process can stagnate. This will eventually lead to a disintegration of CBM and community support of the concept.

As most NGO and donor funded projects only have a limited time period it is not possible for project staff to provide this long-term support. For this reason it is imperative that during the implementation stage the existing network of government extension workers is fully utilised. Full involvement from the initial stages should also help the extension workers to appreciate and understand the importance of their future role in building up a CBM capacity.

## 7. MONITORING

At present due to the limited resources available it has proved difficult to set up a national database and maintain an effective system for monitoring all water points fitted with Afridevs which are under community based management.

A draft monitoring form has however been developed by the Water Department in conjunction with the Kalembo Groundwater Project and is available to other projects or NGOs to utilize. These forms can be obtained from the CBM Unit.

## 8. FUTURE DEVELOPMENT OF CBM

The current CBM programme is limited in that the beneficiary communities are only being given the responsibility for basic preventive maintenance which involves purchase and replacement of the fast wearing spare parts. The long term objective is that communities will take on a much greater management role and deal with all aspects of water point maintenance within their means. The key issue here will be to determine the level of financial and technical responsibility that rural communities in Malawi will be able to sustain.

The present approach is that of raising the beneficiary community's responsibility in incremental phases, the community given time to develop the skills and confidence needed before being burdened with extra responsibilities. There is therefore a need to define and develop the next phase that will be implemented. This will probably be to train the Borehole Committees and Pump Caretakers to carry out maintenance and repairs to the PVC rising main and may include a refresher or a more intensive HESP component.