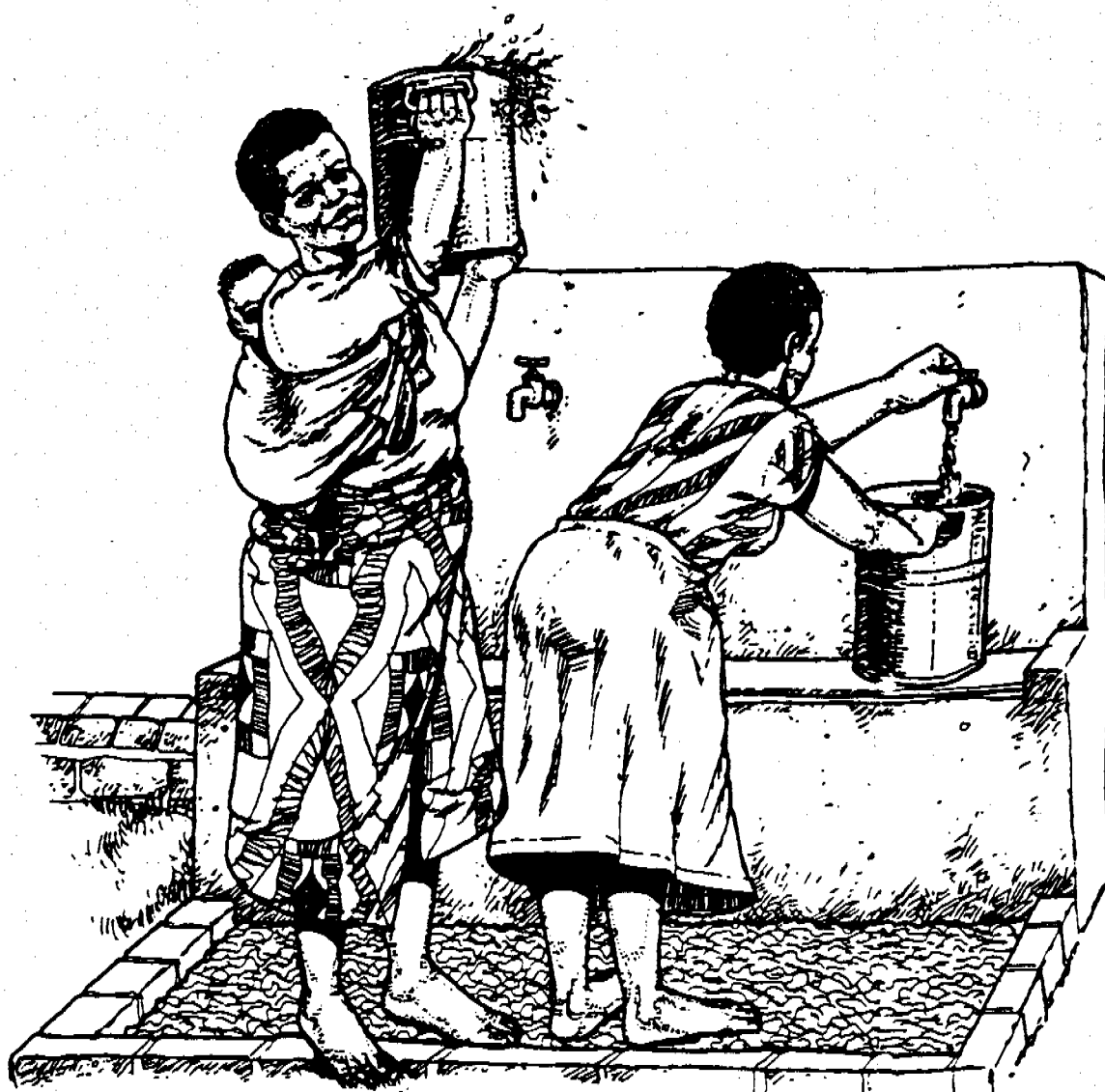


GUIDELINES FOR OPERATION AND MAINTENANCE OF PUBLIC STANDPOSTS

FOR TAP COMMITTEES



BY

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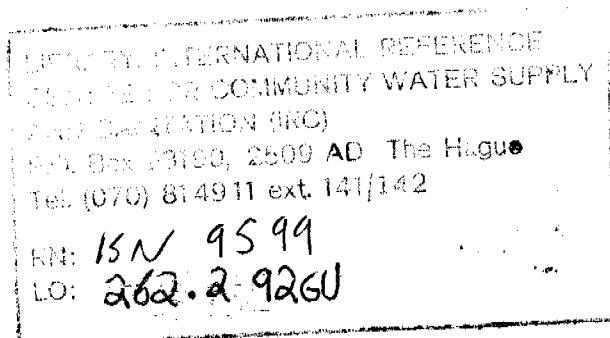
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1. INTRODUCTION

In most projects it is assumed that once the water supply facilities are provided, the communities will operate and maintain them to the required standards.

As part of the Piped Supplies for Small Communities Project in Malawi an analysis was made of long-term monitoring of operation and maintenance of public standposts showed that most of the breakdowns of the facilities were caused by communities being ignorant on proper operation procedures.

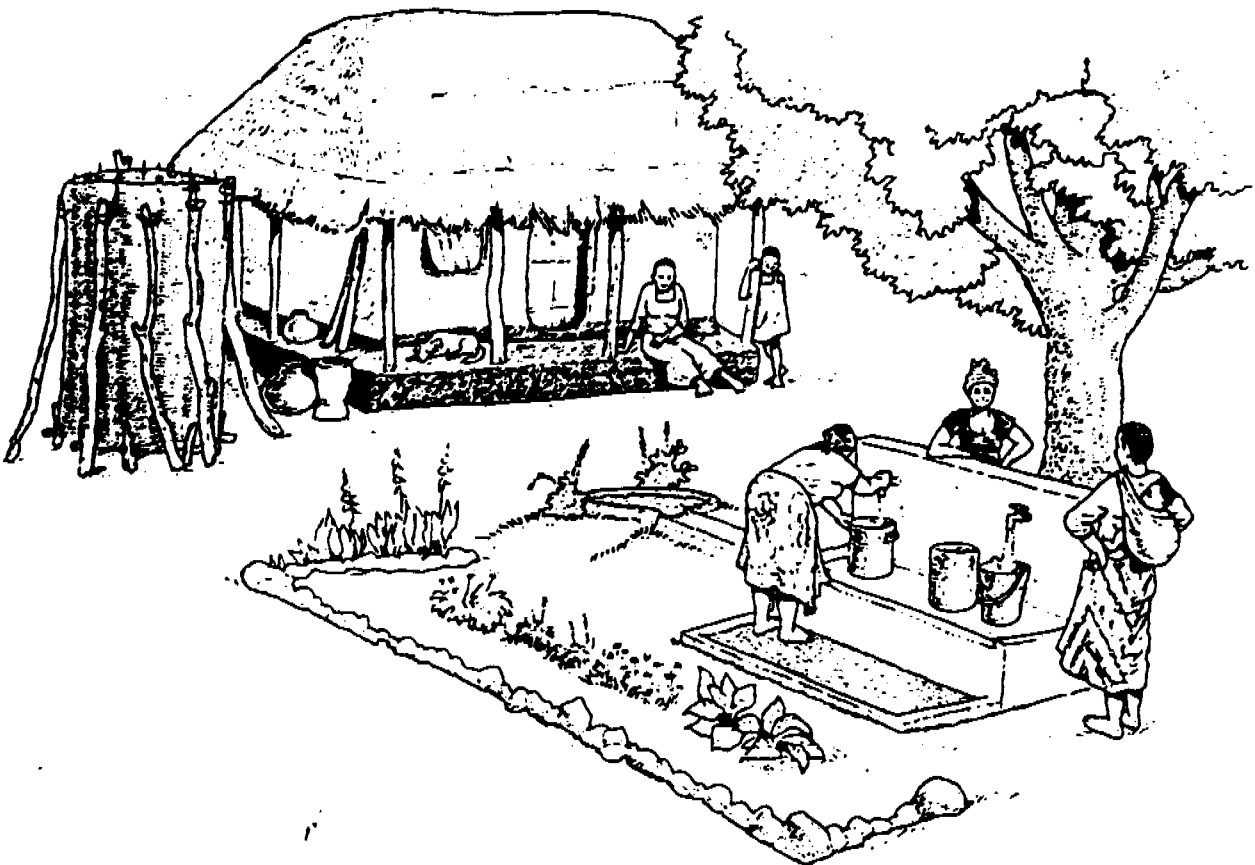
The tap heads threads and rubber washers for example got worn out quickly because of over-tightening when closing the taps. The standpost structure got cracked because of placing water containers on to wrong places.

Fixing of operating hours without proper consultations among the user groups caused a lot of problems, which (among other things), led to queues forming at the water point, quarrels, dissatisfaction and users dropping out of the user groups.

These are some reasons why it became necessary to produce this manual, which will help Tap Committee leaders to avoid the above named and other problems.

1.1 What this manual is for

If public standposts do not supply water, the people in the communities suffer as they have to walk longer distances to get water, as they have to collect water of lower quality from traditional sources, or as they have to buy water from vendors. The interrupted supply may be caused by problems at the source, in pumping (if applicable) or in the distribution network.



Actually often the problem is caused by improper operation and maintenance of the standpost. These structures and taps belong to the communities. It is therefore their responsibility to take proper care of these to ensure functioning of the standpost and facilitate supply of potable water.

This can best be achieved through proper operation and maintenance of the facility.

However for the facility to be properly operated and maintained, the people must have good knowledge of the simple technical components and skills in maintenance and carrying out simple repairs.

This manual is intended to assist Tap Committees, who are community trustees, to manage operation and maintenance of the public standpost to ensure uninterrupted flow of potable water.

Communities will also find the manual useful as it outlines the best ways they can use the various parts of the standpost structure to ensure their long lasting. This will not only afford them continuous supply of good water, but also saving a lot of funds which should have been used for maintenance if the facilities broke down.

Extension workers can use the manual to help them monitor whether the communities are undertaking their responsibilities effectively.

2. USE OF THE STANDPOST STRUCTURE

Each part of the public standpost structure has its own purpose. The standing area for example is provided for users to stand when drawing water while the platform is meant for placing containers and the pillar for support of the service pipe and bibcock.

It is therefore not proper to use the structure parts wrongly as this would lessen the life of the communal water point.



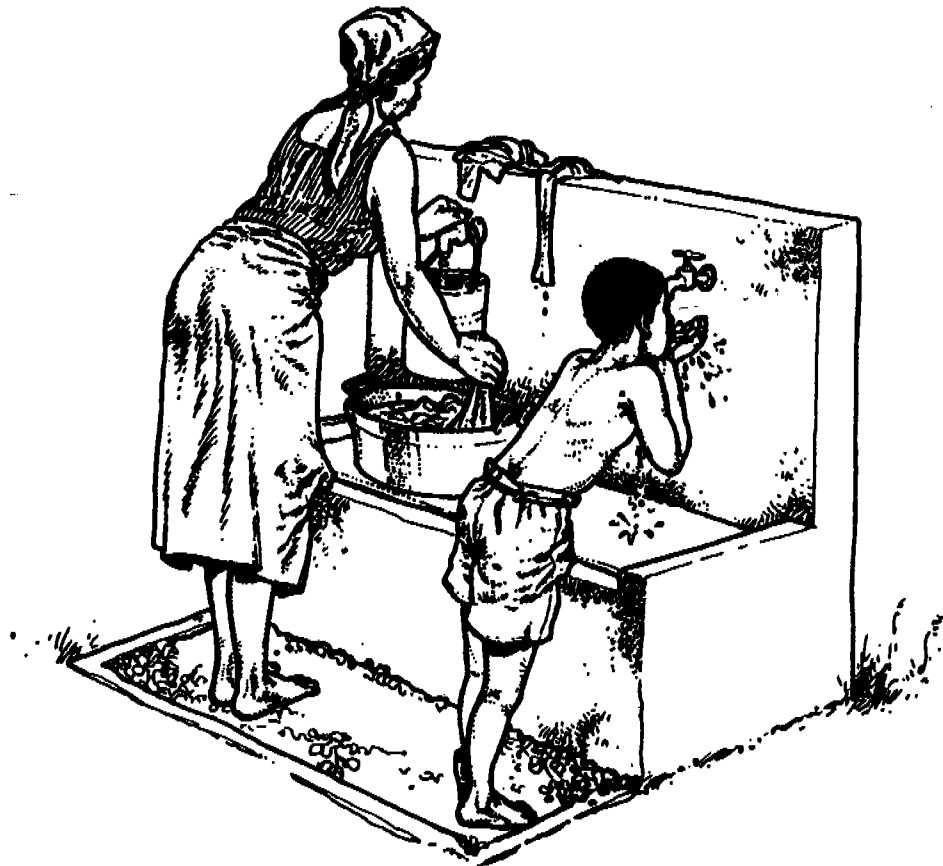
- * Encourage users to utilize the standing area when drawing water and not the edges of the public standpost.
- * Do not use the pillar as a bucket stand because the pillar gives support to the service pipe which brings water to the taps.
- * Avoid using platform as standing area. The platform is provided as stand for water buckets.

3. OPERATION PROCEDURES

3.1 Taps

The tap head is one of the parts which wear out quickly particularly if it is not properly handled. It is also an expensive item if you have to buy it.

- * Do not over-tighten taps when closing; this to avoid damage of the rubber washer inside and wearing off threads.
- * Prevent children from playing with the taps. Instruct older children on proper operation of the taps.



- * Discourage the practice of hanging pails onto the taps and of using taps as lifting pillars for pails, as this will wear off the taps quickly or even break them.

3.2 Meter box and valves

The meter or valve box is there to protect the meter. Valves for controlling water flow (i.e. for opening and closing) are also located in the valve box.

- * Keys for the valve box should be kept by one responsible user or be rotated among easily accessible users chosen by the Tap Committee.
- * Keep the keys safely. If the keys are lost or if the lock is broken, replace them quickly using maintenance fund.
- * Keep the meter box locked when the water point is not being used.

- * When opening or closing the water supply use the valve between the meter and the public standpost. Do not use valve before the meter because it is for use by water supply technicians only.
- * Avoid over-tightening of the valve when closing to prevent it from wearing off quickly.
- * Inspect the meter when opening water supply every morning to see that it is working properly and that there are no leaks.



- * Inspect the two valves to see that there are no leaks.
- * If either the meter is not working or is leaking , or the valves are leaking, report this immediately to the Plant Operator In-Charge.

3.3 Opening and closing schedule

- * Times for opening and closing the taps should be agreed upon during a general public meeting of all users. Period selected should be convenient to all users.



- * Check the water flow directly after opening the valve. If pressure is low, report this immediately to the Plant Operator In-Charge.
- * When water flow is normal there should be no queuing for water. If there are long queues, opening hours should be increased in consultation with all users.

4. TYPES OF MAINTENANCE

Maintenance for the standpost can be divided in three types:

- Preventive maintenance;
- Corrective maintenance;
- Major maintenance.

4.1 Preventive maintenance

Preventive maintenance is meant to reduce the breakdown of the system. Preventive maintenance results in a reduction of repairs and/or replacements.

Preventive maintenance tasks are :

- * to regularly inspect, check and test the taps and the service pipe, and tighten any loose parts;
- * to attend to any slight dripping of a tap by checking the washers and replace them when needed;
- * to regularly inspect the standpost structure, the platform and drainage for cracks and faults. Small cracks should be repaired at once by filling them with cement mortar (grouting);
- * to regularly remove leaves, sand and other dirt from the drainage as they clog the soakaway;
- * to prevent any pools of stagnant water around the standpost; as these become mosquito breeding places.

4.2 Corrective maintenance

Corrective maintenance is carried out in order to bring back a standpost into operation after a failure. This will always involve repairs to be made. This maintenance is further described in section 5.

4.3 Major maintenance

Any major breakdown, like a broken pipe, which cannot be repaired by the Tap Committee, should immediately be reported to the Plant Operator.

Other breakdowns which should be reported are:

- meter which is not working;
- meter or valve which is leaking;
- water not coming out of the taps:
(when this happens make sure the taps remain closed until water is available again).

5. MAINTENANCE OF STANDPOST

For the standpost to continue producing potable water which is not contaminated due to unhygienic surroundings, the Tap Committee should be committed to carry out any maintenance work hand in hand with all users.

If any of the following failures is found, the Tap Committee should ensure that the standpost is attended to without delay:

- a badly leaking tap due to a worn out rubber washer;
- a cracked or damaged platform, support structure or drainage;
- a blocked soakaway pit.

5.1 The Tap

One of the most common problems of standposts is a leaking tap. The following is a step by step procedure for repairing a leaking tap.

Step 1

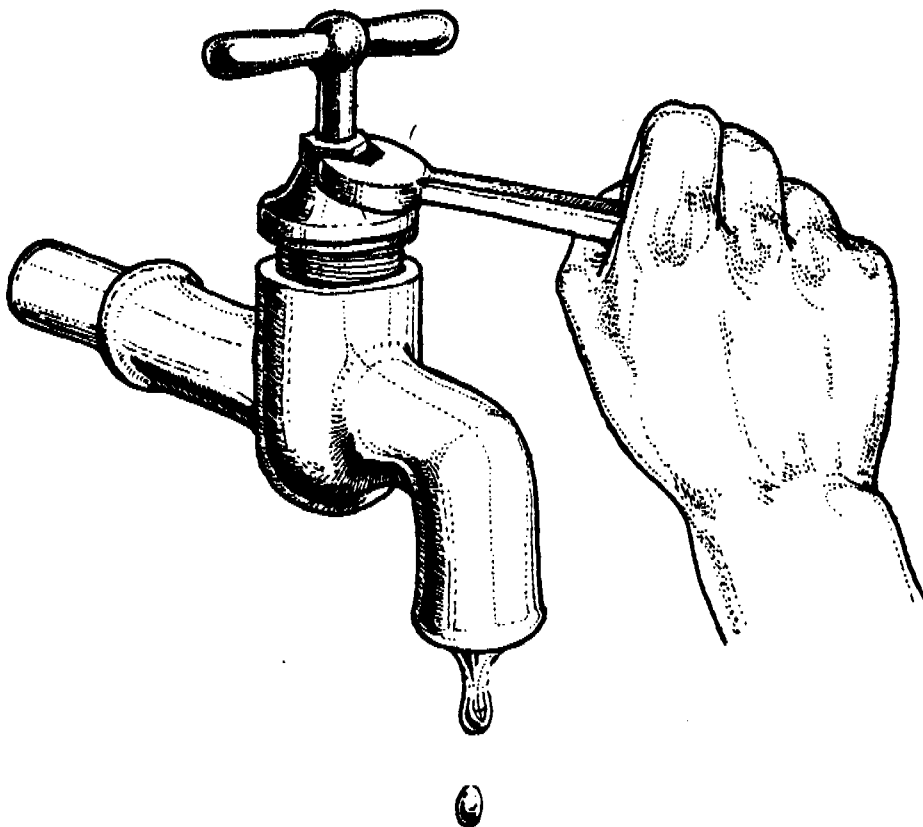
Close the tap tightly. If leakage continues, then follow the next step below.

Step 2

Close the gate valve in the meter box.

Step 3

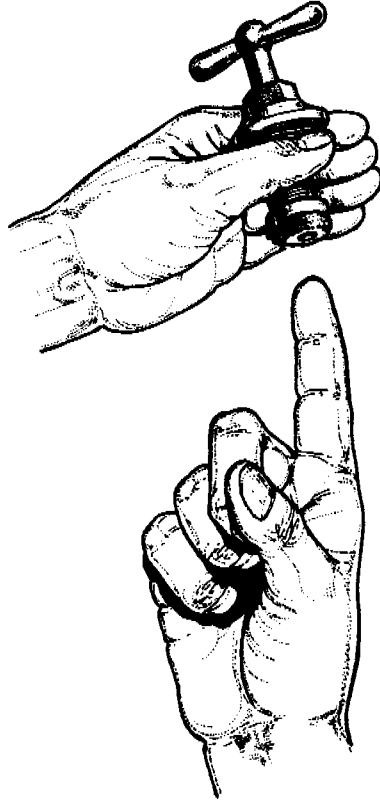
Unscrew the tap head from the body, using the right spanner.



Step 4

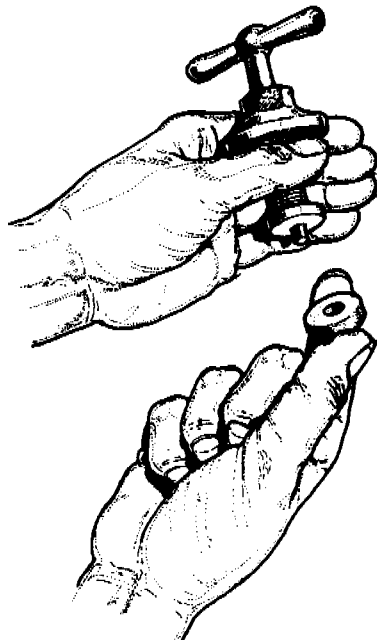
Remove the tap head from the body, and inspect it for:

- worn-out washer
- dirt or rust
- broken threads



Step 5 A

If the washer is worn out, replace it with a new one.



Step 5 B

If there is any dirt or rust on the tap head clean it by using a wire brush.

Step 5C

If there are any broken threads on the tap head, replace the whole tap with a new one.

Step 6

Put back the tap head assembly on to the body and screw it properly.

Step 7

Open the gate valve. Briefly open and close the tap several times. Check if the tap has been repaired properly.

5.2 Standpost Structure

The Standpost structure should also be properly maintained.

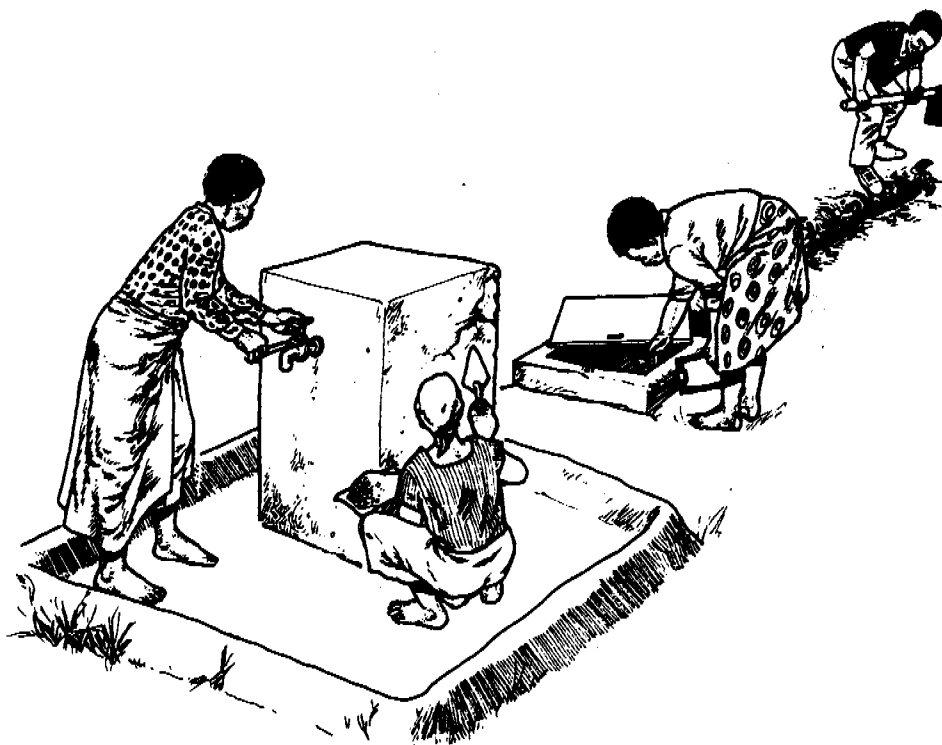
The following are the main parts of the structure which require attention:

5.2.1 Pillar

- * Regularly check whether the pillar has cracks. Repair cracks with cement mortar.

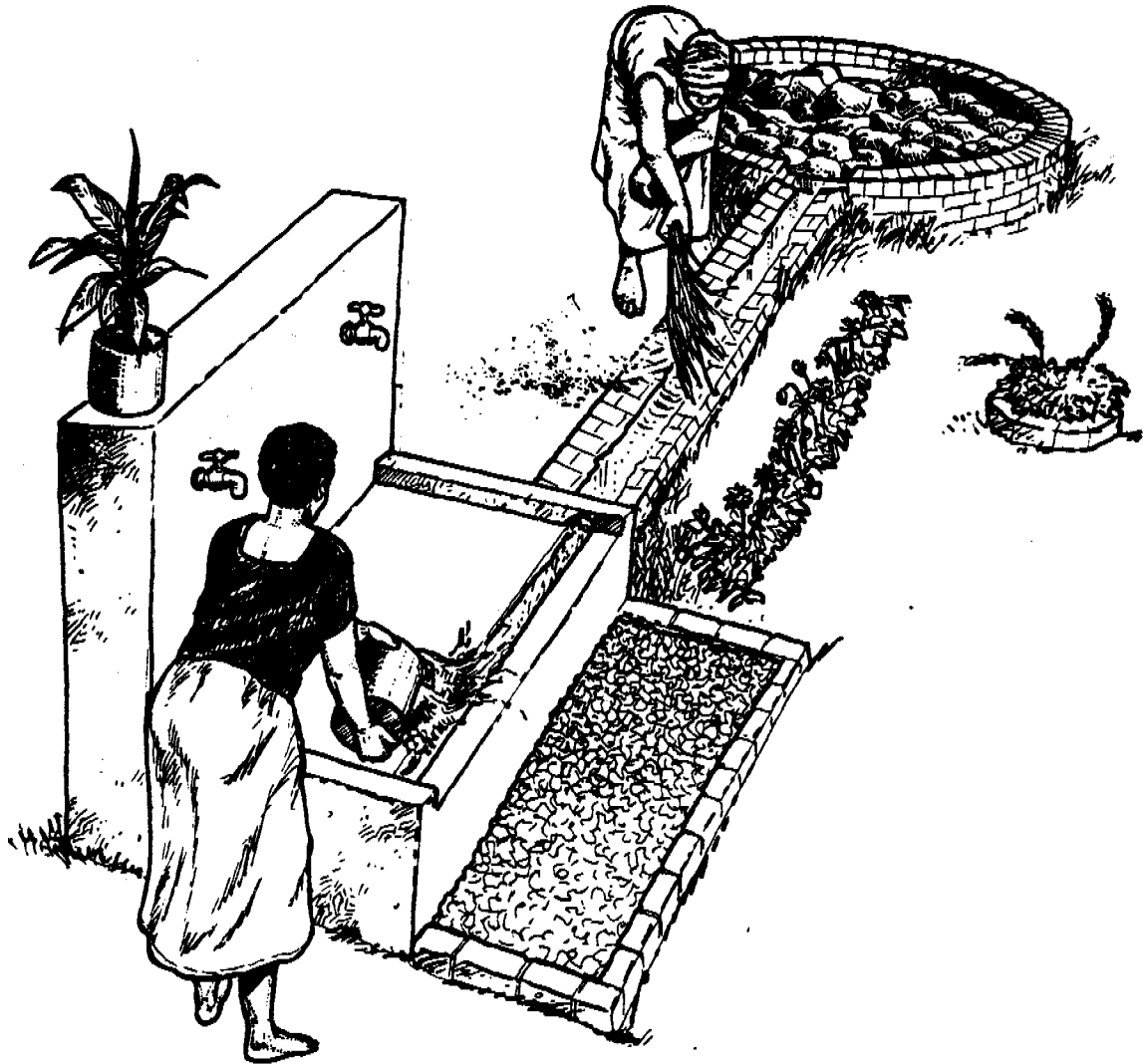
5.2.2 Platform

- * Inspect to see that water drains easily.
- * Inspect platform for cracks or erosion of the concrete and repair them immediately.



5.2.3 Run off channel

- * Keep it free from sand, mud and rubbish.
- * Inspect the channel to see that it is not cracked or leaking. Repair with cement mortar if needed.
- * Clean the channel daily.



5.2.4 Soak-away pit

- * Remove sand, mud and rubbish.
- * Remove stones when the pit is clogged. Wash and replace stones after cleaning the pit. Assign this task to a number of families in turns.
- * Prevent animals from trampling into the soakpit.

5.2.5 Standing area

- * Cover the area with clean stones.
- * Discourage spillage of water.
- * Clean the stones when clogged.

5.2.6 Area surrounding water point

- * Sweep the area daily. Assign this task to individual families in turns. The Tap Committee should produce weekly duty rosters.
- * Plant flowers if possible.
- * Discourage children and animals from roaming around the water point.

6. MANAGEMENT OF MAINTENANCE FUNDS

To properly carry out their operation and maintenance tasks, the Tap Committee needs funds to buy tools and to buy spare parts, cement, etc., when found necessary.

For this purpose the Tap Committee will regularly collect some money from all the households in the community who use the standpost.

The money is collected by the Treasurer of the Tap Committee, who systematically registers all the contributions in a cash record book. In the same book all purchases are registered. Actually, one of the first purchases may be the cash record book itself.

INCOME				EXPENDITURES		
Date	Name ^{of} household	Remarks	Amount	Date	Explanation	Amount
1/2/90	S. Mwanza	partial payment	10.00	7/2/90	pencil	17.00
1/2/90	L. Mumpa	total	25.00	12/2/90	record book	100.00
1/2/90	M. Kapolo	total	25.00	14/2/90	bucket	75.00

EXAMPLE OF A RECORD BOOK, TO BE KEPT BY THE TREASURER OF THE TAP COMMITTEE

All receipts for purchases need to be kept safely, to prove to the community where the money has gone. Keep the receipt in an envelope at the back of the cash record book, or glue them on pages at the back of the book.

ANNEX

TOOLS AND MATERIALS FOR MAINTENANCE

To carry out repairs, the Tap Committee should ensure that the necessary materials, tools and spare parts are available. These tools should be kept in a safe place, for example in the house of the Chairman of the Tap Committee. They should always be accessible only to those who are carrying out repair work on the standpost. After finishing the work they should be counted and checked and put back in their place by a member of the Tap Committee.

The picture shows some of the most important tools and materials for maintaining and repairing a standpost and drainage.



SHIFTING SPANNER



WIRE BRUSH



SCREW DRIVER



TROWEL



SHOVEL



BUCKET



BROOM