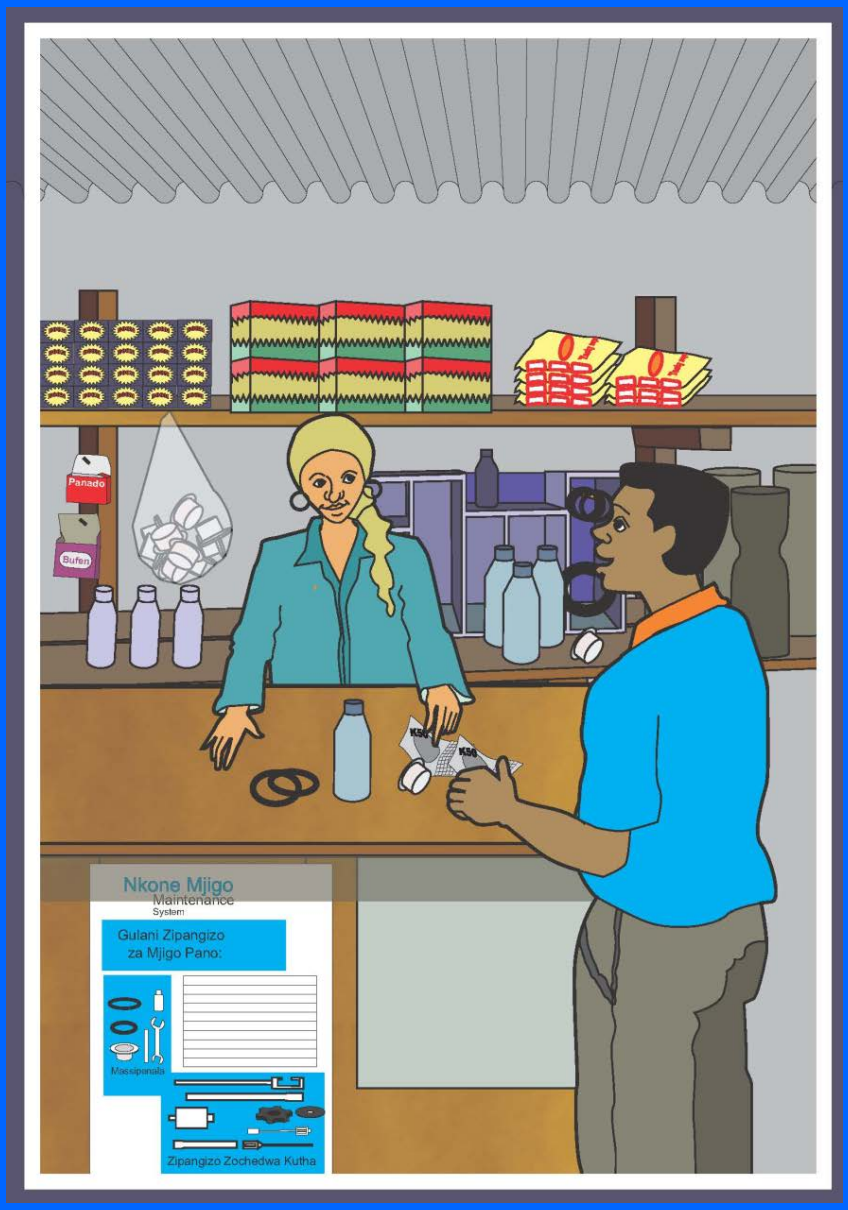
Government of Malawi

Rural Water Supply Operation and Maintenance Series 6

Training Manual for Afridev Hand Pump Spare Parts Retail Shop Owners



Ministry of Agriculture, Irrigation and Water Development

March 2015



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March 2015

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Date of publication: March 2015
40p
Rural Water Supply Operation and Maintenance Series 6

This document was published by Ministry of Agriculture, Irrigation and Water Development (MoAIWD) of Malawi with the technical and financial support of the Japan International Cooperation Agency (JICA) through the "Project for Enhancement of Operation and Maintenance for Rural Water Supply in the Republic of Malawi".

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LIST OF ACRONYMS

ADC	Area Development Committee
AM	Area mechanic
CBM	Community based management
CCAP	Church of Central Africa Presbyterian
DC	District Commissioner
DCT	District Coordination Team
DP	Development Partner
DWDO	District Water Development Officer
MAIWD	Ministry of Agriculture, Irrigation, and Water Development
NGO	Non-Governmental Organization
SPRS	Spare Parts Retail Shop
VHWC	Village Health and Water Committee
WMA	Water Monitoring Assistant
WPC	Water Point Committee

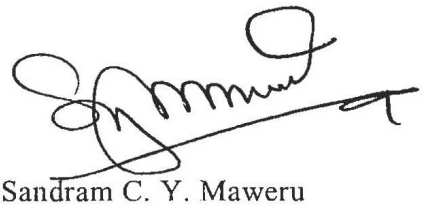
PREFACE

Access to clean drinking water remains a priority for Malawi's development, and the establishment of a nation-wide Afridev hand pump spare parts supply chain is a key component in reaching that goal. Though Water Point Committees (WPC) have been tasked with the ownership of their water point, it is difficult for them to sustain their water point without easy access to spare parts. Thus, a supply chain that includes widely distributed Spare Part Retail Shops (SPRS) selling hand pump spare parts to communities is crucial for the ongoing operation and maintenance (O&M) of water points.

In order to play their role effectively, these SPRS owners must not only stock hand pump spare parts in their store, but the owners (and/or an assistant) must be familiar with the Afridev hand pump spare parts and also have the necessary entrepreneurial skills. It is crucial for these SPRS owners to be given basic training before being fully incorporated into the hand pump spare parts supply chain.

Building off of previous resources and current practices on the subject, this training manual provides the necessary materials to conduct this training. It includes both the content to be reviewed in each section of the training as well as facilitation notes on how to carry out each of the sections.

The training of these SPRSs owners is an important step in strengthening the operation and maintenance (O&M) of water points in Malawi and this document provides clear guidance on how to do so. Any substantive comments for improvement on the manual are welcome and should be directed to the secretary responsible for water development.



Sandram C. Y. Maweru

SECRETARY FOR IRRIGATION AND WATER DEVELOPMENT

ACKNOWLEDGEMENTS

This manual was produced by the “Project for Enhancement of Operation and Maintenance for Rural Water Supply in the Republic of Malawi” under the technical cooperation by Japan International Cooperation Agency (JICA).

A series of workshops were held in the project, and a lot of stakeholders in Malawi, development partners, and NGOs technically contributed in the formulation of the manual. The Ministry of Agriculture, Irrigation and Water Development therefore, extends special thanks to these stakeholders for allowing their staff to participate in the production of this manual.

The Ministry is also indebted to JICA for assisting in the development of the manual, and many who have not been mentioned here but contributed in different ways.

Overview of the manual

This manual is designed for the training of Hand Pump Spare Parts Retail Shop Owners. This course can be given as business training to the new shop owners.
This manual is a compilation[1] of training information from stakeholders in the field of operation and maintenance of boreholes with hand pump, i.e., InterAide and UNICEF.
In addition some part of this training manual is extracted from the manual[2] of SOMAP[3] in Zambia.

The manual has been arranged in such a manner that it covers four sections in two (2) days. The sections are as follows:

Chapter I: Training Contents

- Section 1: Introduction to the training of retail shop owners
- Section 2: Afridev hand pump parts and function
- Section 3: Dismantling and reassembling
- Section 4: Entrepreneurship

Chapter II: Training Module and Session

- Session 1: Introduction to the training for retail shop owners
- Session 2: Afridev hand pump parts and functions
- Session 3: Dismantling and reassembling
- Session 4: Entrepreneurship

Chapter III: Proposed Timetable

[1]Sources of information:
1. Installation and Maintenance Manual for the Afridev Hand pump Revision 2- 2007, SKAT-RWSN
2. Shop Owners Training by InterAide
3. Community Handbook on Water and Sanitation, Afridev Version, Community Based Management Unit, Malawi Government, 1999

[2]Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia
[3]The Sustainable Operation and Maintenance Project for Rural Water Supply in Zambia

Chapter I: Training Contents

Section 1: Introduction to the training of retail shop owners

1.1 Rationale

Spare parts shop owners are a vital component in accessibility of Afridev pumps in the rural areas of the country. Their strategic position in the supply chain is of importance if the sustainability of the operation hand pumps is going to be achieved.

1.2 Objective of the training

The objective of the training is to provide the selected retail shop owners with adequate skill in management of pump spares and relevant entrepreneurial skills so as to enable them to manage the spare parts business.

1.3 Role and responsibilities

The retail shop bears the following roles and responsibilities in a spare part supply chain.

- Purchasing hand pump spare parts from wholesalers
- Stocking enough quantity of hand pump spare parts
- Selling the hand pump spare parts at a standardized price which is provided from the wholesaler
- Procuring good quality hand pump spare parts
- Working hand in hand with AMs to ensure access to relevant spares, and to cross promote the services of both AMs and retail shops in the same area.

Section 2: Afridev hand pump parts and function

The assembly of the Afridev hand pump is shown in the following figure:

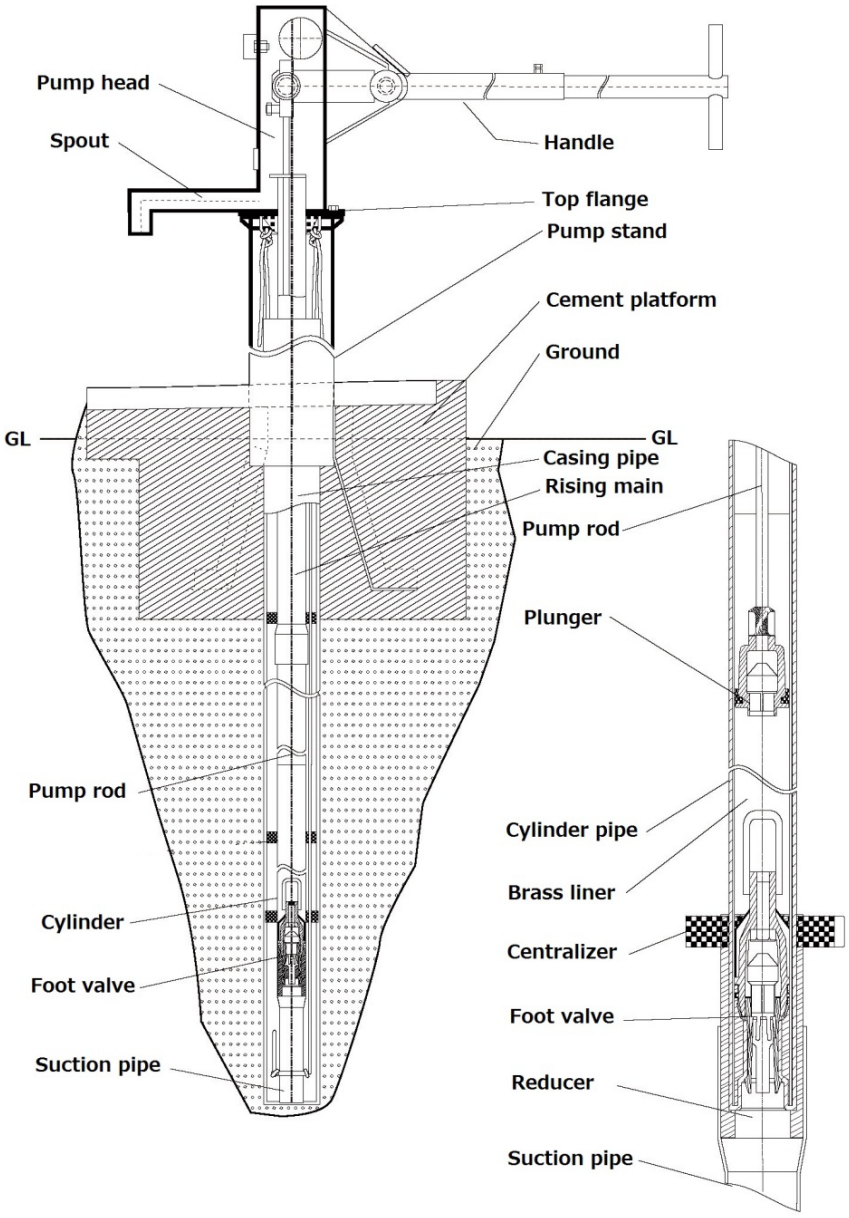


Figure 1: Afridev pump[4]

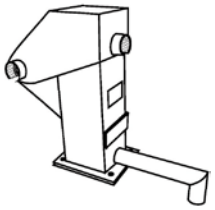
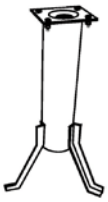
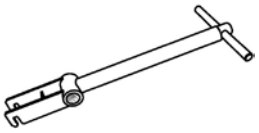
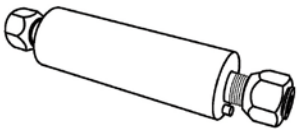
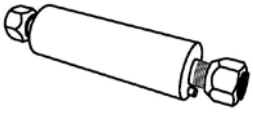
[4]This figure is modified based on the drawing No. D9021 of Installation and Maintenance Manual for the Afridev Hand pump Revision 2- 2007, SKAT-RWSN

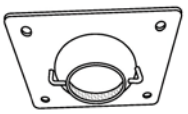
Afridev handpump parts are divided into two categories “Above ground parts” and “Below ground parts”

The names and functions of each spare part are given in the following table:

2.1 Above ground components

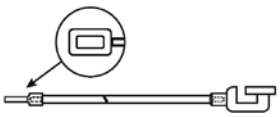
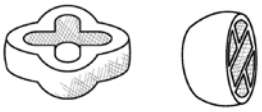
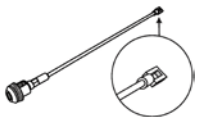
Table 1: List of the above ground components

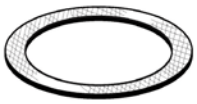
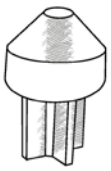
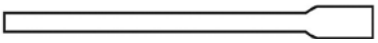
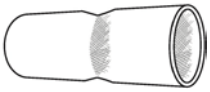
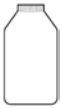
No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
1	Pump head and cover / Hedipampu chi vindikilo	Encloses the topmost part of the pump to prevent dust and foreign materials from getting inside the pump, it houses the hanger assembly and supports the handle bar	
2	Pump pedestal / Pampupedesitilo	Main body supporting above ground components and below ground components	
3	T/bar / handulo	This is the part that is held to pump water. It can be adjusted to correspond to the depth of the BH	
4	Hanger Assembly / Hang'aAsembule	Rods are suspended from this	
5	Fulcrum pin / Fakulamupini	Joins the handle bar to the pump head and acts as a movement joint for the handle pumping water	
6	Hanger pin / Hang'apini	Joins the end part of the handle to the hanger to allow for upward and downward movement of the rods	

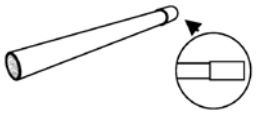
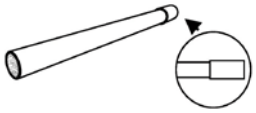
No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
7	Bush bearing / BushiBelingi	Allows free movement of the fulcrum pin and hanger pin. There are four in a pump, two on the fulcrum pin and two on the hanger pin	
8	Rubber flapper / LabalaFulapa	Installed on the top rod to prevent foreign materials from getting into the rising main and to prevent water from gushing out	
9	Rubber Cone / Labalakoni	Sits between the pump head and pedestal acts as a seal to stop water from spilling between the pump head and pedestal	
10	Steel cone plate / KoniPuleti	A metal plate holding the rising main	
11	Top sleeve(collar) / Topusilivi	It prevents the rising main from slipping through the rubber cone	

2.2 Below ground components

Table 2: List of below ground components

No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
12	Pump rod / Pampurodi	To connect plunger so that the pump can be operated above the ground using the handle	
13	Rod Centralizer / RodiSentelelaiza	Fitted on rod joints to centralize rods and prevent friction between the rod and the rising main	
14	Plunger / Pulanja	Connected to pump rods; moves up and down with the movement of the handle to facilitate suction of and	

No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
		delivery of water	
15	Foot-Valve / FutuValavu	Keeps the pumped water from going back down the bore hole	
16	U-Seal / U-Silo	Fitted to the plunger body; seals water above plunger and pushes water up with every upward movement of the plunger (plastic plunger only)	
17	Cup-seal / Kapu-Silo	Fitted to the plunger body; seals water above plunger and pushes water up with every upward movement of the plunger (brass plunger only)	
18	O-ring / O-ring'i	Fitted to the foot valve to prevent water inside the cylinder from getting back into the bore hole	
19	Bobbin / Bobini	Fitted inside plunger and foot valve; moves up and down to allow water to move in one direction only and prevents water from getting back into the bore hole	
20	Rising main / Mapaipi	A pipe connected to cylinder assembly carries water from the cylinder to ground level	
21	Double end socket / Dabulosoketi	To join two rising mains after repairing (use solvent cement)	
22	Solvent cement / Soventisementi	To join two rising mains after repairing (use solvent cement)	
23	Rising main centraliser / Sentelelaiza wa ma paipi	Fitted every 3 meters, rising main prevents excessive swaying of the rising main in the borehole	

No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
24	Cylinder assembly / SilindaAsembule	Most important part of the pump, it draws water from the borehole and pumps it up to ground level	
25	Suction pipe / Sakishonipaipi	Fitted at the bottom end of the cylinder it draws water into the cylinder and controls sand intake	
26	Rope(nylon rope 6mm) / Chingwe	Connected to the suction pipe and passes through the pipe centralizer to the cone plate to hold the rising main from falling into the borehole in case of joint failure	

Section 3: Dismantling and reassembling

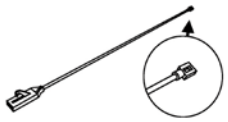
This section shall be used alongside Annex 1: Section4 Afridev hand pump maintenance extracted from Community Handbook on Water and Sanitation Afridev Version 1999.

3.1 Tools for dismantling and reassembling pump

The necessary tools for dismantling and reassembling pump are as follows:

- Socket spanner
- Flat spanner
- Fishing tool

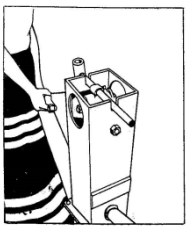
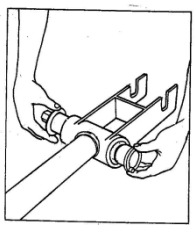
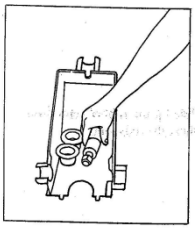
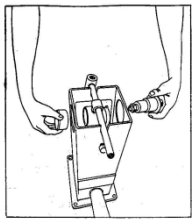
Table 3: List of tools for dismantling and re-assembling pump

No.	COMPONENT English / Chichewa	FUNCTION	ILLUSTRATION
1	Socket spanner number 24/ Supanarayabowo	To remove head cover and to hold the hanger assembly when removing rods	
2	Flat spanner 17/19 / Supanarayafulati	To remove the bolts between head and pedestal	
3	Fishing tool / Mbedza	To fish the foot valve and pump rods	

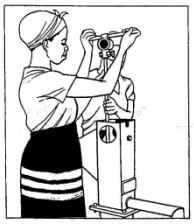
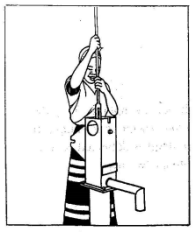
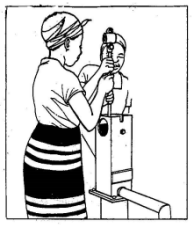
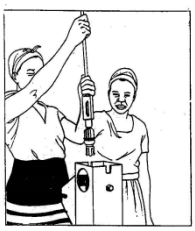
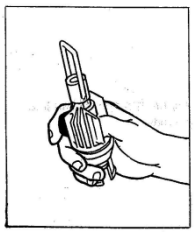
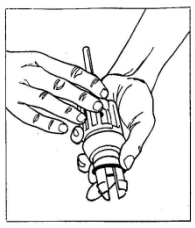
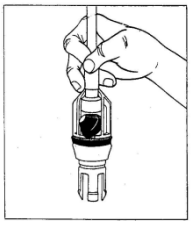
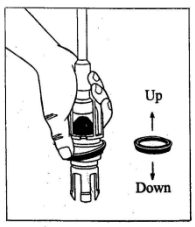
3.2 Dismantling

Necessary steps[5] for dismantling are described as follows:

Table 4: Necessary steps for dismantling

No.	Step	Illustration	No.	Step	Illustration
1	Before starting wash your hands and fill some buckets with water to allow you to clean the parts		2	Loosen the pump head cover bolt	
3	Take off the cover		4	Loosen both hanger nuts	
5	Loosen both fulcrum nuts		6	Put spanner through hanger eye.	
7	Raise and withdraw handle. Take care! As you remove the handle make sure that the bush bearings and pin do not fall out as they may break on the floor.		8	Remove fulcrum pin and bush bearings.	
9	Place all parts in the cover for safe keeping.		10	Remove hanger pin and bush bearings.	

[5]Necessary steps are extracted from Annex 3: SECTION 4 AFRIDEV HANDPUMP MAINTENANCE, COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION, 1999.

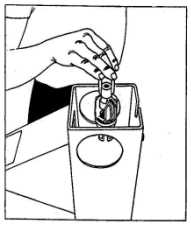
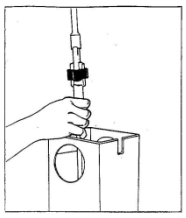
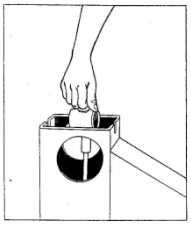
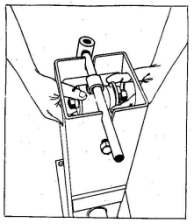
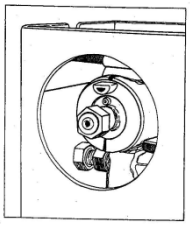
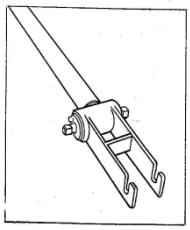
No.	Step	Illustration	No.	Step	Illustration
11	Pull up the hanger and first rod.		12	Slide up the rubber centralizer where the rods join.	
13	Disconnect and remove all the rods. Remember to keep the rods in the same order. The last rod taken out should be the first one put back.		14	Remove the plunger.	
15	Lower the fishing tool and join to the rods.		16	Gently lower last rod and hanger until you feel that you have caught the foot valve.	
17	Remove all the rods, fishing tool and foot valve.		18	Push out the bobbin from the foot valve with your thumb. If the bobbin is damaged replace it with a new one.	
19	Remove the O-ring from the foot valve. If the O-ring is damaged replace it with a new one.		20	Push out the bobbin from the plunger with your thumb. If the bobbin is damaged replace it with a new one.	
21	Carefully remove the U-seal. If the U-seal is damaged replace it with a new one. Make sure that the groove faces upwards.				

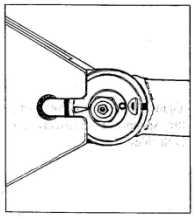
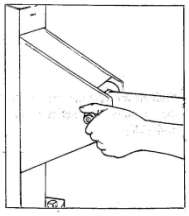
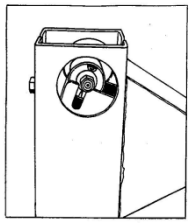
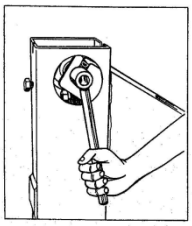
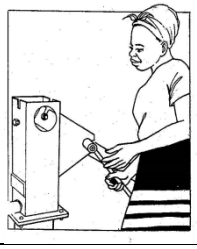
Source: SECTION 4 AFRICEV HANDPUMP MAINTENANCE, COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION

3.3 Reassembling

Necessary steps for reassembling are described as follows:

Table 5: Necessary steps for reassembling

No.	Step	Illustration	No.	Step	Illustration
1	Wash the foot valve, plunger and rods. Only use clean water.		2	To re-assemble the pump first drop the foot valve down the borehole. Make sure the hook is upwards.	
3	Put the plunger and pump rods back together and lower them down the borehole.		4	Make sure the rubber centralizer is slid down over each joint on the pump rods.	
5	Join all the rods together until the hanger rod is connected.		6	Make sure the foot valve is in place by pushing the rods at arm length down the borehole.	
7	Put the spanner through the hanger eye to support the rods and then replace the hanger pin and bush bearings. If the bush bearings are worn out or damaged then replace them with new ones.		8	Turn the hanger pin and bush bearings so that the small projecting lugs are at the top.	
9	Put back the fulcrum pin and bush bearings in the handle. If the bush bearings are worn out or damaged then replace them with new ones.		10	Put back the handle.	

No.	Step	Illustration	No.	Step	Illustration
11	Make sure the projection lugs on the pin and bush bearings will fit into slots on the pump body. Ensure that the pin is pushed right to the back of the slot.		12	Tighten the fulcrum nuts by hand.	
13	Push the handle down so that the slots engage in the hanger. Ensure that the hanger pin has slid to the bottom of the slots. Remove the spanner.		14	Tighten the hanger nuts with the spanner alternatively on both sides.	
15	Tighten the fulcrum nuts with the spanner alternatively on both sides.		16	Put back the cover.	
17	Tighten the cover nut.		18	Pump water until clean water comes out before using for drinking.	

Source: SECTION 4 AFRICEV HANDPUMP MAINTENANCE, COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION

Section 4: Entrepreneurship

4.1 Who is an entrepreneur/Businessman?

This word describes a person, who perceives an opportunity, and makes use of the opportunity by putting together resources and initiates a business enterprise with an idea of making a profit. Retail shop owners fall into this category.

4.2 Qualities of a good entrepreneur

Qualities of a good entrepreneur can be described as follows

- Opportunity seeker
- Meets targets
- Does not default business obligations
- Desire for excellence in quality service
- Risk taker
- Information seeker
- Plans and oversees implementation
- Pleasant, cooperative and likeable character
- Confident
- Honest

4.3 Stock replenishment

Many spare parts retailers are struggling to put in place stock replenishment processes that work, especially at the start of spare parts business.

This could be due to reason that they are not familiar with the number of customers they will be serving and another reason could be that their customers might not know that such retail shops stock hand pump spare parts.

The following major variables should be borne in mind when setting rules for replenishment of hand pump spare parts by the retail shop owner:

1) The time taken between placing an order and the order reaching the shelf

- It is possible in some cases that a retailer has to travel to the wholesale shop to purchase spare parts. In such cases the amount spent on transport costs should be taken into consideration because this will determine how often the retailer can go to the wholesale shop to make the order.
- When considering the timing of replenishment, the shop owner can estimate the timing of replenishment by preparing bin cards. The process of how to update a bin card is shown in the following **Box 1**. For a sample of a bin card see **Annex 1**Sample format of Bin Card.

Box 1

Process of how to update the bin card is as follows.

a) Prepare one bin card for one item of spare parts, upon the delivery of spare parts to a retail shop.

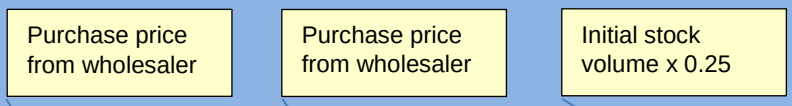
b) Fill product name, quantity and delivered date based on the Invoice of spare parts and purchase and selling price.

c) Calculate a re-order level multiplying an initial stock volume by 0.25 and fill it in on each bin card.

d) Keep filled bin cards in a retail shop appropriately.

e) When stock reaches the re-order level, shop owner should start the process of replenishment.

Example of an updated bin card is shown below.



Sample format of Bin Cards[6]

BIN CARD

Name: O-ring for Afridev pump S/No.: A-17

Purchase Price (MK)		Selling Price (MK)		Initial Stock Volume		Re-order Level[1]	
Date[2]		Date[3]		Date[4]		Date[5]	
10/01/2014	120	25/01/2014	150	20/01/2014	8	20/01/2014	2

[6]This sample format is extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the Project.

Date	Description (Receipt No.)	Received	Issued	Balance
20/01/2014	Invoice No. *********	8		8
25/01/2014	Receipt No. *********		2	6
10/02/2014	Receipt No. *********		1	5
15/02/2014	Receipt No. *********		2	3
20/02/2014	Receipt No. *********		1	2
22/02/2014	Invoice No. **********	6		8

Serial number of sales receipt from customers

Serial number of received invoice from wholesaler

When balance reached to re-order level, shop owner needs to start the process of replenishment

[1]: Initial Stock Volume x 0.25

[2]: As of date ordered, not delivery date

[3]: As of date started selling at this price

[4]: As of delivery date

[5]: As of delivery date

2) The available shelf space

If the retail shops, which in most cases are also stocked with other supplies, don't have enough space, it will be difficult for the retail shop owner to make a big order.

In a simple model, where none of these factors are significant, the common sense of the retail shop owner based upon his/her past experience should be in a position to forecast the expected sales for the next month.

4.4 Stock organization[7]

1) Put your goods in groups

Similar products should be put next to each other. This makes it easier and quicker for both the shop owner (and/or assistant) and customers to find what they are looking for.

2) Use of display shelves

It is good to put similar items together, but they must not be mixed. Several kinds of spare parts should be clearly organized separately from each other, as these items are relatively small and can easily disappear. Therefore, a display shelf such as wooden showcase should be used to separate and safely organize these items.

3) Label your products well

Labels make it easier for both the shop owner (and/or assistant) and customers to see the products. The name of the product and its serial number are indicated on each label, and the label is put on the edges of shelves, below each product.

4) Show the prices clearly

A price list should be displayed on the wall or counter of a retail shop.

4.5 How to make a receipt

Shop owner should issue the receipt to customers, and keep receipt book with duplicate copy as sales record. A receipt is a legal proof of payment.

It is important to make receipts for the following reasons:

- To keep records

[7]The following descriptions are extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the project

- It acts as a way of knowing whether the customer bought the item from your shop in case there is need to return the item
- To trace goods turnover and know which goods are fast selling

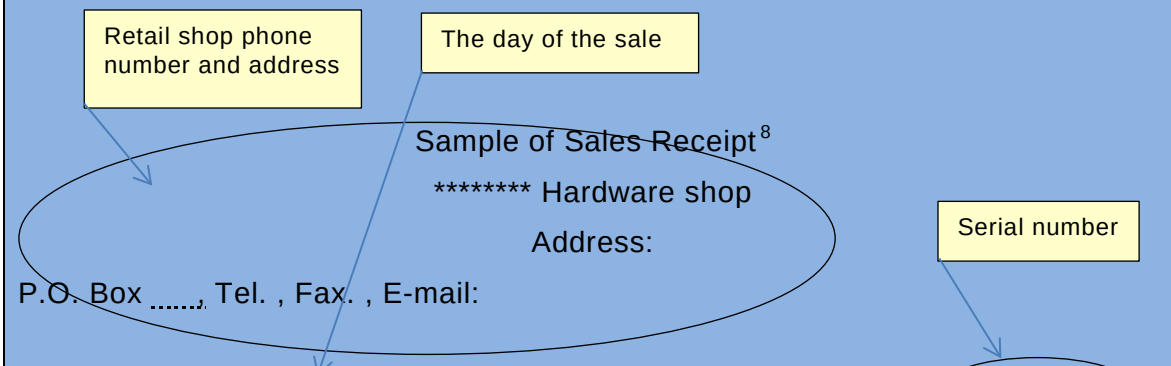
A good receipt should have the following details:

- Serial number
- Stamp (optional)
- Phone number and address
- Date
- Signature of the issuer

The issuing the receipt is shown in the following **Box 2**.For a sample of a sales receipt see **Annex 2**Sample of Sales Receipt.

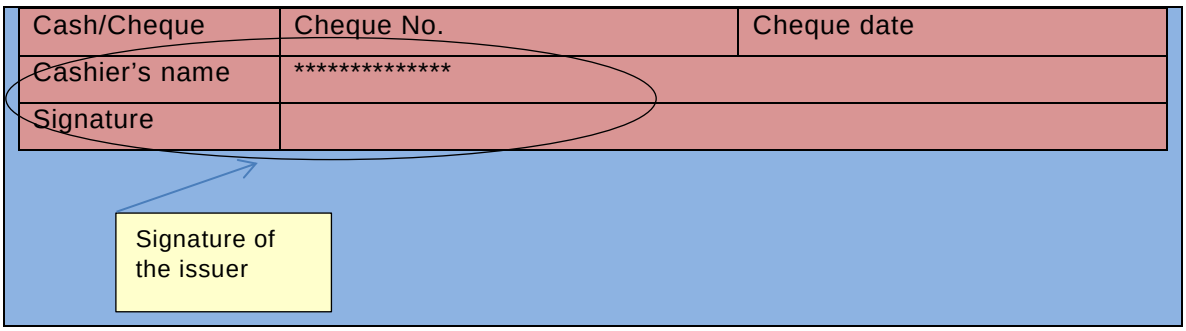
Box 2

Example of the receipt issue is shown below.



Date	2014.01.20	No.	100101
Received from	Name: Mr. **********		
	TA: Mkanda	District: Mchinji	
In payment for	5 pieces of U-seal		
Amount	1,200MK		
Amount in Words	On thousand two hundred Malawi Kwacha Only		

[8]This sample format is extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the Project.



4.6 Sales operation[9]

Sales operation of spare parts shall be performed as the following activities.

1) Confirmation of spare parts

a. Confirmation of type of spare parts

When customers visit a retail shop, the shop owner (and/or assistant) first confirms the types and quantities of spare parts which customers need to buy.

To avoid misunderstandings, Afridev hand pump spare parts list should be used to identify the type of spare parts. It is also advisable that the shop owner (and/or assistant) shows the actual items to customers.

b. Confirmation of stock availability

A shop owner (and/or assistant) needs to be able to inform customers of the availability of requested spare parts, therefore the shop owner (and/or assistant) must always know the remaining stock volume.

If the stock of requested spare parts is finished, the shop owner (and/or assistant) should inform the customer of the expected delivery date of the item(s).

2) Receiving payment and issuing receipt

a. Confirmation of prices

The shop owner (and/or assistant) shows customers the price list and total price of spare parts s/he intends to buy.

[9](The following descriptions are extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the project.)

b. Receiving payment and issued receipt

The shop owner (and/or assistant) receives payment from customers and gives an original receipt in return. A duplicate is to be left in a receipt book.

c. Depositing money

The shop owner should deposit cash paid by customers into the shop's bank account as soon as possible. Cash must be kept in a cash box with a lockable system until it is deposited in the bank.

3) Issuing of spare parts

a. Issuing the items

The shop owner (and/or assistant) gives customers spare parts according to the receipt.

b. Updating bin cards

The shop owner should update the bin cards for the selling and stock management.

4) Record keeping

Information of the spare parts delivery should be appropriately recorded and kept as explained below.

a. Order card and delivery note

- Accountant shall keep an original order card and an original delivery note.
- Regional stock warehouse should keep a duplicate order card and a triplicate delivery note.
- District warehouse should keep a triplicate order card and a duplicate delivery note.

b. Updating bin cards

Storekeeper updates the bin cards while issuing stock. (**Annex 1: Sample of bin card**)

c. Monthly sales records

The retail shop owner should summarize the monthly sales record for selling management (for the format of the monthly sales record see **Annex 3 Monthly Sales Record**).

Example of how to fill out the monthly sales record is shown in the following **Box 3**.

Box 3

MONTHLY SALES RECORD

Name of Retail Shop: ***** hardware

District: Mchinji

TA: Mkanda

Month and Year: December, 2013

Date	Description	Sales		
		Unit price	Quantity	Total
02/12	Fulcrum pin	3,080	1	3,080
05/12	O-ring	160	5	800
12/12	Bearing bush	440	2	880
25/12	O-ring	160	3	480
			Total of end of month	5,240

Unit price is given from price list of Afridev handpump spare parts"

4.7 Advertisement

Advertisement for the retail shop will be done in part by the district in collaboration with the wholesaler as outlined in the Guide Manual for the Establishment of an Afridev Hand Pump Spare Parts Supply Chain. However, any successful entrepreneur will not leave something as important as advertisement in the hands of someone else. Furthermore, advertising to communities about hand pump spare parts is also a good opportunity to advertise about other items and grow the business generally.

The following is a short list of possible advertising methods:

- Business cards
- Customized receipts with the shop's name, location and phone number
- Sign posts

- Cross-promotion with Area Mechanics. Because Area Mechanics are interacting regularly with potential customers of the SPRS and have advanced knowledge of the Afridev hand pump, doing cross-promotion with them is a good advertising opportunity.

Examples of some of these methods appear in the appendices of the Guide Manual.

Chapter II Training Module and Session

Module 1Training for hand pump spare parts retail shop owners

Module No.		1
Module Name		Training for hand pump spare parts retail shop owners
Target		Newly established retail shop owners
Objectives		• To impart retail shop owners with the skills to manage Afridev pump spare parts • To improve their entrepreneurial skills
Possible trainers		WMAs and CDAs
Total Duration		Two (2) days
Manuals to be used		・ Training Manual for Hand Pump Spare Parts Retail Shop Owners ・ COMMUNITY HANDBOOK ON WATER AND SANITATION AFRIDEV VERSION (SECTION 4 AFRIDEV HANDPUMP MAINTENANCE)
Other tools / materials to be used		Afridev hand pump spare parts list, sample format of Bin Card, sample of sales receipt, price list of spare parts, monthly sales record, Poster of Afridev pump, Flip charts, marker pens, Bobbin, U-seal, Cup seal, Fulcrum pin, Hanger pin, Hanger assembly, Bush bearing, Rod centralizer, Pump rod, Plunger rod, Hook, Plunger body plastic, Plunger body brass, Double end socket, Rubber flapper, Rubber corn, steel cone, flat spanner, socket spanner and fishing tool
No.	**Session**	**Activity**
1	Introduction to the training of spare parts shop owners	Plenary session
2	Afridev hand pump parts and function	Plenary session and focus group discussion
3	Dismantling and reassembling	Field practical
4	Entrepreneurship	Plenary session and focus group discussion Exercise (role play)

Session No.1 (M1-S1)

Module No. / Title	**1/ Training for hand pump spare parts retail shop owners**
Session No. 1	**Introduction to the training of spare parts shop owners**
Appropriate Facilitator Background	Experts in training, having knowledge and skills in participatory development, O&M of rural water supply, etc.
Objectives	• To allow participants to get to know each other, settle down and gain confidence • To orient participants to understand the training objectives and know their roles in the spare parts supply chain
Expected Outputs	• For participants to gain an understanding of the training objectives • For participants to gain an understanding of shop owners' roles in the community
Timing / duration	2 hours on DAY 1
Appropriate Venue	Medium-sized conference room. Well ventilated room equipped with movable chairs. Sitting in circles so that every participant can see each other.
Methodology	Plenary session
Materials required	Flip chart and flip chart stand, marker pens
Handouts	Training Manual for Hand Pump Spare Parts Retail Shop Owners
Session Steps	
Step 1: **Opening remarks and introduction**	*Facilitator asks one participant to open the session and allow participants to introduce themselves and the position they hold.* **1. The facilitator will ask participants to:** 1) Introduce themselves 2) Discuss the timetable 3) Write their expectations 4) Write their fears ***The facilitator will write the answers given on a flip chart and address the relevant issues raised by participants in plenary session.*** **2. The facilitator will ask these questions;** 1) Why do they want to be trained? 2) What do you expect from the training? ***The facilitator will write the answers for questions 1 and 2 above on a flip chart without undue discussion and later align the answers with the outlined expected outcomes of the training.***
Step 2: **Role and responsibilities of retail shops**	***The facilitator explains the role and responsibilities that a retail shop should bear in the plenary session.***
Notes for facilitators	

Attached materials	Annex 1:
	Annex 2:

Session No. 2 (M1-S2)

Module No. / Title	**1/ Training for hand pump spare parts retail shop owners**
Session No. 2	**Afridev hand pump parts and functions**
Appropriate Facilitator Background	Experts in training, having knowledge and skills in participatory development, O&M of rural water supply, etc.
Objectives	• To explain the parts of the pump and their functions • To allow participants gain basic knowledge of parts of the Afridev pump
Expected Outputs	• For participants to gain an understanding of the name of spare parts and their functions
Timing / duration	2 hours on DAY 1
Appropriate Venue	Medium-sized conference room. Well ventilated room equipped with movable chairs. Sitting in circle so that every participant can see each other.
Methodology	Plenary session and focus group discussion
Materials required	Afridev hand pump spare parts list, flip chart and flip chart stand, marker pens and poster of Afridev pump
Handouts	Training Manual for Hand Pump Spare Parts Retail Shop Owners
Session Steps	
Step 1: **Explanation of the spare parts**	***The facilitator will start by asking participants what they see in the poster.*** ***Using posters as illustration the facilitator will explain the two main types of pump components, i.e. Above ground components and below ground components.***
Step 2: **Identify the spare parts name and functions**	***Hand out Afridev hand pump spare parts list which includes their functions.*** ***Give time to allow participants to read it and later ask each participant to mention at least two parts and its function.*** 1) Using a poster showing the Afridev pumps ask participants to identify the picture on the poster. 2) Give each participant a blank piece of paper and ask him to write on it all of the parts of the pump that they know. 3) The facilitator will ask participants to paste the papers on the part they feel is the name of the part on the poster. 4) In plenary, ask participants to discuss if the stickers have been pasted on the appropriate parts ***The facilitator will mention <u>THE FAST WEARING PARTS</u>, emphasis should be on the importance of stocking these parts.***
Notes for facilitators	
Attached materials	Annex 1:
	Annex 2:

Session No. 3 (M1-S3)

Module No. / Title	**1/ Training for hand pump spare parts retail shop owners**
Session No. 3	**Dismantling and reassembling**
Appropriate Facilitator Background	Experts in training, having knowledge and skills in participatory development, O&M of rural water supply, etc.
Objectives	• To understand how to dismantle hand pumps • To understand how to reassemble hand pumps
Expected Outputs	• For participants to gain an understanding of dismantling and reassembling hand pumps
Timing / duration	2.5 hours on DAY 1
Appropriate Venue	Water point which is near to the conference room for plenary session
Methodology	Practical session at the water point
Materials required	Flat spanner, socket spanner and fishing tool
Handouts	Training Manual for Hand Pump Spare Parts Retail Shop Owners
Session Steps	
Step 1: Dismantling of the pump	*Participants will dismantle the pump with the facilitator taking the lead.* *The facilitator should always remember to ask participants to mention the part being dismantled and encourage participants to mention the function of the parts.*
Step 2: Reassembling of the pump	*Participants will reassemble the pump with the facilitator taking the lead.*
Notes for facilitators	
Attached materials	Annex 1:
	Annex 2:

Session No. 4 (M1-S4)

Module No. / Title	**1/ Training for hand pump spare parts retail shop owners**
Session No. 4	**Entrepreneurship**
Appropriate Facilitator Background	Experts in training, having knowledge and skills in participatory development, O&M of rural water supply, etc.
Objectives	• To give participants an understanding of the meaning of an entrepreneur/businessman • To give participants an understanding of their role in the spare part distribution business in the community and of record keeping
Expected Outputs	• Establishment of the retail shop owner as entrepreneur for spare parts distribution to the community
Timing / duration	6 hours on DAY 2
Appropriate Venue	Medium-sized conference room. Well ventilated room equipped with movable chairs. Sitting in circle so that every participant can see each other.
Methodology	Plenary session, focus group discussion and exercise (role play)
Materials required	Afridev hand pump spare parts list, sample format of Bin Card, sample of sales receipt, price list of spare parts, monthly sales record, Poster of Afridev pump, Flip charts, marker pens, Bobbin, U-seal, Cup seal, Fulcrum pin, Hanger pin, Hanger assembly, Bush bearing, Rod centralizer, Pump rod, Plunger rod, Hook, Plunger body plastic, Plunger body brass, Double-ended socket, Rubber flapper, Rubber corn and steel cone.
Handouts	Training Manual for Hand Pump Spare Parts Retail Shop Owners
Session Steps	
Step 1: **Who is an entrepreneur/ businessman?**	***Facilitator asks participants who an entrepreneur/businessman is.***
Step 2: **Qualities of good entrepreneur**	***Facilitator asks participants to go into groups to list down qualities of a good entrepreneur.*** ***Paste their answers and discuss the answers then compare with answers from the facilitator.***
Step 3: **Stock replenishment**	***Facilitator asks participants how to know the timing of replenishment.*** ***Paste their answers and discuss the answers then compare with answers from the facilitator.*** ***Facilitator explains participants to use the Bin Card for stock management.***
Step 4: **Stock organization**	***Facilitator explains participants how to arrange the spare parts in a retail shop.***

Step 5: **How to do receipt**	***In plenary ask participants what is a receipt?*** ***List down the answers and prompt a discussion from participants and give one right answer.*** ***Facilitator asks participants to go into groups and do the following exercise.*** 1) Why it is important to make a receipt? 2) What are the details required on a good receipt?
Step 6: **Role play on sales operation of Afridev pump**	***Facilitator asks 2 or more participants to role play a retail shop and customers to purchase spare parts.*** ***The rest of the group should be instructed to act as observers and make their comments on what they have seen in the role play.*** ***The facilitator should observe the following and discuss his observations with the participants.*** 1) Ability to recognize the appropriate parts asked by the customer 2) Ability to make a correct receipt 3) Ability to make a plan for ordering parts with emphasis on fast wearing parts 4) Display of good attitude towards the customer and communication skills 5) Ability to make a receipt
Notes for facilitators	
Attached materials	Annex 1:
	Annex 2:

Chapter III Training Timetable

Time	Activity	Learning Method	Facilitator
	DAY 1		
8:00am – 10:00am	▪ Opening remarks and introduction ❖ Opening remarks ❖ Self-introductions ❖ Discuss the time table ❖ Participants expectations and fears ▪ Role and responsibilities of retail shops	Plenary	
10:00-10:15am	**BREAK**		
10:15-12:00pm	▪ Theory explanation of Afridev pump ❖ Afridev hand pump spare parts and function ❖ Dismantling and reassembling pump	Focal group discussion (FGD) Plenary	
12:00 – 1:00pm	**LUNCH**		
1:00 - 3:30pm	▪ Practical session (field visit) ❖ Dismantling of the pump ❖ Assembling of the pump	Field practical Group work	
3:30- 4:00pm	**BREAK**		
4:00 – 4:30pm	▪ Question time	Plenary	
	DAY 2		
8:00 – 10:00am	▪ Recapitulation of day 1 ▪ Entrepreneurship ❖ Who is an entrepreneur? ❖ Qualities of good entrepreneur	FGD Plenary	
10:00-10:15am	**BREAK**		
10:15-12:00pm	▪ Entrepreneurship ❖ Stock replenishment ❖ Stock organization ❖ How to make a receipt?	FGD Plenary	
12:00 – 1:00pm	**LUNCH**		
1:00- 3:00pm	❖ Role play on sales operation of Afridev pump	Plenary Exercise	
3:00 – 3:15pm	**BREAK**		
3:15- 4:00pm	▪ Question time ▪ Certificate conferment ▪ Starter pack distribution ▪ Closing remarks	Plenary	

Appendices

Appendix 1: Sample format of Bin Card[10]

BIN CARD

Name:		for Afridev pump S/No.:					
Purchase Price (MK)		Selling Price (MK)		Initial Stock Volume		Re-order Level[1]	
Date[2]		Date[3]		Date[4]		Date[5]	

Date	Description (Receipt No.)	Received	Issued	Balance

[1]: Initial Stock Volume x 0.25

[2]: As of date ordered, not delivery date

[3]: As of date started selling at this price

[4]: As of delivery date

[5]: As of delivery date

[10]This format is extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the Project.

Appendix 2: Sample of Sales Receipt[11]

(Name of wholesaler)

Address:

P.O. Box ....., Tel. , Fax. , E-mail:

Date		No.	
Received from	Name:		
	TA:	District:	
Payment for			
Amount			
Amount in Words			
Cash/Cheque	Cheque No.	Cheque date	
Cashier's name			
Signature			

Original: Retail shop's copy, Duplicate: Wholesaler's copy, Triplicate: Book copy

[11]This format is extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the Project.

Appendix 3: Monthly Sales Record[12]

Name of Retail Shop:

District:

TA:

Month and Year:

Date	Description	Sales		
		Unit price	Quantity	Total
			Total of end of month	

[12]This format is extracted from the document of "Supply Chain Management Manual 2nd Edition 2012, National Rural Water Supply and Sanitation Programme, Government of Zambia" and modified for the Project.



Rural Water Supply Operation and Maintenance Series were developed for planners, managers and practitioners for the practices of operation and maintenance of boreholes fitted with Afridev hand pumps in rural Malawi.