

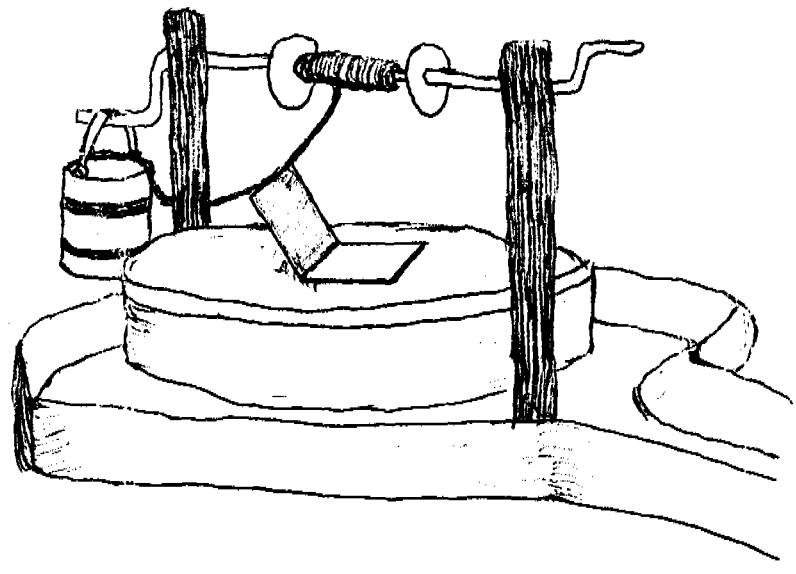
HORST NIEGGE

DEPARTMENT OF WATER AFFAIRS

203.2 90VI

VILLAGE WATER SUPPLY PROJECT

REPORT
OF THE NATIONAL REFERENCE CENTRE
FOR THE STUDY OF WATER SUPPLY AND
SANITATION (NRS)



EDUCATION MANUAL

Kabompo, December 1990
Helmien van Wichen

203.2 90VI -11591

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1. INTRODUCTION

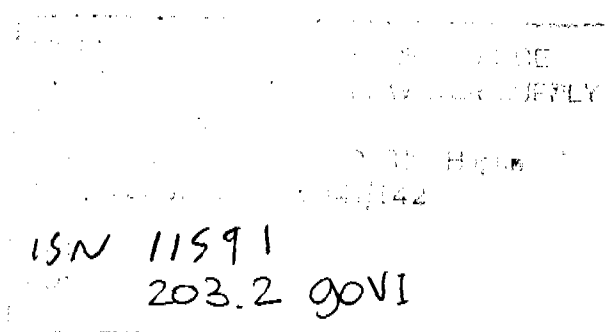
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1. INTRODUCTION

1.1 Background

The overall goal of the IRDP/NWP (since 1978), is to improve the living conditions of the rural small scale producers in the three districts of its project area, through mobilization and utilization of the productive potentials. Though IRDP major programs ran around the productive sector such as Lina-program, beekeeping, crafts, livestock all of which were intended to increase the disposable incomes of the people and hence improve their living conditions, there were also components such as "village water supply" among others that were aimed at keeping up and improving their health status.

Village Water Supply

The purpose for establishing this project (1984), apart from contributing to the broader goal of IRDP, is to provide the rural population with clean, safe and reachable drinking watersources; thereby minimizing the risk of spreading waterborne diseases and consequently improving their health status. This is done on self-help basis with technical and material support from the project/ department of water affairs.

Impact of the project

The project on the whole, has been accepted by the village population and is presently an example of a successful self-help project. Current statistics show still a very high demand for more wells. Although the project would only be able to cover 220 wells out of an estimated 400 to 500 wells, usership of the established wells is well over 180 per well.

1.2 The problem

Though the program is to a large extent institutionalized and assures sustainability, yet the organization of the education and health campaign system does not seem sustainable after IRDP-support phases out. Neither is the continual use and maintenance of such wells, after being completed, assured.

Objectives derived from the problem

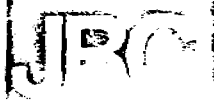
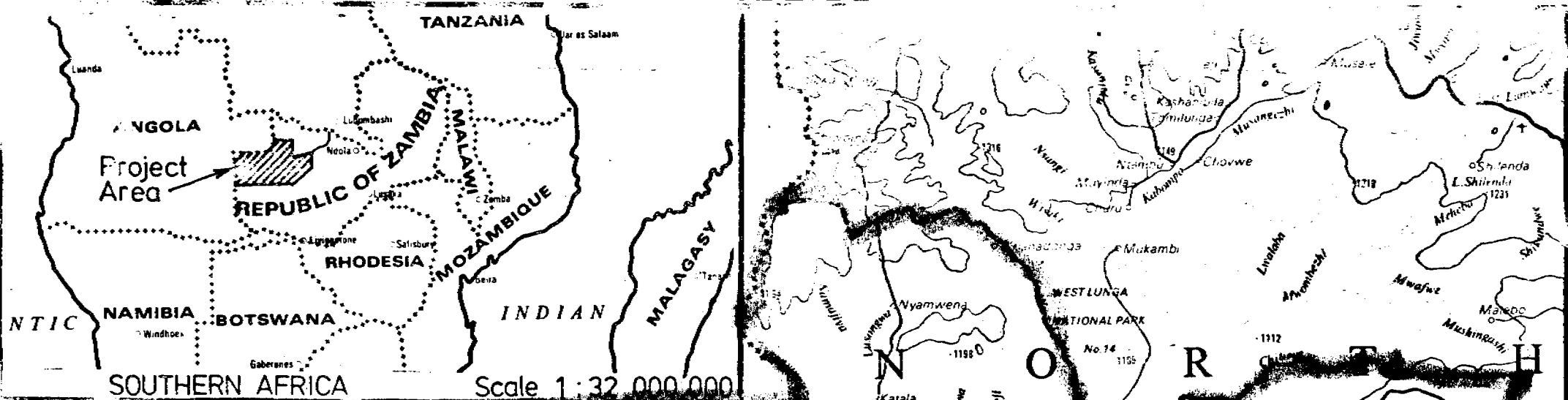
- 1). Education and health campaign system organised on existing institutions and made sustainable.
- 2). Water wells for safe drinking water continually used and maintained primarily by the village community, assisted by the department of water affairs

In order to ensure sustainability through proper maintenance, we have to build a strong education system. Therefor we must look at people who are close to the community; the staff of the Rural Health Centres, employed by the Ministry of Health; the health assistants in particular. The idea is to involve them in caring for the well, as it is written in their jobdescriptions and use a reportingsystem which also includes the monitoring.

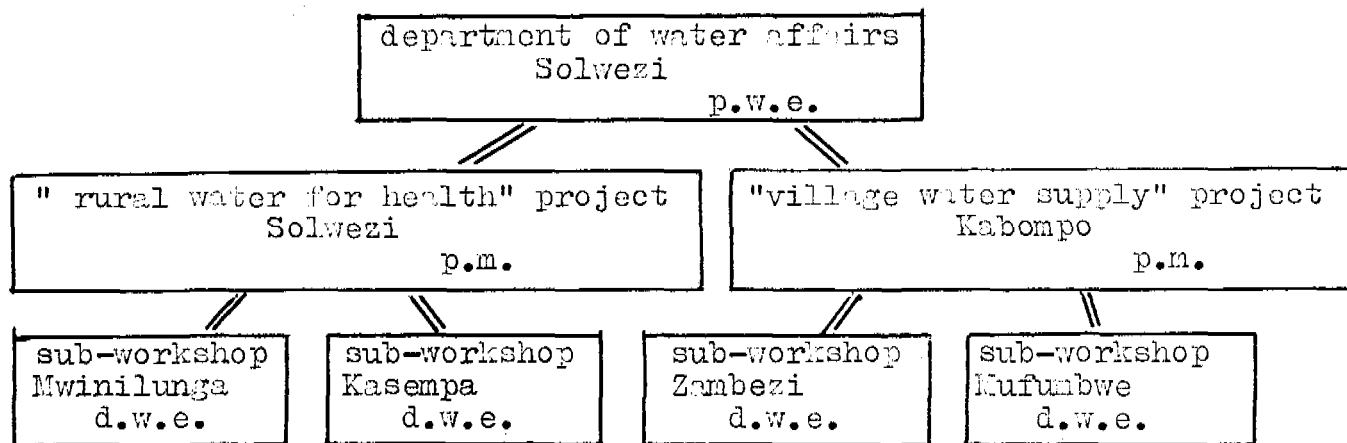
Education goal

- 1). Communities are aware of the importance of safe drinking water and accept responsibility on maintaining the well on their own costs.
- 2). Communities are aware of the relation between safe drinking water, hygiene, sanitation and good health.

1.3 Map of the three districts



1.4 Organization structure North-West province



p.w.e. = provincial water engineer
 p.m. = project manager
 d.w.e. = district water engineer

Organization structure Health in Kabompo/Zambezi/Mufumbwe-districts

Every district has a government hospital/clinic with a district medical officer (d.m.o.)

||
health-inspector (h.i.)

||
rural health centres (r.h.c.'s)

A R.H.C. is staffed with a clinical officer, Zambian Enrolled Nurse, Health Assistant (H.A.) and general workers. Each R.H.C. has its catchment area in a radius of 12 kilometer. Some of the villages have a Community Health Worker (C.H.W.).

1.5 R.H.C.'s in the three districts

Kabompo	Zambezi	Mufumbwe
Kalunga	Kise	Mufumbwe district H.C.
Chikonkwelo	Mukandalunda	Munyambala
Kayombo	Nyakulenga	Jivundu
St. Kalamba	Chivombo	Kalengwa
Kasamba	Chiyeke	
Nkulwashi	Chitokoloki mission	
Kabulamema	MPindi	
NDungo	Kucheka	
Lunsongwa	Chinyama Litapi	
Mumbeji		
Manyinga Health Post		
Kabompo district hospital	Zambezi district hospital	
Loloma mission hospital		

2. PROCEDURE NEW/REHABILITATED WELL

2.1 Scheme of procedure

application well	by the community
↓	
D-Washe	gives priorities and selects the wells; 10 in every district
↓	
V.W.S.	draws up a work-program
↓	
motivation meeting	explain that well is built on self- help basis
↓	
foremen	from V.W.S. and community built the well the community builds the fence
↓	
V.W.S.	brings windlass, chain, bucket and conducts at the same time:
↓	
education meeting	on use of the well hygiene and sanitation water-related diseases opening of the well

D-Washe = District-Water sanitation and health committee
V.W.S. = Village Water Supply

2.2 Application for a well on self-help basis

As the procedure and criteria for application for a well is recently adjusted, the letter in which that's announced is included.
Also the procedure and guidelines for the people involved in selection and the forms.





REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

DEPARTMENT OF WATER AFFAIRS
P.O. BOX 142
SOLWEZI

Date : 1 October 90

To : Provincial Medical Officer
Provincial Social Development Officer
Provincial Agricultural Officer
Chief Education Officer
Chief Regional Planner

Re: Application and selection of rural water supply facilities.

With regard to above mentioned subject I would like to inform you on the following.

It has become clear in the last years that the total number of requests from communities for assistance with the construction and rehabilitation of water supplies is much bigger than the Department of Water Affairs can cope with. Even with the support from donor agencies (IFAD, EEC, German Democratic Republic, Kingdom of the Netherlands) we will not be able to satisfy the demand. This leads to the conclusion that there should be an acceptable system in which requests for assistance can be assessed on the relative need for a water supply enabling us to compile a priority list of applications and execute activities accordingly.

There is a second reason for assessing the need for water supplies. During the execution of two major water supply, sanitation and hygiene education programmes in the North Western Province it has become clear that not all the communities are able to sustain their facilities. Factors influencing the changes of social and technical sustainability are amongst others: the number of households who will use the facility (financial sustainability), the level of self organisation and self reliance, the distance to other water sources and the awareness of the relation between health and safe water. Some of these factors might to a certain degree be influenced by promotion, training and education, but generally the major decisive element is the existing potential of the communities.

Although it is difficult to assess these factors, there are possibilities to acquire information on the probability of success. Experiences in the past have confirmed that water supply facilities of communities which have low score on selection criteria will soon deteriorate and be used in an unhygienic way, creating possibly bigger problems, not mentioning the loss of investment.

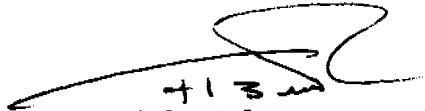
Therefore the Department of Water Affairs has developed selection criteria and procedures based on experiences in other provinces as well as in the North Western Province.

Please find attached to this letter the papers concerning this subject.

These criteria and procedures will be applied by the in the North Western Province from today on.

District Officers from your Ministry or Department will be approached for further explanation and in full consultation with them, extension staff will be involved, guided and trained to apply these criteria in a proper manner.

You are requested to inform District Staff accordingly and ask them to fully cooperate with the Officers of the Department of Water Affairs.



P.A. Zulu.

PROVINCIAL WATER ENGINEER
NORTH WESTERN PROVINCE.

cc.: Permanent Secretary North Western Province.
Officers in Charge Solwezi, Kasempa, Mwinilunga, Mufumbwe,
Kabompo and Zambezi Districts.
PM - RWHP
PM - VWS
PEA's - RWHP
PS-Solwezi - RWHP
PS-Kasempa - RWHP

Encl.: "Guidelines for all officers assisting in selection of villages for a self-help well".

2.3. PROCEDURES ON SELECTION OF SELF-HELP WELLS

1. The Ministries, joined in the Provincial WAHSE, together with the Councillors are to promote protected wells, constructed through self-help by the people in the rural areas. They are also to stimulate the formation of Village Water Committees in those places, interested in a well. (The above mentioned ministries are: Ministry of Education, Department of Social Development, Ministry of Agriculture, Ministry of Health and Department of Water Affairs).
2. The Ministries/Departments will have the application forms for a self help well, available at their District offices and at Field-Level-Offices (Rural Health Centres, Schools, sub-centres, etc).
3. Every ward will get a maximum number of wells to be constructed or rehabilitated, based on the number of inhabitants per ward. In each ward there will be a meeting with the fieldstaff of the above mentioned Ministries and Departments and with the political staff (Ward Chairman, women'S league, Youth League). They will be informed on the selection procedure by staff of the Department of Water Affairs. Application forms are spread among fieldstaff, who will inform the villages, Schools and Rural Health Centres on the possibilities to apply for a well. They have to give an Application form to any group of people in the ward that wants to apply for a well.
4. The application form will be filled in by the Applicants and sent to the District Officer in Charge of the Dept of Water Affairs, within a period of 2 months after the ward level meeting.
5. The D.O.I.C. informs the seconded officers of MOH or Dept. Social Development. They will go to the applicants together with fieldstaff, locally present and fill in the list of Criteria.
6. This filled-in list of criteria goes to the District OIC of the DWA.
7. The District OIC compiles a priority list in which the order of the requests will be handled. Every quarter of a year he sends a copy of this list to the PWE and a copy to the DES, who will inform the D-WASHE and the Councillors. In a second meeting at ward-level the priority list will be announced.
8. Those requests that are not yet considered (and under at the priority list) are informed by the Councillors.
9. The DWA together with the MOH and DSD start to activate those villages which are considered for a well in the near future.
10. The villages on old well lists will be informed by the councillors that if they are still interested in a self-help well, they have to reapply using the standard Application form.

2.4

WELL APPLICATION FORM

APPLYING VILLAGES:.....

The Officer In Charge
Department of Water Affairs
P.O. BOX
.....

Dear Sir,

On behalf of the villages mentioned in the attached list in
Ward of District hereby apply for a well
on self help basis.

We kindly invite your office to consider our application favourably.

Yours faithfully,

.....

NAME OF CONTACT PERSON(S)

DATE:.....19....

c.c The District Executive Secretary
P.O. BOX
.....

c.c The Ward Chairman
..... Ward
..... District

DEPARTMENT OF WATER AFFAIRS / NORTH WESTERN PROVINCE OF ZAMBIA

Applicants:..... Ward..... District.....

ANNEX TO LIST OF CRITERIA : Estimated number of future well-users.

Name of School (if applicable).....

Number of Scholars:.....

Name of Health Centre (if applicable).....

Number of patients per year:.....

Names of Villages planning to use the well:	Number of households per <u>village</u> :
---	--

- | | |
|---------|-------|
| 1..... | |
| 2..... | |
| 3..... | |
| 4..... | |
| 5..... | |
| 6..... | |
| 7..... | |
| 8..... | |
| 9..... | |
| 10..... | |
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| 16..... | |
| 17..... | |
| 18..... | |
| 19..... | |
| 20..... | |
| 21..... | |
| 22..... | |
| 23..... | |
| 24..... | |
| 25..... | |

TOTAL NUMBER OF HOUSEHOLDS :

(if not enough space, please use other side of this form)

LIST OF CRITERIA FOR SELF-HELP APPLICATIONS

Village:..... Ward:..... District:.....

Examiner:..... Date:.....

1.	<u>Water Need</u>		
1.1	Quantity of existing water supply is considered	by users	by examiner
	Sufficient		
	Insufficient in dry season		
	Insufficient the whole year		

1.2	Quality of existing water supply is considered	by users	by examiner
	Good		
	Bad		
	Dangerous (e.g. crocodiles)		

1.3	Distance to existing water supply is according to examiner: (single trip in dry season)		
	Less than 5 minutes walk		
	Between 5 and 15 minutes walk		
	More than 15 minutes walk		

1.4 Describe type of existing water source:

2. Social Feasibility

2.1 Number of households to be served by the new supply is:

Less than 20 households	
Between 20 and 40 households	
More than 40 households	

2.2 Shifting Cultivation: the permanent villages are per year deserted for:

More than 6 months	
Between 2 and 6 months	
Less than 2 months	

2.3 The distance of the nearest school or rural health centre to the planned well is:

More than 10 minutes	
Less than 10 minutes	

3. Maintenance Feasibility

3.1 The future users are ready to carry out the project on full self-help basis

Yes Very Active Community/Moderate Active Community	
No	

3.2 The responsibilities for maintenance and recurrent costs are fully accepted by the future users, i.e. K..... per household per month

Yes	
No	

Please mark per question the correct answer(s) with an X

LIST OF CRITERIA FOR SELF-HELP APPLICATIONS

Village:..... Ward:..... District:.....

Examiner:..... Date:.....

1.	<u>Water Need</u>		
1.1	Quantity of existing water supply is considered	Score	
	Sufficient	0	
	Insufficient in dry season	5	
	Insufficient the whole year	10	
1.2	Quality of existing water supply is considered		
	Good	0	
	Bad	10	
	Dangerous (e.g. crocodiles)	10	

1.3	Distance to existing water supply is according to examiner: (single trip in dry season)		
	Less than 5 minutes walk	0	
	Between 5 and 15 minutes walk	5	
	More than 15 minutes walk	10	

1.4 Describe type of existing water source:

2. Social Feasibility

2.1 Number of households to be served by the new supply is:

Less than 20 households	0	
Between 20 and 40 households	5	
More than 40 households	10	

2.2 Shifting Cultivation: the permanent villages are per year deserted for:

More than 6 months	0	
Between 2 and 6 months	5	
Less than 2 months	10	

2.3 The distance of the nearest school or rural health centre to the planned well is:

More than 10 minutes	0	
Less than 10 minutes	10	

3. Maintenance Feasibility

3.1 The future users are ready to carry out the project on full self-help basis

Yes Very Active Community/Moderate Active Community	10	0	
No	Not Considered		

3.2 The responsibilities for maintenance and recurrent costs are fully accepted by the future users, i.e. K..... per household per month

Yes	Considered	
No	Not Considered	

TOTAL

Please mark per question the correct answer(s) with an X

SURVEY ON SELF-HELP PROJECTS IN COMMUNITIES THAT APPLIED FOR A WELL

1. Are there any Self-Help Projects in the applying communities? If yes, list them down below.
 - a. -----
 - b. -----
 - c. -----
 - d. -----
2. When was/were this/these project(s) started?
 - a. -----
 - b. -----
 - c. -----
 - d. -----
3. Who initiated this/these project(s)?
 - a. -----
 - b. -----
 - c. -----
 - d. -----
4. Are there families, schools or RHC's among the applying future well-users that are involved in this/these project(s)?
 - a. -----
 - b. -----
 - c. -----
 - d. -----
5. How is/are this/these project(s) financially organised?
 - a. -----
 - b. -----
 - c. -----
 - d. -----
6. When was it finalised or what is the physical progress at date?
 - a. -----
 - b. -----
 - c. -----
 - d. -----

N.B Try to give as complete answers as possible.

2.5 DIDACTIC NOTES

Before you go

- Get information on:
- why they applied
 - where they get the water from presently
 - who are the influential people in the community
 - the specific habits, problems of that area
 - what time suits best to organise a meeting, without conflicting with important community activities.

- Important:
- to speak the local language
 - to speak with a clear, loud voice and use movements to attract attention and make it lively
 - to have some technical knowledge concerning the well
 - to follow the subject step by step; avoid mixing subjects and repeating yourself
 - to answer questions correct; if you're not sure: don't give a wrong answer but tell them they'll be informed next meeting
 - to allow time for questions and comments
 - to use educationmaterial in a way that everybody sees and understands them
 - to do the meeting within two hours
 - to let the people come close, especially the women!

Publicity: Prior to holding a motivation meeting, (or any other meeting) is a visit to announce the date for the meeting as well as the time and place. Do this one or two days before; avoid the announcement and meeting on the same day. Mostly it suits best to have the meeting in the afternoon. The spreading of such information to the people of the area concerned, is done through wardchairmen, chiefs, schoolheadmasters, healthworkers. Its important that a lot of people attend the meeting; men, women and children (above \pm 10 years).

Transport: Due to the lack of enough transport, visits to the different communities should be combined as much as possible. If V.W.S. goes to a village for a motivation -or education meeting, they should collect the health assistant from the rural health centre

Education material:

- have it ready and always take it with you
- if people are not close enough to see, let somebody walk around with it
- make some yourself and use local available material and objects.

Education material

Slideshow: "to judge the health of a nation, don't count hospital beds, but water wells"

It is used for seminars and talks on water and sanitation. They concern washing basins, waterwells, waste-disposals and pit-latrines.

The slides are shown while a cassette is displaying the story, concerning the subject, in english.

The tape is also translated in Kaonde and Luvale.

The tape should be stopped after every subject, to allow people making comments or ask questions. Give them questions or orders to look at during the show and talk about that later (to keep their interest and see what they learned of it).

Posters: the subjects are printed on hardboard. They were used with success in the past and need to be overpainted by now. The material used is paint on hardboard.

- 1) shallow well
- 2) protected water well
- 3) the well underground
- 4) washing basin
- 5) pit-latrine
- 6) waste-disposal
- 7) contamination-circle of water-related diseases

With every poster:

- tell present situation and ask what people see
- tell them what is wrong with it and why
- tell them what to change and why it is good
- ask or check if it is understood/ questions



2.6 THE MOTIVATION MEETING

- GOAL
- 1) Communities are aware of the importance of safe drinking water and accept responsibility on maintaining the well on their own costs.
 - 2) Communities agree on building the well on self-help basis.
 - 3) A Village Well Committee is installed.

BY WHO the female motivator
the male health-assistant from the R.H.C. in that area

ED.-MATERIAL posters: shallow well, protected well, well underground, washing basin.

MEETING

People need to understand well, before they can afford to offer themselves in voluntary service.
Therefore it's important to develop the talk step by step:

- A) Introduce the motivation team
 - B) Mention the items that will be discussed:
 - history/future V.W.S.
 - well-building procedure
 - water and health
 - maintenance of well
 - Village Well Committee
 - choose well-site
 - C) History and background of Village Water Supply.
 - in 50's there were wells from the council
 - in '84 the IRDP-project comes in with V.W.S. financed 50% IRDP/GTE
50% BWA
 - three districts, 160 wells, built on self-help basis
 - financial situation country, phasing out IRDP, policy change, we have to work together to save costs
 - community 'gets' the well, but have to maintain it themselves
 - D) The well is provided on self-help basis; people help but don't get paid.
 - V.W.S. support - delivering the material for building the well (well-liners, cement, windlass, chain, bucket, transport, coverplate)
 - well-digging foremen
 - education on how to use the well, health and sanitation
 - water quality tests
- self-help contribution
- site clearance
 - digging down till water level, spreading of the soil
 - assist foremen
 - accomodate foremen
 - provide poles for the windlass
 - built a fence

E) Show poster with shallow well.

This is how they are used to draw water and any contamination can be washed into the shallow well and cause diseases.

Show poster with the protected well.

Explanation on the value of well-water for human consumption, in comparison to river water/ shallow well water:

- health versus diseases, fewer illnesses, less diarrhoea
- less sick children, thus more time for the women
- less walking distance, thus more time for the women
- the well is for everybody to use
- the water flows underground, so it's not stagnant and is fresh every time and cannot be poisoned.

F) Maintenance

When the well is ready and opened for use, the community has to maintain the well. If anything breaks down, gets lost, they have to maintain or replace it themselves.

This means: provide the material themselves
pay it themselves
transport it themselves

Tell them how much a well costs.

As was told before, there's no money for that anymore.

So it is very important to use the well properly, keep it clean, keep the fence intact and instruct the children about it.

Bucket can be welded or replaced

Windlass can be welded

Chain can be welded

Coverplate can be welded

Cement can be bought

Welding can be done by Kusuma, D.W.A., IKOR-workshop, local welders or let things repair at local carpenters.

Fundraising: tell them about this

that all households should contribute to it
that it's good to have spare money to repair things
that in other parts of the country they have a
system that a lima is cultivated, the crop sold
and that money given for the wellbreakdowns;
this can also be done with charcoal and like this
you don't feel directly in your purse.
Tell them that people in the BCMA have to pay
for water every month.

Water-quality tests will be done of the well water on regular base.

A committee will be installed (or an existing committee used), to arrange things around the well.

The health-assistant and V.W.S. will keep contact.

Only re-deepening is judged and done by the dep. of water affairs.

G) Before explaining things in detail, ask if they agree to built the well on self-help basis.

H). Formation of a Village Well Committee (V.W.C.).

To know who's doing what and organize things, we install a V.W.C. Ask if there is already another committee in the village, like a health committee, and then go on with that one. There is no need to have too many comm.; the work around the well is not that much that it wouldn't be possible to combine it!

Otherwise we form a committee of 6 persons: 3 men/3 women. Women use the well the most, so it is very important they have a lot to say about the issue.

Functions:

1. to look after the hygiene situation around the well and in the village
2. to organise the cleaning/repairs on the well, constructions of pit-latrines and waste-disposals
3. to organise the self-help during construction of the well
4. to keep in contact with the health-assistant/ comm. health worker and the R.H.C., when he comes for visits and organize a meeting if wanted
5. to organize fundraising for maintenance of a well

chairman	chairlady	
secretary	secretary	they can assist each other
treasurer	treasurer	

chairman: organises meetings, takes care all members attend, accompany H.A. or V.W.S. when they visit

secretary: makes minutes of the appointments made

treasurer: has to mobilise the community for fundraising for maintaining the well and keep records of that.

In choosing those people; take care that they themselves are motivated to do this and others listen to them. It's good when there are healthworkers in it.

Choosing of the V.W.C.: write names down, let the community write them down as well.

I). Time for questions and ask if they understand.

J). Tell them about the procedure from now on.

- foremen come in: when/what time/how many/material
- community has to provide workers: how many/for how many days
- how long it all may take to built the well
- community makes the fence

If well is finished, report to V.W.S.

There's a meeting: they bring windlass, chain, bucket/education team

After that they maintain the well themselves
have contact with the H.A./R.H.C.
V.W.S. will be there for questions.

Check if everything is clear, thank everybody, close down the meeting.

K). Choose well-site

not only men must go to the site; women use the well and know where water is so it's very important that they come and choose!

Think of: distance houses, latrines, roads
acesable for everybody
chance to have water all the time
heightlevel of the well.

XXXXXXXXXXXXXXXXXXXX

2.7 MOTIVATION REPORT

After the meeting, make a report and put it in the well-file. must include: date/ well/ village/ ward/ names not. team/ how long the meeting took/ how many attended the meeting/ general impression/ difficulties/ names of Village Well Committee/ what is decided on the procedure

Other reports from visits, can be written under this one: it saves paper and is more clear.

Foremen come in (1 or 2) and built the well with the help of the community. When they're finished they will be shifted by V.W.C.

In jan. up to april there's no well-building due to the rains.

Every foreman uses a small booklet, in which they fill in:

name of place	date started	date finished	number of wellliners	depth of water	



2.8 EDUCATION MEETING AND OPENING OF THE WELL

- GOAL
- 1) Community is provided with windlass, chain and bucket and knows how to use the well properly.
 - 2) Community is aware of the relation between safe drinking water, hygiene, sanitation and good health.
 - 3) Community is told about the water-related diseases.

BY WHO the female liaison-officer: water, hygiene, sanitation
use of well
the male health-assistant: water-related diseases

Ed. MATERIAL all posters
meeting must be near well-site

MEETING

To motivate people to use drinkingwater, etc., they must know the advantages on clean water, hygiene and sanitation. Develop the talk step by step.

- A). Introduce the education team
- B). Mention the items that will be discussed: talk about water and sanitation
explanation use of well
talk water-related diseases
opening of well

C). Water and sanitation

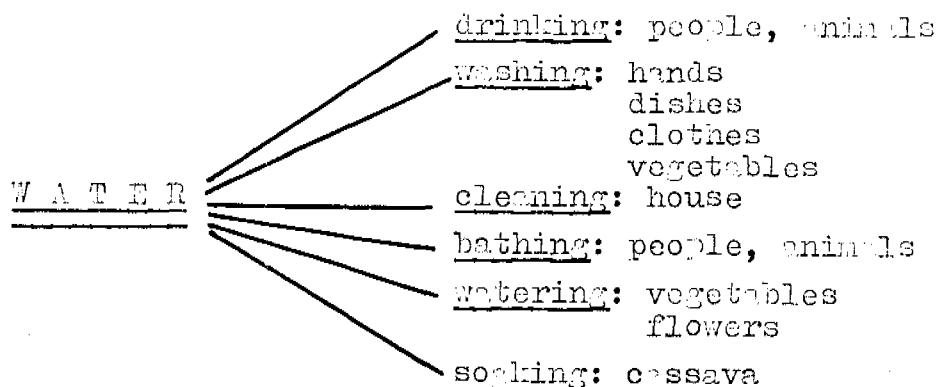
People using shallow well water or rivers get many diseases, like diarrhea, because all contamination gets washed into the water.

More than half of all illnesses and deaths among children is caused by germs which get into the child's mouth via food and water.

In communities without latrines, safe drinking water, safe waste-disposals, it's very difficult for families to prevent the spread of diseases.

** you can ask the people for what they use water, before you start with this.

Water is used for a lot of things:



Until there is a well, they can leave water a full day in the sun before using (like boiling; in hot season).

Put a bucket outside for rainwater.

- D). Cleanliness is of great importance in the prevention of many kinds of infections.
Personal cleanliness (hygiene) and public cleanliness (sanitation), are both very important.

Personal hygiene

- washing hands with soap - after defaecating or after cleaning the bottom of a child who has just defaecated
- before handling the food
- before eating
- after returning from the land
- body washing - don't forget the children
- it prevents skininfections, itching, rashes, etc.
- sick people and babies should be bathed daily
- wash clothes/ bedding material - hang it on a string in the sun, not on the ground or fence
- hang blankets in the sun

Domestic hygiene (clean house)

- keep faeces from animals away from houses and watersources
- do not let pigs come into the house or near places where children play
- if children (and animals) have a shit near the house, clean it and teach them to do it further away
- keep animals away from drinking water
- storage of water: don't let flies and dirt get into the water; put it in clean, covered buckets or calabashes
- storage of food: protect food by keeping it covered in boxes or with plates
- wash the vegetables
- don't leave dirty bowls/dishes lying around
- wash the bowls and dishes very well; t.b.c. is transmitted that way

E). Washing basins (poster)

Water-related diseases are not only picked up through drinking water, but also through skinkontakt.

Washing clothes, bathing and soaking cassava is often done in open and unprotected waterpools. Diseases are easily spread through these pools.

This can be prevented by building washing basins and use water from a protected well.

(Clean nappies at home before taking them to the river.)

F). Pit-latrines (poster)

If you don't have a pit-latrine, faeces are everywhere and flies and animals have easy access to it to spread diseases.

Teach everybody to go far away from where people bathe or get drinking water, and burry their faeces or cover it with leaves.

Better to built pit-latrines!

- built one yourself with local material
- built it at least 20 metres away from homes or watersources
- it should be lower than a watersource
- 1,5 mtr. diameter of the pit, 3 meter deep
- to keep flies away throw a little dirt or ashes in the hole
- cover the pit when not in use
- keep it clean; put a small broom there
- wash your hands afterwards !!
- cut grass short to stop children using it as a latrine
- when it's full built a new one

If human faeces is left in a pit for 2-3 months, it turns to manure. This can be used in the fields to grow plants.

G). Waste-disposals (poster)

The waste of private households, schools, rural health centres are normally dumped everywhere. Children and animals can roam around in that waste and pick up any disease. Especially at R.H.C.'s with all the needles, bloodbandages, etc. (aids!). This is easily prevented by building a waste-disposal:

- 1,5 diameter, 3 meter deep, use local material
- 20 meter away from houses, watersources
- downhill from the watersource
- built a fence around it (nobody falls in or takes rubbish out)
- if it's full cover it with soil and dig another one
- burn waste that can be burned and put the rest into the disposal
- later you can use it as manure for the soil to grow vegetables

So now we've seen that hygiene and sanitation is very important for our health to keep away diseases. We all need protected well water, pit-latrines and waste-disposals.

Any questions or comments?

H). Hygiene and use of the well (stand near the well)

- point at the objects and name them: well, coverplate, chain, bucket, windlass, slab, soakaway, fence
- show them how to draw water
- never let there be soil in/under the bucket as that spreads worms, germs and diseases and can easily be prevented
- always use the same bucket
- be careful with windlass and chain
- hang the bucket underneath the coverplate when not using
- always keep coverplate on when not using, to prevent anything coming in
- keep the fence in order to prevent animals coming near
- keep the surrounding clean; put a small broom there
- keep the soakaway clean and open; put a tree at the end!
- the water flows underground, so there's no need to pump water out
- teach the children on it
- if everybody feels responsible for the well, everybody will take care it's kept proper
- YOU LIKE TO FIND IT CLEAN, THEN ALSO LEAVE IT CLEAN!!!!

** Call somebody from the audience to draw water out of the well, so you can correct them when necessary. Also let a child do it; they are smaller and may have specific difficulties.



HEALTH-EDUCATION ON WATER-RELATED DISEASES

- Objectives
- 1). To create awareness, so that people recognise signs and symptoms and understand the cause of the spread and prevention of water-related diseases.
 - 2). To provide people with skills of preventing diseases (hygiene and sanitation).
 - 3). To discourage bad cultural beliefs, towards treatment and prevention of water-related diseases (protected well water is clean and healthy).

BY WHO Health-assistant from R.H.C. in that area

Ed. MATERIAL painting of the contamination circle
use the local diseases there and their frequency
select from the following subjects; it's not meant
to do it all at once.

MEETING

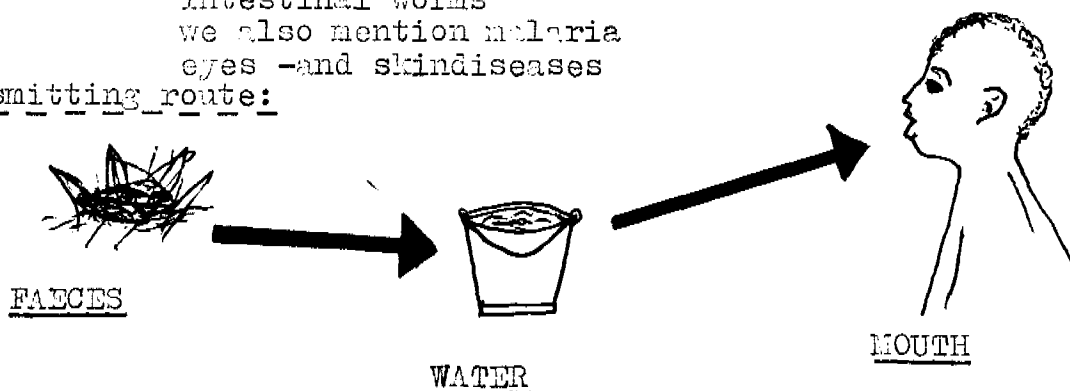
- introduce yourself
- say that you will come for well-inspection/ watersampling
- say that you will give health-education when needed
- that they maintain the well themselves, but that they can come to him with questions.

WATER-RELATED DISEASES

These diseases are transmitted via water by drinking it, swimming in it, using it and via animals and flies.

Diseases are: diarrhoea and dysentery
typhoid fever and cholera
intestinal worms
we also mention malaria
eyes -and skindiseases

Transmitting route:

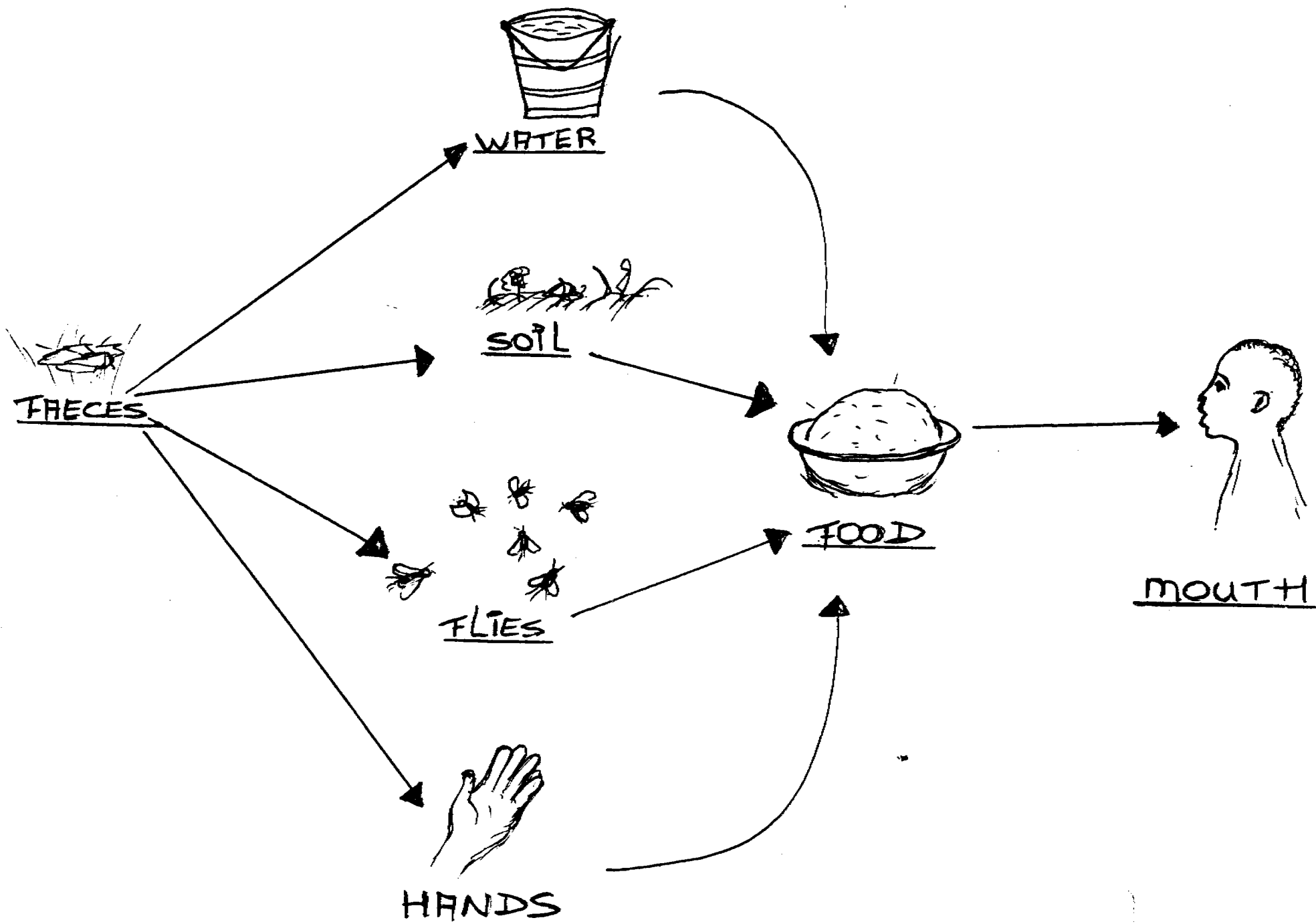


Gerns and worms (their eggs) are passed by the thousands in the stool (faeces, shit) of infected persons. These are carried from the stools of one person to the mouth of another by dirty fingers or contaminated food or water.

What makes your food dirty and unhealthy:

- flies sit on infected faeces, carry dirt and germs on their bodies
- when they sit on food they leave germs on it
- people with dirty hands can spread germs in the food
- people who pass water or leave their faeces near places where you get your water, can spread disease-germs into the water.

CONTAMINATION - circle



CHOLERA

Is transmitted that way; it causes many deaths and there's very regularly an outbreak in Zambia!

Suddenly not feeling well, watery stools, vomiting, rapid dehydration and a shock. Start immediately with re-hydration: BOILED water. Stools and vomitus are infective.

It spreads very quickly and always has to be reported at the doctor, to prevent others getting sick.

If you keep everything clean, use latrines and use clean, protected well water there won't be any cholera!

If the water is made safe (chlorination, boiling) cholera cannot be spread.

DIARRHEA AND DYSENTERY

The main causes of diarrhea are poor hygiene and lack of clean drinking water. Caused by germs from faeces entering the mouth.

symptoms - stools are very loose and liquid (loses a lot of water)
- smell is bad
- go to the latrine very often in a short time
- pain in stomach
- sometimes mucus/blood in the stools (dysentery)
- often also vomiting

Why dangerous - it spreads easily to other people
- flies carry disease germs from latrines to the food if not covered
- you loose a lot of water; body too dry
- especially children can die of it
- body becomes weak and lacks food

Prevention - cleanliness in foodpreparation, personal habits (bathing), control of flies, throwing rubbish in waste-disposals, have proper pit-latrines with a lid
- wash hands with water and soap
- drink clean water. If people are sick: always boil the water
- wash vegetables before use
(remember that human waste matter might have been used as manure in the soil for the vegetables).
- cover food and drinking water to protect it from germs

WORMS

many worms. Hookworm: you also get this via infected faeces.
-if you walk without shoes, it attaches to the soles of your feet (itching) and you can get anaemia (very tired) of it.
-better to put locally made shoes on and wash feet.
-its very common here
roundworm: can see them in faeces
-itching/ weakness/ pneumonia
-through lack of cleanliness they pass from one person's stools to another person's mouth.

SKINDISEASES

like scabiës, can be prevented by using water.

SORE EYES

Conjunctivitis is easily spread from one to another.

- redness, pus, mild burning in eyes
- eyelids often stuck together after sleep.

Clean the eyes with boiled water (from outside to inside)

Wash hand after touching eyes. Don't use same towels

Some eyediseases cause blindness, so always keep yourself clean.

BILHARZIA

Caused by a kind of worm that gets into the bloodstream.

These worms live in streams and rivers.

Infected person urinates in water

↓
urine has worm-eggs in it

↓
worm-eggs attach to snails

↓
young worms go into the person via the skin

↓
person who washes or swims in that water, becomes infected.

All stagnant water in pools and riversides in Zambia, may have it.

Symptoms: - blood in urine, especially when passing the last drops

- pain in lower belly and between legs: worst at the end of urinating
- sometimes low fever and itching
- infection of bladder/genitals
- after months or years, the kidneys (bladder) may be badly damaged causing general swelling and death.
- it may cause sterility by both men and women.

Prevention: - never urinate in or near water where people bath or drink
use a latrine always!

- get water from a protected well
(put a wall around the shallow well to keep faeces out)
- if you're on a journey, pass urine and faeces away from streams and cover them
- if you have no protected well yet, let the water from the stream stand 2-3 days.

MALARIA

Is spread by a bite of a mosquito. It kills many babies, children and other people.

Mosquitos breed in stagnant water: riverside, swamps, pits, ponds, tincans, etc.

- Symptoms:
- often in attacks in three stages;
chills, headache, person shivers
chills are followed by fever, weakness, red skin (flush),
at times delirious (not right in his mind), fever
lasts several hours
person begins to sweat, temperature goes down.
 - blood can be tested.
 - if not treated , people die of it.

- Prevention-
- destroy mosquitos and their larvae (young)
 - they breed in stagnant water, so: clean the area of ponds, swamps, pits old cans or broken pots that collect water
 - have a regular clean-up
 - drain or put a little oil on ponds and swamps to kill the mosq. young
 - everybody should be protected from bites; using bednets, sleep under a sheet or thin cloth, have screens on windows, kill the mosquitos and try to wear something with long sleeves as they mostly bite in the evening and night.

TYPHOID FEVER

Is caused by a germ, which is swallowed with food or drink.
Its a disease which often kills, especially young children and old people

Symptoms: - it starts in the same way as diarrhoea
- stools are loose and watery
- pain in stomach/ maybe vomiting
- then; sore throat, headache
 red spots on the skin
 has fever, becomes weaker, loses conscience

Prevention:- use latrines, they must be kept clean, flies may not
 reach the waste
- water must be clean; if somebody in the village is infected
 you must boil the water
- food must be clean, vegetables washed before used
- be fit and healthy
- often typhoid fever comes after rains and flooding, so
 take special care in that season.
- to avoid spreading; the infected person should be in
 a separate room
 no one should eat/drink from the same dishes
 extra personal cleanliness and washing hands with water
 and soap
 the stools from him should be buried in deep holes.

These diseases, which are common in all of Zambia, cause many deaths.
We all have people in the family who died of these diseases, which
all have to do with water and spreading from one to another.

So don't forget, that to prevent diseases, to have more time and
have healthy families, we must:

- drink+ use clean, healthy water from a protected well
- built pit-latrines to put our stools and urine in
- built waste-disposals
- above all be hygienic, wash ourselves, keep our houses clean
 and cover food -and water storage

AND YOU'LL SEE: IT WORKS!!!!!!!

~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~

Health-assistants and schoolchildren

Children form a large group of water-users and in some communities
they do much of the labour involved in fetching water and disposing
waste.

The children can and must be taught at school to use watersupply and
sanitation to improve their health.

They can also help their mothers change the hygiene behaviour of
their brothers and sisters. However the parents must also understand
and appreciate good hygiene practices.

As a first step in planning hygiene education activities in a school,
the H.A. should meet with school authorities.

They should assess how well the present situation deals with hygiene
facilities and education.

An assessment should be made of how much time is available to teach
the subject and the ability and interest of the teachers in teaching
the subject.

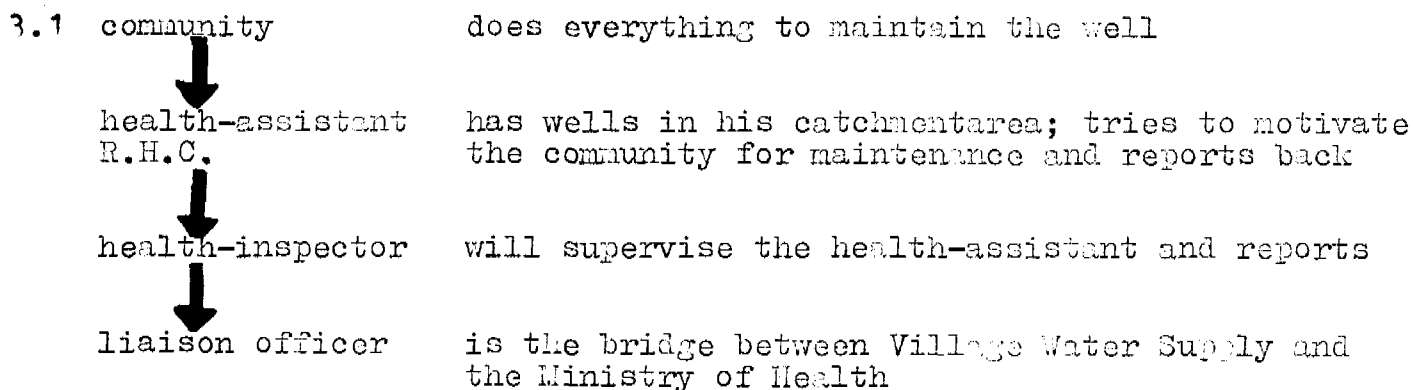
Decide on who will teach: the H.A. or the teacher?

(show posters, plays by the children on watersupply and sanitation)

3. MAINTENANCE OF EXISTING WELL

The protected water well needs to be fully maintained by the community. To support them with that, V.W.S. works together with the ministry of Health via the health-assistants from the R.H.C.'s and the Health-Inspector.

There's a reporting-system which includes the monitoring.



Integration in Ministry Of Health

To reach the community, we have to look at people who are close to that community. Every district has Rural Health Centres, which are mostly also staffed with Health Assistants (H.A.), who have to look at water, hygiene, sanitation in their catchmentarea and improve healthconditions.

Village Water Supply has not used this existing potential, but sees its effective to do so, as it also succesfully happens in other parts of the country.

The H.A. from the R.H.C. and the Health Inspector in every district, will work close together with the liaison-officer from V.W.S. A memorandum of understanding with the M.O.H. will be written. To re-educate the H.A.'s on this task and to introduce the reporting-system a seminar will be conducted in every district.

The H.A.'s have to provide their own transport to go to the villages. Only when V.W.S. goes for a motivation -or educationmeeting, they'll come and pick the H.A. up.

Honda's

Three Honda's were provided to V.W.S.; in every district one.

The following is arranged:

Honda 1: goes to the health-inspector in Mufumbwe

Honda 2: goes to the health-inspector in Zamboni

Honda 3: stays with the liaisonofficer in Kabompo

3.2 PROCEDURE on an existing well

Community will do everything possible to maintain the well, to fix and replace items and finance that.
They will educate their children on it.
If there is anything they report to:



Health-Assistant from the R.H.C.

- will have wells in his catchment area
- has a book with every well on a page with data/information on the village (households, latrines, etc.); he writes in it after every visit, put remarks in it and plans the next visit
- he visits the well when possible: 4x per year.
- he tries to activate the community for maintenance, advises them in repair and raising money
- educates the people when needed on health, hygiene and sanitation
- does the watersampling for bacteriological tests: 4 x per year.
- writes a quarterly report, 4 x per year, gives it to the health-inspector on his visit.
- will cooperate with the liaison-officer and ask for her visits when needed.
- he'll visit primary schools and give lecture on watersupply and sanitation facilities (children can teach their parents)
- he can talk with the women when they come for the under-five-clinic
- transport will be as usual, on foot, but they can try to combine it whenever possible.



Health-Inspector

- visits R.H.C.'s every three months and collects data
- advises H.A. on the health part
- has regular contact with the liaison-officer from V.W.S. to give data, letters, problems, watersamples to her.
1 x per month



Liaison-officer from V.W.S.

- is the bridge between M.O.H. and V.W.S.
- has once per month contact with the health-inspector and collects items (1 x per month)
- makes a program to do the education meetings and visiting the health assistants (2 x per year) for support and advise
- uses the Honda, V.W.S. transport and other available transport
- puts data into the files
- has 1 x per week a meeting with the project manager/ officer in charge, to report visits from the last week, discuss what to do with them and plan the coming week
- brings watersamples to the laboratory and takes care that the results get back to the H.A. / village
- should cover area's which are not covered by the R.H.C.
- must have a list of wells in every district, the H.A.'s, community health workers and their catchment areas
- should write a yearly report on how the wells are functioning (reporting/monitoring system) and how this new set-up is functioning (own experience and comments made).
- should have contact with Dep. of Social Development, Women Motivator and Health.

3.3 Material and finance

The maintenance of the well is the responsibility of the community. This means: repairs, replacements and transport for that. They can go to: Muzama workshop in Manyinga, Mufumbwe, Zambezi
IRDP workshop
Dep. of Water Affairs
local welders and carpenters

<u>windlass</u>	can be welded lifespan 5 years
<u>chain</u>	can be welded lifespan 5 years
<u>bucket</u>	can be repaired (wooden) can be bought K. 1010 lifespan 3 years
<u>cement</u>	can be bought lifespan of concrete work 5 years

It is still discussed how and where the wooden buckets will be available for the people. The following is proposed in a letter from the Acting General Manager, Muzama, Manyinga:

" Village Water Supply buys wooden buckets from Muzama and distributes/sells them to users. Muzama is willing to stock a reasonable quantity of buckets at Manyinga for urgent sales. Muzama will also impart maintenance knowledge on selected carpenters in each district centre to avoid well-users bringing their waterbuckets to Manyinga for repairs. "

The community must know where to go for repairs and what the costs are and how to raise money for that:

- collect money per household per month
- " " " " " " after harvest
- cultivate a lima with crop, sell it and spend that on the well
- sell charcoal for that purpose

Each community will have to raise + K. 4.743 per year. This means, in average calculated, 30 households per well, each will have to raise K. 149,55 per year.

It would be advisable that the Dep. of Water Affairs in the three districts, give more support on maintenance: that people can go there for repairs and be able to buy spare parts there.

Re-deepening of the well

The Department of Water Affairs (Solwezi), provides a truck to the three districts, for 4-6 weeks per year to re-deepen wells.

3.4 Village Water Supply-Office

In a project like this, with work in three districts, there needs to be a good coöperation between people working in the project. That's why it is a must to have a meeting 1 x per week.

A weekly meeting, prior to the transportmeeting at IRDP, on Friday at 14.00 hours:

project manager/ officer in charge
liaison officer
motivator/ typist
transportofficer/ mechanic
foreman

discuss: last week; what is done, reports from visits, what is left undone, what to do with them

coming week; plan of the week, needed transport, what can be combined

there is a chairman/lady and somebody takes minutes and writes that in a exercise book; there's no need to type it!

the returning agenda will be on the flap-over sheet

the exercise book with the minutes should be for everybody to read on a certain place; the transport list shall be in it as well.

Wellfiles should be in order.

All papers and information concerning a welll should be in the file.

Make a file as soon as you go for information.

Map of wells hangs on the wall for everybody to see.

There should be coloured pins stuck into it, so one can see at once where is a R.H.C., how many wells around it and what wells are still in a building procedure.

Colour 1: R.H.C.'s

Colour 2: wells finished

Colour 3: wells under constuction

3.5 LABORATORY

As the quality of well-water is not safely known, a laboratory will be installed in Kabompo in the beginning of 1991.

One laboratory for all 3 districts.

Water&samples will be taken by the H.A. / liaisonofficer and brought to the lab.

The quality will be checked and the community will get the result back via the same persons.

If necessary, steps can be taken to teach the community about health and sanitation or chlorinate the water, etc.

The watersamples will be done in small pots (special?) and put in the fridge at the R.H.C. until collected. The date and well name will be written on it.

WELL REPORT

DATE:
 DISTRICT:
 WARD:
 VILLAGE/WELL:
 WELL IN USE SINCE:
 NAME INSPECTOR:

PRESENCE OF:			COMMENTS
WINDLASS	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
CHAIN	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
BUCKET	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
WATER	YES <input type="checkbox"/>	NO <input type="checkbox"/>	

CONDITION OF:	GOOD	FAIR	BAD	COMMENTS
FENCE				
COVERPLATE				
SLAB				
SOAKAWAY				
SURROUNDING				

WATER USED FOR DRINKING YES NO
 WATER USED FOR OTHER PURPOSES YES NO
 VILLAGE WELL COMMITTEE ACTIVE YES NO
 ACTIVE FUNDRAISING BY COM. YES NO
 HOW:
 WATER-SAMPLE TAKEN YES NO

COMMENTS ON GENERAL MAINTENANCE:

EDUCATION GIVEN ON:

WASHING BASINS YES NO

CONDITION OF:	GOOD	FAIR	BAD	COMMENTS
BASINS				
SURROUNDING				
SOAKAWAY				