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Programme Office, Netherlands Assisted Water Supply, Sanitation and Drainage Projects

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**FINAL DRAFT
HAND TUBEWELLS CARETAKERS
TRAINING MANUAL**
(for No. 6 and
Tara pump)
edition 16/6/93

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PREFACE

In the Dutch assisted 18 district towns project hand pumps have been included as a main water source for the fringe areas of the towns. As per project guide line one hand tubewell was usually provided to a beneficiary group of ten. Each beneficiary group had selected a female caretaker who are being trained in operation and maintenance of hand tubewell. This draft Tubewell Caretaker Training Manual Outline the programme and gives support to the SDE, 18 DTP, PWSS Superintendent, SAE for conducting these training sessions.

During the next training sessions three WSSC members (female) who were the first group to be trained will act as additional trainers & intermediate between the caretakers and the (male) DPHE and Pourashava trainers.

This training focuses on the practical handling & repair on hand pumps only. A one day training course does not allow to pay full attention to more subjects. However, hygiene education, sanitation and women in development activities will be focused on the tubewell caretakers as well. Additional training courses will be organised to implement these activities. If necessary a refresher course on practical repair & maintenance can be part of it.

The training will take place in the local DPHE or PWSS compound. Hand pumps & tools for training will be used from the local DPHE store. The training manuals, handouts, certificates and blackboard will be provided by the Programme office. Seats and shelter will be arranged by the local SDE or PWSS Superintendent. The caretakers, additional trainers (WSSC members) and tubewell mechanics will receive a training allowance. The funds for training and refreshments will be managed by the SDE or Superintendent and will be refunded by the Programme Office.

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ONE DAY TRAINING COURSE FOR TUBEWELL CARETAKERS
-Training Manual-

CONTENTS:

Chapter: 1 Background information for Trainers

1. Introduction	2
2. Contents of this manual	3
3. How to use of this manual	3
4. Objective of the sessions, training technique, training aids and time	5
5. Required training aids	5
6. Methods of training	6
7. Trainer-Roles	11
8. Participant-Roles	13
9. How to communicate with participants	13
10. Checklist	14
11. Budget	16
12. Schedule	17

CHAPTER: 2 Subject matters

S1 : Community wells programme	18
S2 : Safe water & Hygeine education	21
S3 : Duties & responsibilities of tubewell caretakers	27
S4 : Function of tubewell components	31
S5 : Function of pump components & tools; assembling a pump	33
S6 : Practical opening, greasing & assembling a pump	37
S7 : Minor & major failures; repairs	39
S8 : Practical repair of pumps	42
S9 : Individual test	44

ONE DAY TRAINING COURSE FOR TUBEWELL CARETAKERS

- Training Manual -

1. Introduction

The purpose of this manual is to assist the trainer of hand tubewell caretakers in conducting his training.

In the past, caretakers trainings were conducted by DPHE staff and consultants from the 18DTP Programme Office in Dhaka. However, in future these persons will not be available anymore. Therefore, local resource persons like Waterworks Superintendent, Tubewell mechanic, SAE and SDE will conduct the Caretakers training.

This manual is intended to assist them in carrying out this task. It provides some ideas, practical suggestions and information related to the trainers' role and responsibilities in the session.

The manual is prepared for a one day caretakers' training. After this one day training, the participant will be able to:

- carry out day to day maintenance of the hand tubewell
- identify the problem of a defect pump
- repair the pump
- understand the relation between safe water and health
- practice simple hygienic habits to improve their health.

This manual provides guidelines for conducting caretakers' training and can be used by PWSS staff like Water Works Superintendent and Tubewell Mechanic, SDE and SAE. The manual has been prepared by the Programme Office of the Dutch Assisted 18 District Towns Project for Water Supply and Sanitation, DPHE.

It is hoped that the trainer will be encouraged to adopt new ideas and methods of training and that he will use the techniques offered to suit his/ her specific responsibilities in the training session.

Purpose of this manual:

to assist local resource persons in conducting caretakers' trainings.

Objectives of the caretakers training:

*day-to-day maintenance;
identify defect;
repair defect;
relation health-safe water;
hygienic habits.*

2. Contents of this manual

As you see, the first part of this manual is printed on white paper and the second part on coloured paper.

The WHITE pages, at the beginning of the manual, contain general information about the caretakers training, like: introduction, time schedule, information about training methods and training materials, trainers role and responsibilities, suggestions on how to use this manual, a checklist and a budget for the organization of the training.

The COLOURED paper contains all the information about the contents of the training itself. You will see that this one day caretakers training is divided into 9 TRAINING SESSIONS. They have been numbered from S1 to S9 - you will find these codes in the time schedule and on the green sheets. Each session is described on green and yellow paper:

The GREEN coloured pages contain the serial number of the session (S1 to S9) and a summary of each of these nine training sessions, like: the objective of that particular session, the time required for the session and the training aids you will need in that session. The code mentioned on the GREEN sheets is CTM, which stands for: CARETAKERS TRAINING MANUAL.

Following each green sheet, you will find some YELLOW pages for each sessions. They contain more detailed information about the session, the SESSION NOTES. For session S5, 2 separate parts are included, S5-A & S5-B, for No. 6 and Tara pump respectively.

3. How to use this manual

How can this manual assist you in conducting the caretakers training?

First, you have to READ it, to become familiar with the contents.

This manual contains white paper and coloured paper:

white pages contain general information for the trainer,

coloured pages contain the information about the nine training sessions.

green pages: summary

yellow pages: session notes.

Read this manual.

You should carefully STUDY the session guidelines, so that you know what you will say, why you say it, how you say it, and which training aids you will use and when.

The manual will also help you to get prepared for the training, both mentally and physically. It is needless to mention that success of the training depends to a large degree on the preparation of trainer. The required training aids are mentioned in the session notes. The trainer should know well how to use the manual, topic, objective, time, material, method and technique of training before conducting the sessions. If necessary he will rehearse the session to get fully prepared. Before starting the training, make sure that you have all the training aids readily at hand.

Lastly, if necessary, you can discuss the contents of the training with the other resource persons before giving the training.

This manual can be used as a recipe book. If you have just started to learn how to cook, you will probably follow all the instructions in the recipe book carefully. As you see that the results of your efforts are good and as you feel more confident in handling the "ingredients", you can start introducing little changes according to what you think is necessary for the improvement of the final result.

Likewise, this training manual gives some guidelines as to how to conduct the Caretakers training. As you gain experience in giving these trainings, you will see that you will feel comfortable to make little changes that you know will improve the result. Do not treat the manual as a fixed set of instructions. You are free to adopt new ideas and methods to suit the specific requirements of each training sessions.

Study it.

Get prepared for the training.

If necessary, discuss this manual with others.

This manual can be used as a recipe book:

it gives guidelines, not fixed instructions.

4. Objective of the sessions, training technique, training aids and time

Each session is developed to achieve a specific OBJECTIVE. To achieve each specific objective, the trainer should use the most suitable TECHNIQUE - these techniques will be described later in this manual. In the individual session notes, the appropriate technique for that specific session has been mentioned. During the training, the trainer makes use of the several TRAINING AIDS - they are also mentioned in the green and yellow pages. The required TIME as mentioned in the manual for each lesson is approximate. Compromise with the time may be necessary.

5. Required training aids

TRAINING AIDS help the trainers to train and the participants to be trained. They reinforce the messages that the trainer is trying to deliver.

The use of appropriate media and materials is an essential element of communication. Interpersonal communication is not only dependent on lecture or VERBAL COMMUNICATION. A good communicator also uses (AUDIO-)VISUAL EDUCATIONAL MATERIALS such as slides, tape, flip chart, video, booklet etc. to support the verbal message and thus to improve the communication. Especially among semi-literate and illiterate people it is important to present information through illustration (visual material).

The training aids in the caretakers training are: tubewell, different parts of tubewell, booklet, flip chart, board, chalk, flip paper, marker etc. These should be kept available. The use of appropriate material should be ensured in the right time and proper place.

Of the above-mentioned training aids, we will here discuss the caretakers' booklet

Elements of each session:

- objective
- training technique

- training aids
- time frame.

Why training aids?:

"Media-mix" for effective communication:

verbal communication

with

audio-visual support.

Special attention

and the hygiene education flip chart and their use, in detail:

5.1 Booklet:

Some activities have been mentioned in booklet for the caretakers and explained through pictures. The trainer should use the booklet to make the caretakers familiar with their responsibility and tubewell parts. Before the training, the trainer should have a clear conception about booklet, so that he feels confident in the session.

Strategy:

- * Show the booklet at the right time.
- * Show booklet in such a way that everyone is able to look at it clearly.
- * Stand directly facing the respondent and ask question.
- * Show each page/ illustration of the book to the participant. If she / he has any problems understanding any information, explain it while showing the picture.
- * To explain a particular fact, point towards the picture
- * Ask the participants repeatedly if they can see the pictures and if they understand the information given; ask specific questions to verify (FEEDBACK).

5.2 Flip chart

As discussed under caption 5.1

6. Method of training:

The trainer should choose the most suitable method of training, so that participants can easily achieve the session's objective. The training methods used in this one day caretakers training are described here:

6.1 Lecture

Lectures are used to deliver information to the trainees. Lectures are often used in

is given to the caretakers booklet and the flip chart for hygiene education.

- Caretakers booklet.

How to use the booklet in the training.

- Flip chart.

Training methods:
training methods are chosen according to the objective of each session.

- lecture:

such a way that it only establishes a one-way communication: it depicts the trainer's opinion only and no feedback is received from the participants. Possible misunderstandings cannot be clarified, because the trainer is not aware of them. Therefore, trainers should not deliver lectures for too long. Also, they should use additional techniques like "Question & Answer", which ensures the participation of the trainees. Their participation turns a one-way lecture into a two-way dialogue.

Strategy:

- Don't lecture for too long. After 4/5 minutes ask a question, write something on the black board or show something;
- Give examples during your presentation, to illustrate / explain what you are saying. They should be concrete and relevant to the situation of the participants;
- Lecture should be given while moving around (not too much). One must not sit or stand still in one place during lecture;
- Participants must be allowed to express their reactions. The trainer should be open to these expressions and take the trainees seriously.

6.2 Question & Answer method:

This technique facilitates a two-way communication and encourages discussion. The most effective way to use this technique is to allow the participants to ask questions at any time during the lecture or demonstration. If the trainer himself does not feel comfortable with interruptions like that, participants may be told that there will be time at the end of trainer's lecture or demonstration for questions. No matter what instructions the trainer gives the audience, the trainers must be prepared to answer questions that interrupt the lecture/ demonstration in a gracious manner.

- lecture:

one-way
communication,
no feedback

- question &
answer:

two-way
communication and
discussion.

Either the
trainees ask
questions and the
trainer answers,

If the participants feel shy in posing questions, the trainer himself may initiate the discussion by starting to ask questions. This should be done in such a way that the participants do not feel it to be examination - it is meant to establish a two-way communication and to encourage discussion.

A trainer should always REPEAT his question or the question that has been asked by one of the participants, so that everyone can hear it. The trainer should be sincere and tactful when answering participants' questions. He should not dictate the participant, but rather make a suggestion. Participants may sometimes ask questions that seem silly to the trainer, but he should always answer them willingly. The trainer should discourage the group from laughing at or embarrassing anyone who asks a question. Even if a question seems unsuitable, it is not proper to make the questioner feel uncomfortable.

Strategy:

- The trainer should not ask a question pointing to a specific participant, which can embarrass that person - rather, a question should be open to all.
- Give praise for a good answer, but do not ridicule a wrong answer.
- Encourage participants to find the right answer.

6.3 Demonstration

To clarify what has been explained in theory, participants should be shown how to do things in practice. The trainer should demonstrate his information by doing it himself. Speak loudly and clearly. Be sure that all participants can hear you. Use words that the participants will understand. When demonstrating something, care must be taken that all participants are able to actually see what you are doing.

or

the trainer asks questions for the trainees to answer.

Repeat each question.

Be tactful.

Give praise.

Encourage trainees.

- Demonstration:

to clarify theory.

6.4 Practical Exercise ("LEARNING BY DOING")

After giving them the theoretical information and after giving a demonstration, participants should be given the opportunity to practice themselves. They should be allowed to practice with the real model, that is: change parts of a real tubewell, repair a defect tubewell and carry out some maintenance activities. The trainer will observe the work thoroughly and will help the participants if they are mistaken. The trainer will assist them in learning perfectly and tell them to do the same work again until they develop their skill satisfactorily.

6.5 Group work

Group work will give the trainees the opportunity to practice themselves what has been explained and demonstrated to them. Additionally, in a group trainees can learn from each other. The trainer will first explain the subject to them and will then form groups with 4 participants each. At the time of group work, the trainer will observe if they finish their work on the subject within fixed time.

Strategy:

- The task of the group, the role of the participants, the discussion process and the time limits of the group work must be clearly explained;
- Groups must be formed on the basis of participants' level of education, background, characteristics, etc;
- During group work trainer should assist and direct the course of work, so that it is on the right track;
- Ensure equal participation of all

- Practical exercise:

to practice theory.

- Group work:

to learn from each other.

How to use the practical exercise as a training method.

group members and equal importance to the opinion of all participants.

6.6 Training Evaluation

To ascertain whether the objective of the session has been achieved or not, an evaluation of the training should be carried out. Such an evaluation helps to detect any misunderstanding or gap in the knowledge of the trainee. The trainer can then repeat the missing part of the session and achieve the objective of the session.

An evaluation can be carried out by means of a questionnaire. A questionnaire is a series of written questions on a given topic. These questions are either open-ended or close-ended. Open-ended questions have not categorized the answer into specific scales. Close-ended questions provide a series of possible answers (for example: "good", "satisfactory", "poor"), from which the participants have to choose their answer ("multiple-choice"). In caretakers training both open-ended and close-ended questions will be used.

Another way of evaluation is by observation. Observation techniques are useful methods of collecting information unobtrusively in a natural setting. Information about individual performance and group interactions can be collected by observation. A person observes and notes information needed. For example:

- if participants are able to work according to instruction or not;
- if participants are able to perform their task within the given timeframe;
- if everybody participates in the group assignment;
- if participants can adequately describe keypoints;
- if trainees participate in "Question & Answer".

Training
evaluation:

to assess whether
the objectives
have been
achieved.

- questionnaire

- observation

7. Trainer roles

In participatory training methodology, the main objectives for the trainer are two-fold:

- to stimulate the trainees' interest in the topic
- to create optimal conditions for learning.

In order to achieve these two objectives, the trainer has to fulfil various tasks, namely, before training, during training, and after training.

A. Before the training

1. Training designer

- Working out related contents/ methods/ materials/ exercises
- Identifying resource persons
- Preparing and selecting learning materials

2. Administrator / organizer

- Selecting venue and time
- Communicating with the trainees regarding the programme plans
- Distributing training materials
- Arranging resources like classroom arrangement, food, refreshments, lodging etc.
- Arranging all required training aids

B. During Training

1. Facilitator

- Eliciting opinion
- Enhancing participation
- Summarizing and synthesizing information

The most important tasks for a trainer are:

- to stimulate the trainees,
- to create a stimulating environment.

Other tasks:

before the training

during the training

2. **Instructor**

- Providing information and concepts
- Directing structured learning discussion
- Using learning aids, booklet, flip chart

3. **Counsellor**

- Developing a rapport with trainees
- Communicating on a one to-one-basis

4. **Evaluator**

- Planning evaluation mechanisms
- Using practical as well as verbal reports to assess an event
- Providing relevant feed back

5. **Organizer/ Administrator/ Manager**

- Managing time and space for each session
- Solving problems related to accommodation, food, etc.

C. **After the Training**

1. **Report writer (if applicable)**

- Organizing the relevant information for the report-writing

2. **Follow-up**

- Communicating at regular intervals
- Inviting feedback from both organizations and individuals
- Providing support in the

after the training.

field

8. Participants' roles

For a successful participatory training, trainers should create such an environment that the trainees will feel free and confident to:

- * take part according to instruction
- * work as a group
- * take part in "Question & Answer"
- * freely communicate with each other and with the trainers
- * share with each other

Participants' roles.

9. How to communicate with participants - some basic rules

- * greet and welcome the participants
- * introduce yourself
- * explain the subjects clearly, using easy language
- * speak slowly and determinedly
- * encourage them to ask questions whenever they want
- * listen and answer patiently
- * praise for the correct answer and avoid criticism
- * pay importance to their opinion.

Some basic rules for communicating with your trainees.

CHECKLIST FOR CARETAKERS TRAINING

1. Invitation:

- Check if the Chairman is coming
- Invite the caretakers to participate in the training

2. Site Preparation:

For the No. 6 pump

- Prepare a shed or room with 35 chairs and a table
- install the blackboard
- install 20 hand pumps in the compound :
 - make a 5 feet deep hole with an old filter or 1½ pipe (it goes easy if you add some water)
 - put the 5 feet long GI pipe of the pump in the hole fix the cross bar in the ground
 - screw a new (not yet greased) pump on top of the pipe
- during lunch make defects in 5 tubewells with one of the common defects of mistakes

For the Tara pump

- Prepare a shed or room with 35 chairs and a table
- install the blackboard
- install one complete Tara pump with all necessary components
- arrange temporary installation (demonstration) of 10/12 Tara Hand tubewell with all necessary components (15"-20")
- during lunch make defects in 5 tubewells with one of the common defects or mistakes

3. Refreshments:

- arrange morning tea
- order for lunch packet at a shop
- arrange afternoon tea

4. Papers:

- 6 training manuals for: Chairman, SDE, SAE, Superintendent, 2 tubewell mechanics
- 25 booklets and handouts for the caretakers and the WSSC members
- list with names of caretakers

5. Tubewell parts:

No. 6 pump

- sand trap
- filter/screen
- 1 PVC pipe
- 1 GI pipe with cross bar
- drawing of platforms

Tara pump

- sand trap
- filter/screen
- PVC pipe
- drawing of platforms

6. Pump parts and tools:

For the No. 6 pump

- 20 hand pumps for display in room
- 20 seat valves
- 20 seat valve weights
- 20 GI screws and nuts
- worn-out pump parts
- damaged or broken pump parts
- 20 pipe wrenches
- 20 slide wrenches (12")
- 20 screw drivers

For the Tara pump

- two No 6/Tara hand tubewell for display in room
- wron out pump parts
- damaged or broken pump parts
- 20 slide ranches (12")
- 20 retrieving rods for removing the foot valve

7. Miscellaneous:

- 20 badges
- 20 safety pins
- chalk/marker
- duster
- grease
- soap

BUDGET

For one training session with 20 caretakers about the following on site expenses can be made:

1) Daily allowance 20 caretakers 20 x TK. 100	TK. 2000
2) Daily allowance 2 tubewell mechanics 2 x TK. 100	Tk. 200
3) Daily allowance 3 additional trainers (WSSC) 3 x TK. 100	TK. 300
4) Tea, lunch packet, tea for about 35 persons 35 x TK. 50	TK. 1750
5) Labour for installing tubewells	TK. 100
6) Hire of chairs	TK. 100
7) Chalk, soap, grease, contingencies	TK. 250

Total

TK. 4700

ONE DAY TRAINING COURSE FOR TUBEWELL CARETAKERS

PRACTICAL MAINTENANCE AND REPAIR

- time schedule -

TIME	TOPIC	FACILITATOR	CODE
8.30-9.00	Arrival		
9.00-9.15	Inauguration	Chairman of the Pourashava and/or XEN, DPHE	
9.15-9.30	Community wells programme	SDE, DPHE	S1
9.30-10.00	Safe water and hygiene education	SDE, DPHE & or Waterworks Superintendent	S2
10.00-10.30	Duties & responsibilities of tubewell caretakers	Waterworks Superintendent	S3
10.30-11.00	Function of tubewell components	SAE, DPHE	S4
11.00-11.45	Function of pump components & tools; assembling a pump	SAE, DPHE & Tubewell Mechanic	S5
11.45-13.00	Practical opening, greasing & assembling a pump	Caretakers individually & WSSC Members	S6
13.00-14.00	BREAK: Lunch, Prayer		
14.00-14.30	Minor and major failures; repairs	SAE, DPHE	S7
14.30-15.30	Practical repair of pumps	Caretakers in groups of 4 & WSSC Members	S8
15.30-16.30	Individual test	SDE, SAE & Superintendent	S9
16.30-17.30	Distribution of certificates	Chairman, SDE	

**DPHE- PROGRAMME OFFICE
18 DISTRICT TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT**

TRAINING : Training course for tubewell caretakers	Code : CTM/S1
MODULE : Community wells programme	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 3
SUBJECT	DESCRIPTION
<u>Duration</u>	15 Minutes
<u>Training objectives</u>	<p>After the session is over the caretakers will be able to:</p> <ul style="list-style-type: none"> - know that excepting major repair DPHE or pourashava are not responsible for maintenance of their hand pumps. - know that it is not their private hand pump, but that it belongs to the group - know that they have been chosen as caretakers /representative of their group - know that for major maintenance they can call the pourashava mechanic - understand their position in their community as a focal point for tubewell matters, sanitation & hygiene education - know that their group has to pay Tk.300 contribution
<u>Training aids</u>	* Black board, chalk and duster
<u>Key words</u>	DPHE, pourashava, beneficiary group, responsibilities

TRAINING : Training course for tubewell caretakers	Code : CTM/S1
MODULE : Community wells programme	Edition :16-6-93
SECTION 2 : Session Notes	Page :2 of 3
TEXT /CONTENT	METHOD & MATERIAL
<p><u>Role of 18 DTP, DPHE:</u></p> <ul style="list-style-type: none"> - Training - Construction - Technical back up - Overall responsibility <p><u>Role of Pourashava:</u></p> <ul style="list-style-type: none"> - Site selection recommendation through WSSC & Supervisory Board - Major maintenance by pourashava mechanic <p><u>Role of Caretakers:</u></p> <p>Ask: " Have you any idea about the role of caretaker ? "</p> <p>Participants will respond. Summarise the responses & tell, Caretakers are :</p> <ul style="list-style-type: none"> - approach point of group for tube well affairs - responsible for minor repairs of tube well - approach point for hygiene education & sanitation. <p>Ask:" Why you will perform this job ?" Participants will respond according to that make a list.</p>	<p>Lecture</p> <p>Question & Answer</p> <p>Question & Answer Black board</p>

TRAINING : Training course for tubewell caretakers	Code : CTM/ S1
MODULE : Community wells programme	Edition : 16-6-93
SECTION : Session Notes	Page : 3 of 3
TEXT /CONTENT	METHOD & MATERIAL
<p>After summarisation stress on following points :</p> <ul style="list-style-type: none"> - You have been chosen by group - You are the representative of group/ community <p>Tell,</p> <p>Beneficiary contribution Tk.300/ per group means each family will contribute 30/ to be paid via the bank to the PWSS accountant (joint account), before construction.</p> <p>Ask:</p> <p>Why a group will give TK.300/ ?</p> <p>Tell: Price is less then cost which is</p> <ul style="list-style-type: none"> - Buying-subsidised - To create belongingness - Responsibility <p><u>Tools for caretaker:</u></p> <ul style="list-style-type: none"> - To be received at completion of T/W caretakers training - Will be her responsibility. <p>Evaluation:</p> <ul style="list-style-type: none"> - Ask who are the responsible for maintenance of tube well ? - What is the role of caretaker ? - Where will caretakers go for major maintenance T/W ? - How much will a group contribute for T/W? 	<p>Question & Answer</p> <p>Question & Answer</p>

DPHE-PROGRAMME OFFICE
18 DISTRICT TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT

Training : Training course for tubewell caretakers		Code :CTM/S2
Module : Safe water and hygiene education		Edition: 16-6-93
Section 1 : Information Sheet		Page : 01 Of 06
Subject	Description	
<u>Duration</u>	30 minutes.	
<u>Training Objectives</u>	<p>After the session trainees will be able to:</p> <ul style="list-style-type: none"> - list the five water needs; - identify the relation between unsafe water and water-borne diseases; - recite the three aspects of water quality - definition of sanitary latrine - advantage of sanitary latrine - hygienic habits 	
<u>Training aids</u>	* Flipchart/booklet	
<u>Keywords</u>	Water need, water quality, water-borne diseases,health.	

Training : Training course for tubewell caretakers	Code :CTM/S2
Module : Safe water and hygiene education	Edition: 16-6-93
Section 2 : Session Notes	Page : 02 of 06
Text/Content	Method/Material
<p>1. Introduction</p> <ul style="list-style-type: none"> - Importance of safe water supply. - There is much water in Bangladesh , but still a lack of safe water. - To use safe water, sanitary latrine and to follow hygienic habits are the main ways of maintaining healthy life. <p>2. Water Needs</p> <ul style="list-style-type: none"> - Ask : What are the water needs? People need water for: <ul style="list-style-type: none"> . drinking . cooking . bathing . washing . religious use - Water can contain: <ul style="list-style-type: none"> . living organisms (bacteria & viruses); . non living elements (mineral & salts). - Waterborne diseases: diseases caused by contagious organisms transmitted by the water. Examples: <ul style="list-style-type: none"> . cholera . diarrhoea . dysentery . typhoid . worm - Water must be acceptable to consumers: <ul style="list-style-type: none"> . it must be clear; . it must taste well; . it must not smell; . it must have the right temperature. - Water of good quality is: <ul style="list-style-type: none"> . free from diseases-causing elements; . acceptable to consumers; . does not adversely affect the distribution network. 	Question & Answer

Training : Training course for tubewell caretakers	Code :CTM/S2
Module : Safe water & hygiene education	Edition: 16-6-93
Section 2 : Session Notes	Page : 03 of 06
Text/Content	Method/Material
<p>3. Sanitary latrine:</p> <ul style="list-style-type: none"> - excreta will remain covered - does not spread germs & disease - odour less - flies or insects can't reach the dirt <p>Advantage:</p> <ul style="list-style-type: none"> - It keeps health well <p>4. Hygienic habits:</p> <ul style="list-style-type: none"> - Reduction of waterborne diseases. - Examples of bad consumers' habits: <ul style="list-style-type: none"> . unhygienic kitchen practices; . inadequate storage; . unhygienic personal practices. - Consumers' health depends on the quality & quantity of water they consume. - Good, hygienic habits <ul style="list-style-type: none"> . drink safe water; . wash hands using soap or ash; . use safe water for all sorts of household work. . to use sanitary latrine <p>5. Summary</p> <ul style="list-style-type: none"> - Water needs. - Water can contain: <ul style="list-style-type: none"> . living organisms; . nonliving elements - Aspects of water quality: <ul style="list-style-type: none"> . it must be safe; . it must be acceptable for consumers; - Sanitary latrine - Hygienic habits 	<p>Question and Answer</p> <p>Flip chart</p>

Training : Training course for tubewell caretakers	Code : CTM /S2
Module : Safe water & hygiene education	Edition: 16-6-93
Section 3 : Handout	Page : 05 of 06

1. INTRODUCTION

There are many rivers, ponds, ditches & marshy land in Bangladesh & rainfall is abundant and regular throughout the year. It seems as if there is no problem in the field of water supply. But in fact, up to now the majority of the people in Bangladesh can not be supplied with the safe water they need.

To use safe water, sanitary latrine and to follow hygienic habits are the main ways of maintaining healthy life.

2. WHAT ARE THE WATER NEEDS OF PEOPLE ?

People Need water for many purposes, for example:

- drinking;
- cooking;
- bathing;
- cleaning;
- washing;
- religious use.

People need water that is free from disease-causing elements. Water can contain living organisms, such as bacteria and viruses, as well as non-living elements, such as minerals and salts. Several of these can cause diseases, or have adverse physiological effects. Diseases caused by contagious organisms transmitted by the water are called waterborne diseases.

Examples are:

- cholera;
- dysentery;
- diarrhoea;
- worm
- typhoid.

Sometimes water may be free from disease-causing elements and yet consumers still do not like to consume the water. For example: it may have a dirty colour, or a bad taste, maybe it smells, has an elevated temperature.

Training : Training course for tubewell caretakers	Code : CTM /S2
Module : Safe water & hygiene education	Edition: 16-6-93
Section 3 : Handout	Page : 06 Of 06

The water people consume should not only be free from diseases-causing elements. It should also be acceptable to consumer, i.e. the water must be clear, must taste well, must not smell, and must have the right temperature.

Sometimes the water is free from diseases-causing elements and it is also accepted by the consumer, but still its quality is not yet satisfactory. The quality of good water is clean, tasty & smellless. But the tubewell water have a unusual smell & it is tasteless (for the presence of iron). But we have to use tubewell water as it is safe. (This is the difference between safe water & good water.)

Good quality water is:

- free from diseases-causing elements;
- acceptable to consumers (colour, smell, taste, temperature);
- not adversely affecting the distribution network.

3. Sanitary Latrine

Sanitary latrine means by which

- surface land will not be polluted
- surface water will not be polluted
- ground water will not be polluted
- flies or insects can't reach the dirt
- the bad smell does not spread
- excreta is not visible
- it does not need to remove every day

How to use sanitary latrine:

- there will be sufficient water out side the latrine
- the latrine should be cleaned with sufficient water after use
- hand should be washed by soap or ash with sufficient water
- latrine should cleaned by broom every day

Advantage:

- it keeps personal privacy
- it keeps health well

Training : Training course for tubewell caretakers	Code : CTM /S2
Module : Safe water & hygiene education	Edition: 16-6-93
Section 3 : Handout	Page : 06 Of 06

4. HYGIENE/HYGIENIC HABITS

When safe water is supplied ,the occurrence of waterborne diseases is considerably reduced. However it should be remembered that the delivery of safe water to the houses does not guarantee the consumption of safe water. Bad habits of consumers can cause that safe water delivered to the houses is contaminated again. Examples of such bad habits are: unhygienic kitchen practices, inadequate storage, unhygienic personal practices. Consumers' health depends on the quality & quantity of the water they consume

Tubewell water is safe:

- it is ground water
- clean
- water related disease free
- contains mineral & salt

Show the Flip chart & explain:

- tubewell platform must be clean
- pitcher must be washed before collecting water
- collected water should be kept on dry & high place
- glasses should be washed before drinking
- tubewell water should used in hand washing after defecation

These rules should be followed to become healthy & happy family.

5. SUMMARY

People need water for:

- drinking;
- cooking;
- bathing;
- cleaning;
- religious use.

Water can contain living organisms, such as bacteria and viruses, and non living elements, such as minerals and salts. Several of these can cause diseases. Water of good quality is free from such elements.

DPHE- PROGRAMME OFFICE
 18 DISTRICT TOWNS WATER SUPPLY,
 SANITATION AND DRAINAGE PROJECT

TRAINING : Training course for tubewell caretakers	Code : CTM/S3
MODULE : Duties and responsibilities of tubewell caretakers	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 4
SUBJECT	DESCRIPTION
<u>Duration</u>	30 Minutes
<u>Training Objectives</u>	<p>After the training the caretakers will be able to know their duties and responsibilities and will be able to explain to others:</p> <ul style="list-style-type: none"> - what is a good site for a tubewell - the proper use of a tubewell - the maintenance of a hand pump - the greasing of nuts and bolts - the use of cleaning the platform and drain - the use of hygiene education - the repair of minor defects - when to call the tubewell mechanic
<u>Training aids</u>	<ul style="list-style-type: none"> * Black board, chalk and duster * Booklet
<u>Key words</u>	Duties, responsibilities, use, maintenance, operation, hygiene, motivation, drain, clean, grease, repair.

TRAINING : Training course for tubewell caretakers	Code : CTM/S3
MODULE : Duties & responsibilities of tubewell caretakers	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 2 of 4
TEXT /CONTENT	METHOD & MATERIAL
<p>Ask: The caretakers what they think their duties are</p> <ul style="list-style-type: none"> - make a list on the black board - correct wrong statements - when the are finished, add and explain the remaining duties <p>A. DURING INSTALLATION</p> <p>1. Take care that the pump comes at a good site:</p> <ul style="list-style-type: none"> - accessible by the other group members - where the caretakers can supervise it - distance to (future) latrines at least 10m (as far as possible) - on a high spot, with drain possibility - install Tara pump preferably under a big tree - agreed by all group members. <p>2. Look after the materials during installation.</p> <p>3. Take care that the platform is made correctly:</p> <ul style="list-style-type: none"> - easy access - good slope (before the contractor leaves, throw a bucket of water on the platform; all water should drain away) - proper finishing <p>4. Make a gutter from the tubewell drain to the nearest drain, kitchen garden</p> <p>Ask: have you any question or do you need any clarification ? if they have, clarify</p> <p>B. DURING USE</p> <p>1. Motivate all household of the group to use tubewell water for drinking, cooking, washing and bathing.</p>	<p>Use black board, each participant will write down/ recite a responsibility at her own</p> <p>Lecture</p> <p>Question & Answer</p>

TRAINING : Training course for tubewell caretakers	Code : CTM/S3
MODULE : Duties & responsibilities of tubewell caretakers	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 3 of 4
TEXT /CONTENT	METHOD & MATERIAL
<p>2. Take care that the pump, the platform and the surrounding are kept clean.</p> <p>3. Take care that no drain water remains stagnant in the drain and gutter.</p> <p>4. Take care that children do not play at the tubewell or throw anything into the tubewell.</p> <p>5. Grease the nuts, bolts and MS bar of the pump every six months.</p> <p>6. Replace any broken or missing part of the pump.</p> <p>7. If the tubewell does not work:</p> <ul style="list-style-type: none"> - Pour water of another tubewell into your pump (priming). <p style="padding-left: 40px;">If it still does not work:</p> <ul style="list-style-type: none"> - Open the pump and repair or replace any damaged or worn-out part. <p style="padding-left: 40px;">If it still does not work:</p> <ul style="list-style-type: none"> - Call the pourashava tubewell mechanic. <p>Ask: If the tubewell does not work what will they do ?</p> <p>ADDITIONAL REMARKS</p> <p>* If you are the first user after some hours, pump three times before starting to use the water,</p>	Question & Answer

TRAINING : Training course for tubewell caretakers	Code : CTM/S3
MODULE : Duties & responsibilities of tubewell caretakers	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 4 of 4
TEXT /CONTENT	METHOD & MATERIAL
<p>* Ask: how to clean the platform and pump.</p> <ul style="list-style-type: none"> - Sweeping the platform and pump - flush the drain daily - clean / use brush if required - remove dust and rust from the pump <p>* State clearly hygiene messages:</p> <ul style="list-style-type: none"> - use tubewell water for drinking, cooking washing hands and utensils - before priming-collect tubewell water for pouring - clean your pitcher at site - don't put your hands on the spout <p>* Arrange repairs of hand pump when it requires repairing (even small repairs)</p> <ul style="list-style-type: none"> - find out what repair is required - if a minor repair: <ol style="list-style-type: none"> 1) collect contribution from other group members 2) buy spare parts 3) repair the pump yourself - if a major repair: <ul style="list-style-type: none"> call the Pourashava tubewell mechanic <p>Evaluation: Ask openly</p> <ul style="list-style-type: none"> - what is a good site for a tubewell? - state the proper use of tubewell - how many months after greasing nut of tubewell ? - What are the hygiene messages ? - when to call the tubewell mechanic ? 	<p>Lecture, Question & Answer & use booklet</p> <p>Question & Answer</p>

DPHE- PROGRAMME OFFICE
 18 DISTRICT TOWNS WATER SUPPLY,
 SANITATION AND DRAINAGE PROJECT

TRAINING : Training course for tubewell caretakers	Code : CTM /S4
MODULE : Function of tubewell components	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 2
SUBJECT	DESCRIPTION
<u>Duration</u>	30 Minutes
<u>Training Objectives</u>	<p>After the session the caretakers will know</p> <ul style="list-style-type: none"> - the type of tubewell they get - the names of different components of a tubewell - the function of different components of a tubewell
<u>Training aids</u>	<ul style="list-style-type: none"> * sand trap * filter/screen * PVC pipe (and socket adaptor) * drawing of platform * hand pump * black board, chalk and duster
<u>Key words</u>	Names of tubewell components

TRAINING : Training course for tubewell Caretakers	Code : CTM/S4
MODULE : Function of T/W components	Edition :16-6-93
SECTION 2 : Session Notes	Page : 2 of 2
TEXT /CONTENT	METHOD & MATERIAL
<p>Type of tubewell for that town (Shallow, Deep, Tara) - approximate depth</p> <p>Show & state the name of the tubewell parts, repeat according to necessity</p> <p>Discuss the function of following parts:</p> <p style="padding-left: 40px;">(for the No. 6 pump)</p> <ul style="list-style-type: none"> - sand trap - screen (filter) - blank casing pipes - pump <p style="padding-left: 40px;">(for the Tara pump)</p> <ul style="list-style-type: none"> - pump head assembly - handle assembly - top connector assembly - piston assembly & bottom connector - foot valve assembly - retrieving rod - pump rod assembly <p>Evaluation:</p> <ul style="list-style-type: none"> -State the name of different parts of tubewell. - State the function of different parts of tubewell. 	<p>Use of different parts of tubewell</p> <p>Use different parts of tubewell</p>

**DPHE -PROGRAMME OFFICE
18 DTP TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT**

TRAINING : Training course for tubewell caretakers		Code : CTM/S5
MODULE : Function of pump components and tools & assembling a pump		Edition : 16-6-93
SECTION 1 : Information sheet		Page : 1 of 4
SUBJECT	DESCRIPTION	
<u>Duration</u>	45 Minutes	
<u>Training Objectives</u>	<p>After the training the caretakers will know</p> <ul style="list-style-type: none"> - the type of pump they get - the names of different components of the pump - the function of different components of the pump - the name of the tools/ kits for the pump - how to use the tools & kits - where to buy appropriate spare parts for minor repairs of the pump - to submit indent to pourashava mechanic for appropriate spares in case of major repair of the pump - how to open the pump with the tools - how to replace spare parts - how to grease the nuts and bolts - how to assemble the pump 	
<u>Training aids</u>	<ul style="list-style-type: none"> * hand pump in parts * seat valve and weight * grease * tools & kits * black board, chalk and duster 	
<u>Key words</u>	Names, function, components, spare parts, tools/kits, use of tools/kits, opening, assembling	

TRAINING : Training course for tubewell caretakers	Code : CTM/S5-A
MODULE : Function of pump components and tools & assembling a pump	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 2 of 4
TEXT /CONTENT	METHOD & MATERIAL
<p>1) Explain name and function of pump components and tools</p> <p>2) Assemble the pump, explaining why you do it that way (also grease nuts and bolts)</p> <p>3) Ask: Two caretakers to dismantle the pump again, and to name all the components</p> <p>* Name of their hand pump: Number 6</p> <p>* Name of function of all hand pump components</p> <p>* base</p> <ul style="list-style-type: none"> - seat valve - seat valve weight - GI screw and nut <p>* barrel</p> <ul style="list-style-type: none"> - 4 bolts, washers and nuts <p>* piston rod</p> <ul style="list-style-type: none"> - upper plunger part (with holes) - bucket - plunger plate (without holes) - washer and nut <p>* head</p> <ul style="list-style-type: none"> - 4 bolts, washers and nuts <p>* handle</p> <ul style="list-style-type: none"> - 2 MS bars - 4 cotter pins <p>* Name of the tools for the pump and how to use them :</p> <ul style="list-style-type: none"> pipe wrench (14") slide wrench (12") screw driver (6") <p>* Grease the nuts, bolts and MS bars</p> <p>* Tighten nuts and bolts cross-wise to prevent:</p> <ul style="list-style-type: none"> - breaking of cast iron parts - leakage at the seat valve <p>Ask: Two caretakers to dismantle the pump</p>	<p>Demonstration & Lecture</p> <p>Different components of tubewell</p> <p>Tools of tubewell</p> <p>Practical exercise</p> <p>Observation</p>

TRAINING : Training course for tubewell caretakers	Code : CTM/S5-B
MODULE : Function of pump components and tool assembling a pump	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 3 of 4
TEXT /CONTENT	METHOD & MATERIAL
<ol style="list-style-type: none"> 1. Explain name and function of pump components and kits 2. Assemble the pump, explaining why you do it that way 3. Ask: Two caretakers to dismantle the pump again, and to name all the components <ul style="list-style-type: none"> * Name of their hand pump: Tara * Name and function of all hand pump components * Foot valve: <ul style="list-style-type: none"> • Foot valve guide • Flap valve • O ring • Foot valve body * Piston <ul style="list-style-type: none"> • Bottom connector • Piston valve • Piston plate • Bucket • Follower plate • Washer • Wing check nut • Hook (Grapple) * Name of the kits for the pump and how to use them : <ul style="list-style-type: none"> • Piston flap valve • Leather cup seal/Bucket • Washer ,O ring • Foot valve flap valve • Wing check nut * Remove handle and lift the pump rod to check the piston assembly & replace the defective parts (if any) * Lowering the pump rod with retrieving rod to collect foot valve 	<p>Kits of tubewell</p> <p>Practical exercise</p>

TRAINING : Training course for tubewell caretakers	Code : CTM/S5
MODULE : Function of pump components and tools assembling a pump	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 4 of 4
TEXT /CONTENT	METHOD & MATERIAL
<p>* Lift the foot valve (keep the rod as verticle as possible, by taking help of tree or bamboo)</p> <p>* Replace the defective parts (if any) and lowering the foot valve</p> <p>Ask: Two caretakers to dismantle the pump</p> <p>Evaluation:</p> <p>- Ask: The name of different components of tubewell</p> <p>- Ask:The name of tools/ kits for hand pump</p> <p>- What is the function of different components & tools/kits of tubewell ?</p>	<p>Observation</p> <p>Question & Answer</p>

DPHE- PROGRAMME OFFICE
18 DTP TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT

TRAINING : Training course for tubewell caretakers	Code : CTM/S6
MODULE : Practical opening, and assembling a pump by caretakers individually	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 2
SUBJECT	DESCRIPTION
<u>Duration</u>	75 Minutes
<u>Training Objectives</u>	After the session is over the caretakers will be able to : <ul style="list-style-type: none"> - use pipe wrench, slide wrench and screw driver - open the pump with the tools - replace spare parts - grease bolts, nuts and MS bars - assemble the pump
<u>Training aids</u>	<ul style="list-style-type: none"> * hand pumps * seat valves, weights, o ring, bucket, piston flap valve, foot valve flap valve * tools/kits * grease * black board, chalk and duster
<u>Key words</u>	practice, using tools/kits, opening, assembling

TRAINING : Training course for tubewell caretakers	Code : CTM/S6
MODULE : Practical opening, and assembling a pump by caretakers individually	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 2 of 2
TEXT /CONTENT	METHOD & MATERIAL
<p>Practical exercise on opening, greasing and assembling a pump</p> <p>Evaluation :</p> <p>Observing some participant's practical exercise. Help/Correct, if necessary !</p>	<p>Observation</p> <p>Observation</p>

DPHE- PROGRAMME OFFICE
 18 DISTRICT TOWNS WATER SUPPLY,
 SANITATION AND DRAINAGE PROJECT

TRAINING : Training course for tubewell caretakers	Code : CTM/S7
MODULE : Minor and major failures and repairs	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 3
SUBJECT	DESCRIPTION
<u>Duration</u>	30 Minutes
<u>Training Objectives</u>	<p>After the session is over the caretakers will be able to:</p> <ul style="list-style-type: none"> - identify the repairs needed for a pump - identify worn-out or damaged spare parts which require repair - identify the tools/kits required - know which repair is a minor one (to be done and paid themselves) and which repair is a major one (to be done and paid by the pourashava mechanic).
<u>Training aids</u>	<ul style="list-style-type: none"> * hand pump in parts * tools/kits * damaged spare parts * worn-out parts * black board, chalk and duster
<u>Key words</u>	Worn-out, damaged, minor repair, major repair, payment

TRAINING : Training course for tube well caretakers	Code : CTM/S7
MODULE : Minor and major failures and repairs	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 2 of 3
TEXT /CONTENT	METHOD & MATERIAL
<p>* MINOR REPAIRS:</p> <p>to be done by caretakers themselves Spare parts to be paid by the beneficiary group (for the No. 6 pump)</p> <ul style="list-style-type: none"> - seat valve (leather) Tk= 7/ - set valve weight Tk= 4/ - GI screw and nut Tk= 3/ - upper plunger part with holes Tk=20/ - bucket (plastic/rubber) Tk=10/ - plunger plate (without holes) Tk=15/ - plunger washer and nut Tk=3/ - 8 bolts, washer and nuts Tk=6/set - 2 MS bars Tk=5/bar - 4 cotter pins Tk=5 each <p>(for the Tara pump)</p> <ul style="list-style-type: none"> - foot valve body Tk=15/ - O ring TK=4/ - flap valve TK=4/ - foot valve guide TK=35/ - hook/grappel TK=30/ - washer TK=4/ - follower plate TK=10/ - bucket (cup sil) TK=16/ - piston plate TK=10/ - piston valve TK=4/ - wing check nut TK=5/ - rubber sil TK=5/ - 3 nuts TK=9/ - bush guide TK=35/ - handle retainer TK=30/ - 2 handle cup TK=10/ - handle TK=250/ 	Lecture

TRAINING : Training course for tube well caretakers	Code : CTM/S7												
MODULE : Minor and major failures and repairs	Edition : 16-6-93												
SECTION 2 : Session Notes	Page : 3 of 3												
TEXT /CONTENT	METHOD & MATERIAL												
<p>* MAJOR REPAIRS:</p> <p>to be done by pourashava tubewell mechanic spare parts to be paid from Joint account PWSS</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>No. 6</u></td> <td style="text-align: center;"><u>Tara</u></td> </tr> <tr> <td>- pump base</td> <td>- piston rod</td> </tr> <tr> <td>- barrel</td> <td>- raising pipe</td> </tr> <tr> <td>- piston rod</td> <td>- non-functionable piston assembly</td> </tr> <tr> <td>- pump head</td> <td></td> </tr> <tr> <td>- handle</td> <td></td> </tr> </table> <p>Ask:</p> <ul style="list-style-type: none"> - Which are minor repairs, which are major? - Who are responsible for minor repairing ? - How they will manage/purchase the parts of tubewell for repairing ? - What to be done for major repairing ? 	<u>No. 6</u>	<u>Tara</u>	- pump base	- piston rod	- barrel	- raising pipe	- piston rod	- non-functionable piston assembly	- pump head		- handle		<p>Question & Answer</p>
<u>No. 6</u>	<u>Tara</u>												
- pump base	- piston rod												
- barrel	- raising pipe												
- piston rod	- non-functionable piston assembly												
- pump head													
- handle													

**DPHE- PROGRAMME OFFICE
18 DISTRICT TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT**

TRAINING : Training course for tubewell caretakers	Code : CTM/S8
MODULE : Practical repair of pumps by caretakers in groups of 4	Edition : 16-6-93
SECTION 1 : Information sheet	Page : 1 of 2
SUBJECT	DESCRIPTION
<u>Duration</u>	60 Minutes
<u>Training Objectives</u>	<p>After the session is over the caretakers will be able to identify and repair the most common defects and mistakes:</p> <p>(for the pump of no.6)</p> <ul style="list-style-type: none"> - a loose GI screw and nut - a worn-out seat valve - loose nuts at the base (leaking seat valve) - bucket up side down - plunger plate (without holes) upside down - upper plunger plate and down plunger plate changed <p>(for the pump of Tara)</p> <ul style="list-style-type: none"> - piston plate, follower plate, bucket, flap valve, foot valve & check nut up side down - foot valve & flap valve changed - a worn-out flap valve, foot valve & o ring
<u>Training aids</u>	<ul style="list-style-type: none"> * hand pumps * seat valves and weights * tools/kits * black board, chalk and duster
<u>Key words</u>	Practice, repairs, defects, using tools/kits, opening, assembling

TRAINING : Training course for tubewell caretakers	Code : CTM/S8
MODULE : Practical repair of pumps by caretakers in groups of 4	Edition :16-6-93
SECTION 2 : Session Notes	Page : 2 of 2
TEXT /CONTENT	METHOD & MATERIAL
<p>Four groups will be formed, each group consists of 4/5 members.</p> <p>Each group will practically repair one pump.</p> <p>Evaluation:</p> <p>Ask what are the default of tubewell & how to repair it ? Do practically.</p>	<p>Observation</p> <p>Question & Answer & Practical</p>

**DPHE- PROGRAMME OFFICE
18 DTP TOWNS WATER SUPPLY,
SANITATION AND DRAINAGE PROJECT**

TRAINING : Training course for tubewell caretakers		Code : CTM/S9
MODULE : Individual test		Edition : 16-6-93
SECTION 1 : Information sheet		Page : 1 of 2
SUBJECT	DESCRIPTION	
<u>Duration</u>	60 Minutes	
<u>Training Objectives</u>	<p>After the test is finished it will be known which caretakers</p> <ul style="list-style-type: none"> - know their duties and responsibilities - are able to identify pump parts by name - are able to identify worn-out or damaged pump parts - are able to identify and repair minor failures themselves. <p>successful caretakers will receive a certificate.</p>	
<u>Training aids</u>	<ul style="list-style-type: none"> * pump parts * tool/kits * worn-out or damaged pump parts * hand pumps * black board, chalk and duster * certificates 	
<u>Key words</u>	Test, spare parts, repairs, certificate	

TRAINING : Training course for tubewell caretakers	Code : CTM/S9
MODULE : Individual test	Edition : 16-6-93
SECTION 2 : Session Notes	Page : 2 of 2
TEXT /CONTENT	METHOD & MATERIAL
<p>The caretakers will visit 3 places individually. At each place a trainer will ask them questions. The results will be published when the certificates will be given.</p> <p>1) Questions about duties and responsibilities of caretakers (session no S3).</p> <p>2) Questions about:</p> <p>Names of pump parts How to assemble the parts (session no S5)</p> <p>3) Questions about</p> <p>why some shown parts are worn- out or damaged what is worn with a (by purpose) defect pump(session no S7).</p>	<p>Question & Answer</p> <p>Different parts of tubewell</p>