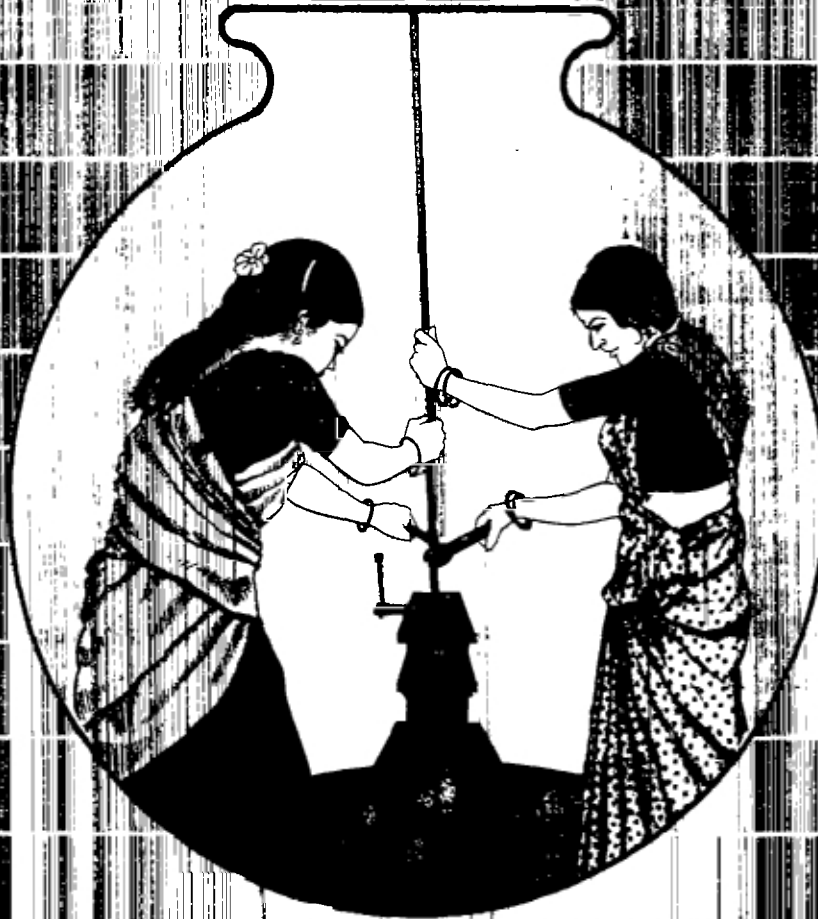


**Guidelines for Implementation of
INDIA MARK III (VLOM)
Village Level Operations & Maintenance
Handpump project**

232.2 93GU



232.2-11881

**RWAD Board - Department of Rural Development - UNION
Government of Tamilnadu**

PROPER STORAGE OF WATER

WASH VESSELS THOROUGHLY



FILTER WATER WITH A CLEAN CLOTH



KEEP VESSELS COVERED



**TAKE WATER ONLY BY TILTING
OR USE A LADLE**



PREFACE

INDIA has the largest national Rural Water supply Programme in the world using the India Mark II deep well Handpump for the supply of safe, potable ground water. Extensive field and laboratory tests have proved that the India Mark II HP is a durable and reliable handpump but it is not easy to maintain at the village level, as it requires heavy tools and considerable skills for carrying out below-ground repairs. After carrying out research and developmental studies on India Mark II, the India Mark III HP having VLOM (village level operations and maintenance) features was developed.

To introduce the concept of VLOM, a Plan of Action was prepared to implement the India Mark III (VLOM) HP Project in the select Blocks, which has been simplified and given in this Manual. The organisation structure and functioning are figuratively depicted which can be converted into transparencies that can be used as visual aid for field-level presentation. This Manual is specially designed for Planners and Facilitators for their ready reference. The guidelines suggested in this Manual are adaptable to local situations.

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232.2 93 GU

VILLAGE LEVEL OPERATION AND MAINTENANCE OF INDIA MARK III HANDPUMPS

INTRODUCTION

The Rural Water Supply Programme in India has achieved significant progress in terms of coverage of problem-villages through large scale use of India Mark II deepwell handpump which has proved to be a sturdy and reliable source of drinking water.

India Mark II handpump, although sturdy and reliable, requires preventive and curative maintenance from time to time and needs special skills, manpower and tools to repair, which are not always available at the village level and are therefore localised at the Division/Block-level.

Studies conducted so far indicate that the present centralised Handpumps Maintenance System has high overhead costs and efficiency of the Maintenance Team deteriorates with increased number of handpumps over a large area in a District. Moreover, the community is not involved in planning, implementing and maintenance. To overcome the difficulties encountered, a decentralised, Village-based, Community-managed handpump Maintenance System was thought of. After carrying out research and developmental studies on India Mark II by the UNDP/World Bank Water and Sanitation Programme and UNICEF in collaboration with the National Drinking Water Mission of India, the India Mark III handpump having VLOM (village level operation and maintenance) features was developed.

The India Mark III (VLOM) handpump is a modification of India Mark II which can be easily maintained and repaired at the village level with minimum, simple tools and lesser time. This can be used for deep well conditions upto 40 metres.

Main Objectives of Project

- **To convert the existing centralised system to village-based Maintenance System through community participation.**
- **To introduce Mark III (VLOM) Handpump by gradually converting existing India Mark II to India Mark III HPs.**

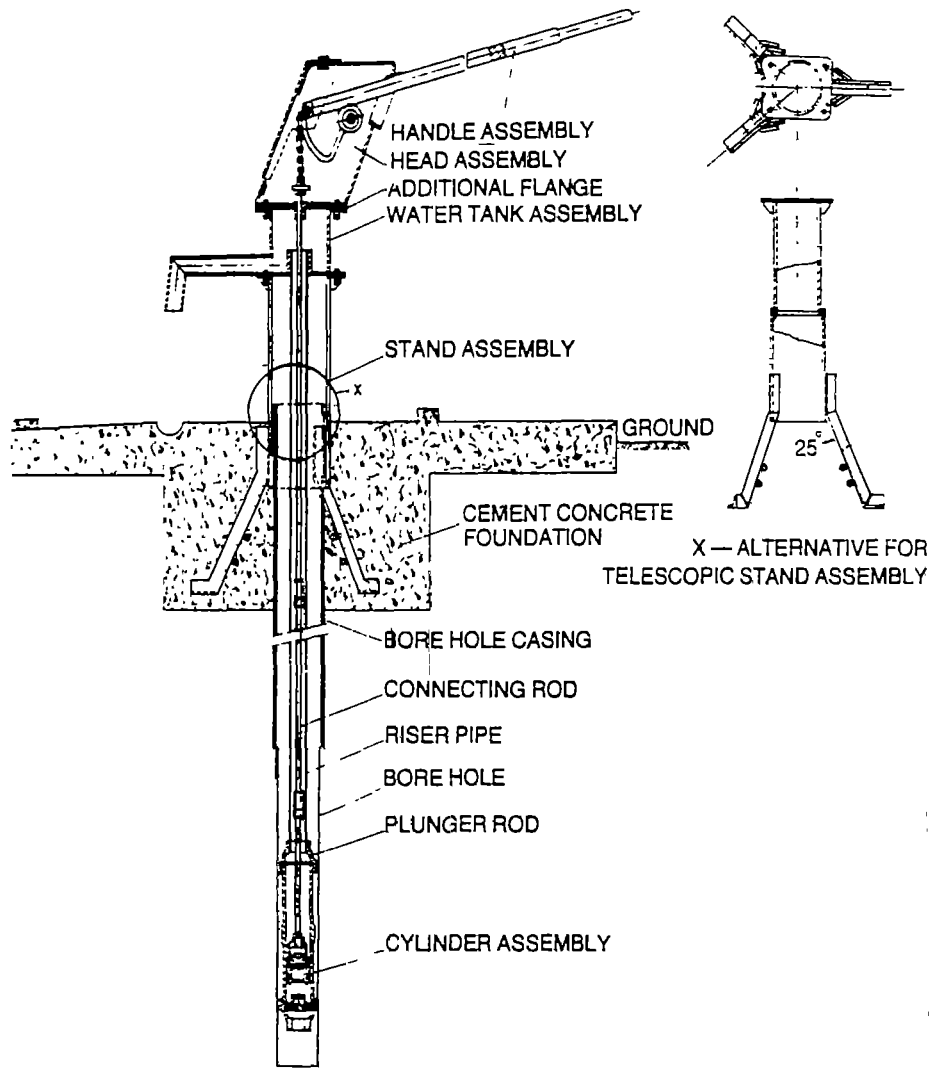
Who will implement?

- | | |
|---------------------------------------------------------------------------------------------------|------------------------------------------------|
| i) Tamil Nadu Water & Drainage Board (TWAD)
Directorate of Rural Development (DRD) | Implementing agencies |
| ii) Non Government Organisation (NGO) | Software &
mobilisation support |
| iii) United Nations International Children's Fund
(UNICEF) | Technical & material
support |

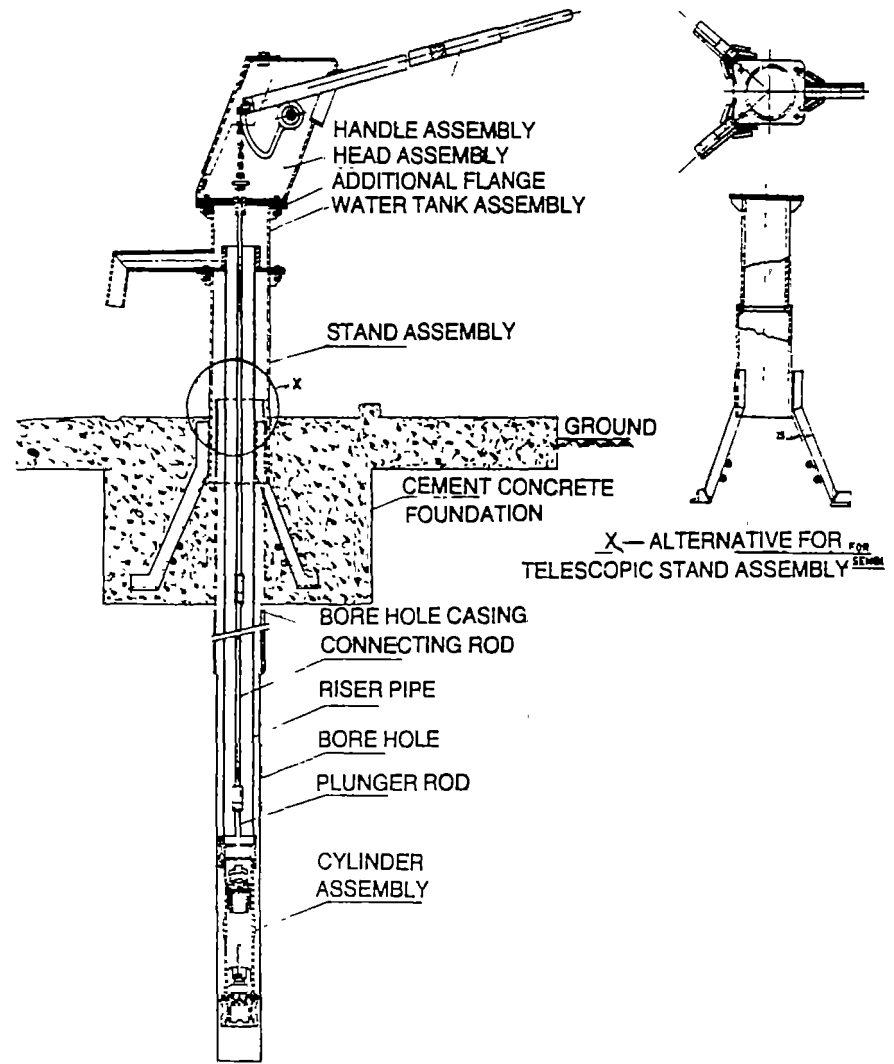
TECHNICAL DIFFERENCES BETWEEN MARK II AND MARK III HANDPUMPS

MARK II	MARK III
1. 32mm dia. (1 1/4") GI pipe Used.	65mm dia. (2 1/2") GI pipe has been used.
2. To change the piston cup washers and maintenance of foot valve The whole rising main has to be removed	Can be done without disturbing the rising main.
3. More sophisticated special heavy tools, man power and time are needed. Hence, centralised Maintenance System at Divisional/Block-level is required	Modified for easier and quicker removal/replacement of the wearing components below ground. Few simple, light tools, less labour and time is needed to replace the parts. Hence operation and maintenance can be undertaken at the village-level.

TECHNICAL DIFFERENCE BETWEEN MARK II AND MARK III HAND PUMPS

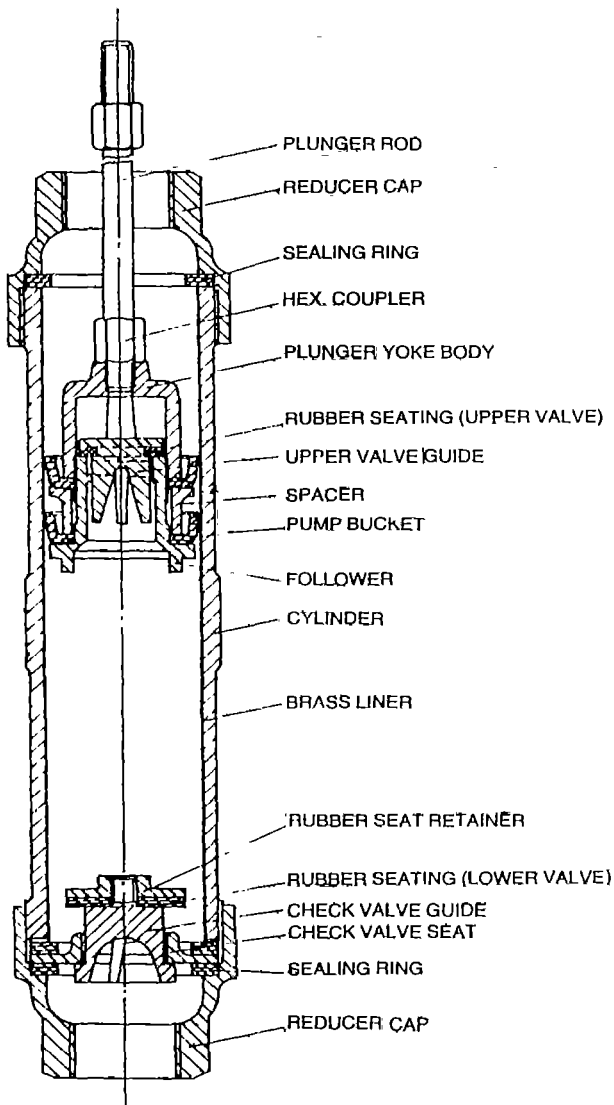


India Mark II

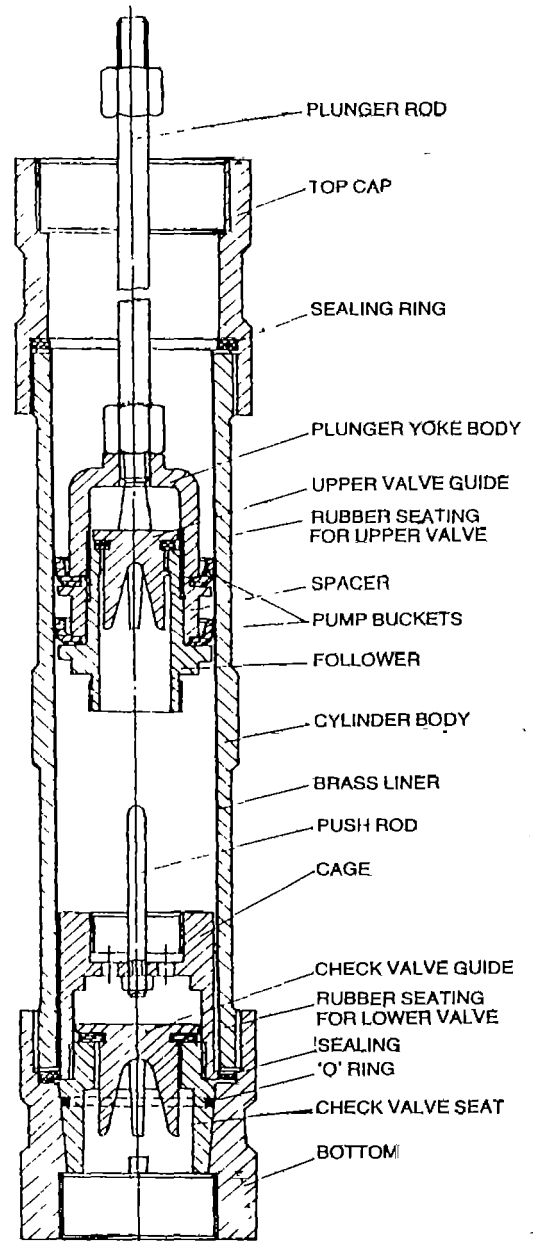


India Mark III

TECHNICAL DIFFERENCE BETWEEN MARK II AND MARK III



India Mark II Cylinder



India Mark III Cylinder

COMMUNITY ORGANISATION PROCESS

FOR INDIA MARK III VLOM HANDPUMP PROJECT

PRE-PROJECT PLANNING

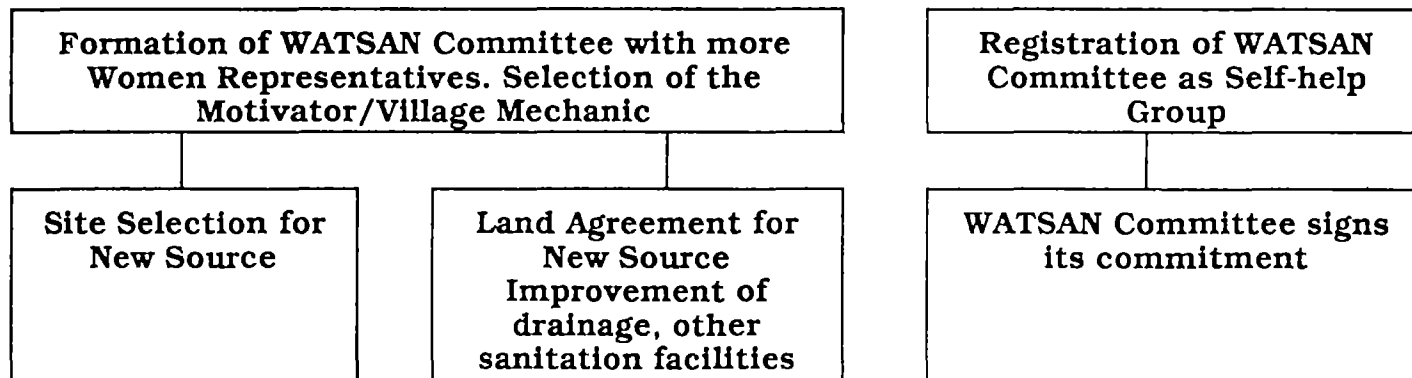
- 1) Plan of Action
- 2) Responsibility Chart
- 3) Work Schedule
- 4) Supply of equipments and materials
- 5) Development of communication Action plan/materials
- 6) Minimum operating standards/Procedures

STAGE 1 WORKSHOP

Orientation of Government Officials & NGOs

STAGE 2 VILLAGE CONTACT DRIVE

Meetings with Leaders, Village Members.
Discuss information about the Project, roles
and responsibilities of the Project & the community



STAGE 3

**TRAINING PROGRAMME for WATSAN
Committee Members, Motivators &
Village Mechanics**

**On-site Training (ongoing)
for Village
Mechanics/Motivators**

STAGE 4

**Trainees and Project-staff construct well or
boreholes & platforms and install pumps**

STAGE 5

**Handpump is handed over to the WATSAN Committee
at a Public Function with Certificate**

STAGE 6

**WATSAN Committee operates and maintains the water
system**

STAGE 7

**Training Team Monitors and
evaluates**

**PLAN OF ACTION FOR SOFTWARE ASPECTS -
MARK III HANDPUMP**

A

	Main Activity	Sub Activity	Responsible Persons	Target Group	Outcome	Monitoring
1	Detailed Planning	-	Coordinator, Delhi-Consultant & EE,AEE,TWAD Board & PPM & NGO	-	A comprehensive Plan of Action for implementation of each activity	-
		Production of communication materials	AEEs (TWAD Board & PPM) & NGOs, AEs, Consultant	-	Communication material kit for the Workshop and Village Contact Drive	Consultant
2	District/Block-level Workshop	-	EE, AEEs, AEs of TWAD Board & PPM and NGOs Consultants	DDO, BDO, all Block-level officials & staff, NGO connected with the Project	Action Plan for Village Contact Drive, methodology & time-frame Action plan for other training activities	BDO/AEE PPM Consultant
		Village Contact Drive demonstration	Resource persons	"	Practical, field - level demonstration	BDO/AEE (PPM) Consultant

	Main Activity	Sub Activity	Responsible Persons	Target Group	Outcome	Monitoring
		Village contact drive coverage	NGO, AEs of TWAD Board & AEE (PPM) & staff of Block Office	User community, Village Leaders & Members	Exposure to the field situation	BDO Consultant
3	Impact assessment	-	External Consultant	User-community, Village Leaders & Members	Course correction	-
4	Village Contact Drive	-	NGO, AEs-TWAD, AEE (PPM), Block Office staff	User community, Village Leaders & Members	Formation of WATSAN Committee, selection of village Mechanic and Motivators/ Final list of the above	Consultant AEE, (PPM)
		Filling up Village Mapping Format	NGO, AEs-TWAD, AEE (PPM) & Block Office staff	User community, Village Leaders & Members	Base line data about each village	Consultant AEE (PPM)

B**TRAINING PROGRAMMES**

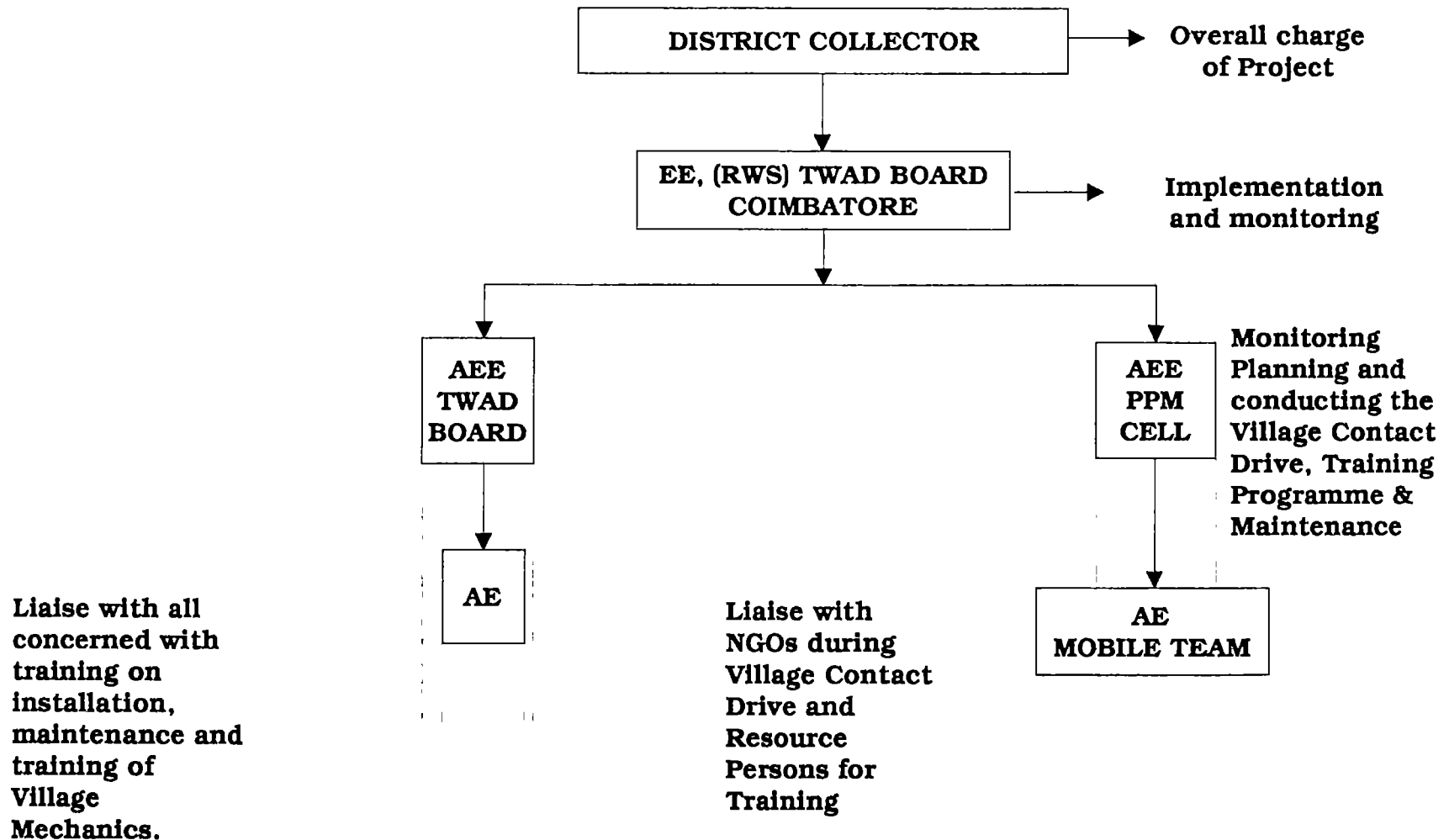
	Main Activity	Sub Activity	Responsible Persons	Target Group	Outcome	Monitoring
1	Preparation of training materials for all the training programmes		Consultant - AEEs and NGO	-	Communication kits available for all the training programmes	-
2	Trainers' Training Programme		AEE, Medical Officer, Resource persons from Myrada/ Gandhigram	DDO, BDO, AEs TWAD & PPM Block Fitters & NGOs	Trained Trainers available for conducting the training programme	EE/TWAD - Consultant
3	WATSAN Committee Training Programme		DDO, BDO, AEs, JE, TWAD & PPM, NGOs, Medical Officer	Members of WATSAN Committee	Establishment of the trained WATSAN Committee as Self-help Group	EE TWAD AEE (PPM) Consultant
4	Motivator Training Programme		DDO, BDO & AEs, JE, PPM, TWAD, NGO, Block-level Fitter	Select Motivators from each Block (App.50 in each Group)	Trained Motivator attached to each handpump	EE, TWAD & AEE, (PPM) Consultant
5	Mechanics Training Programme		AEE, PPM & TWAD NGO & Master Fitter	Selected Mechanic from each Block (App.30 in each Group)	Trained Mechanic attached to each Village Panchayat	EE TWAD & Consultant

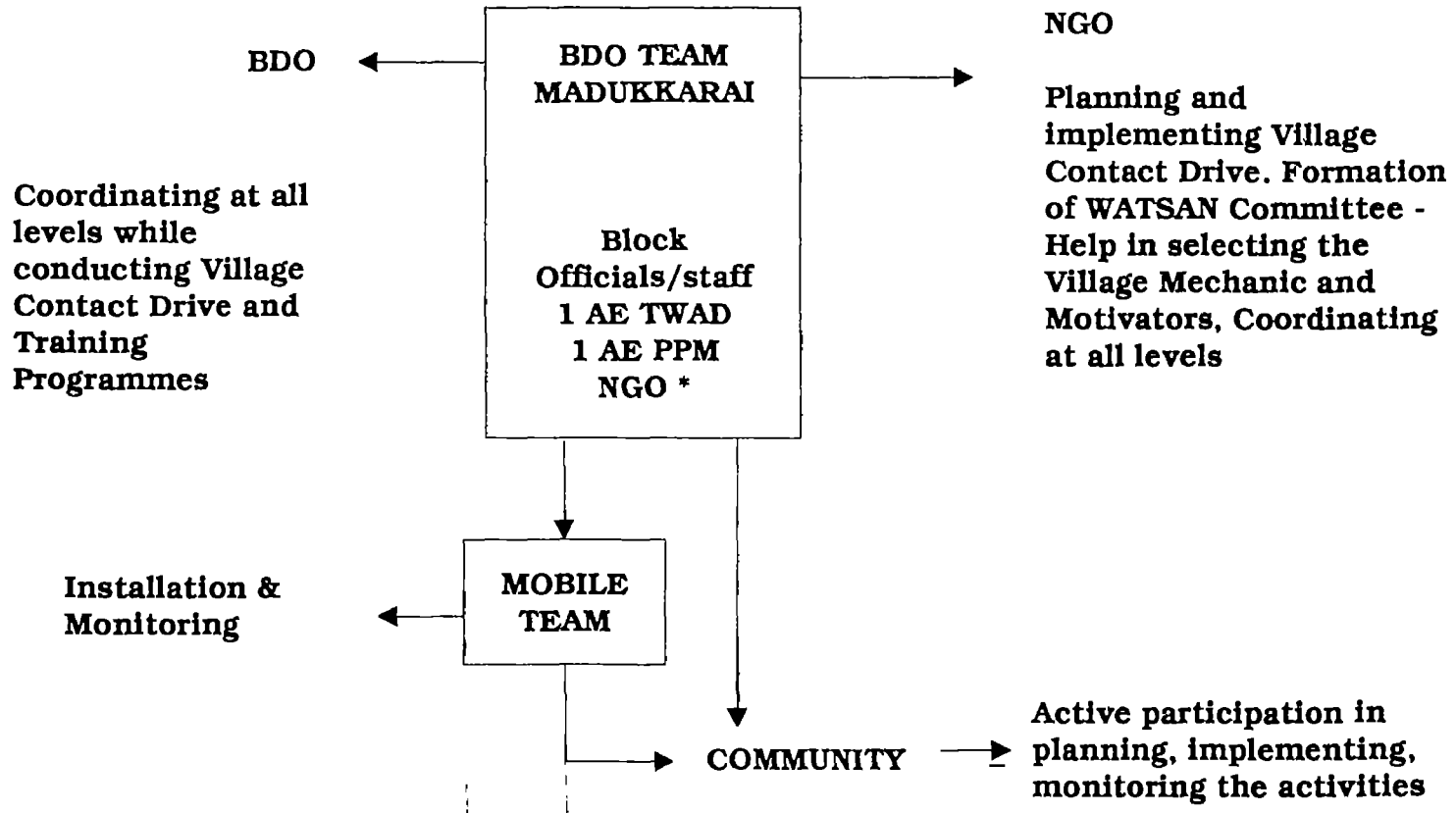
	Main Activity	Sub Activity	Responsible Persons	Target Group	Outcome	Monitoring
6	Monitoring the Training Programme		EE, TWAD & AEEs, PPM & TWAD & NGO - Consultant	WATSAN Committee, Mechanic and Motivators	Information available for course correction	EE/TWAD AEEs, PPM and TWAD - Consultant
7	Monitoring all the activities		EE, AEEs TWAD & PPM - Consultant	NGO, WATSAN Committee, Mechanic & Motivators	Information available for course correction	EE TWAD & AEEs, PPM and TWAD Consultant
8	Review of progress		EE, AEE TWAD & AEE, (PPM) & NGO - Consultant	WATSAN Committee Mechanic & Motivators, user - community	Information available for course correction	EE TWAD & AEEs, PPM and TWAD Consultant
9	Impact Study		EE, AEE, TWAD & PPM & NGO - Consultant	WATSAN Committee Mechanic & Motivators, user - community	Overall achievements of the Project	EE TWAD & AEEs, PPM and TWAD Consultant

EE - Executive Engineer
AEE - Assistant Executive Engineer
TWAD - Tamilnadu Water Supply & Drainage Board
NGO - Non-Government Organisation
AE - Assistant Engineer

DDO - Divisional Development Officer
BDO - Block Development Officer
JE - Junior Engineer
MO - Medical Officer
PPM - Power Pump Maintenance

PROJECT TEAM FOR MARK III (VLOM) PROJECT





* 3 - 4 member core group

PROCEDURES TO BE ADOPTED IN FORMING WASTSAN COMMITTEE

Village Panchayat

N.G.O.
Animators



Village



Village

Contacts all villagers
to motivate them for
collective action



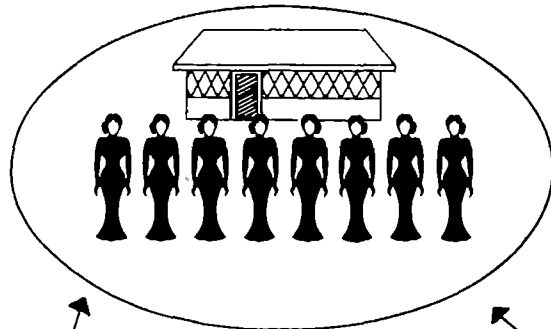
Village



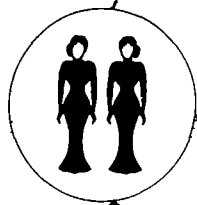
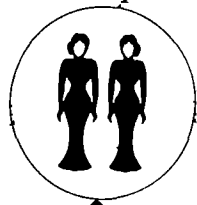
Village

THE OUTCOME OF VILLAGE CONTACT DRIVE

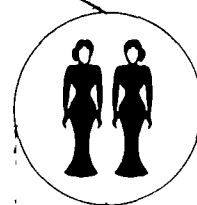
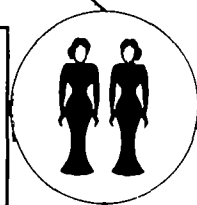
Village Panchayat
WATSAN Committee



One or two Village
Mechanic will be selected
for each WATSAN
Committee



One or two
Representatives
from each Village
to form WATSAN
COMMITTEE

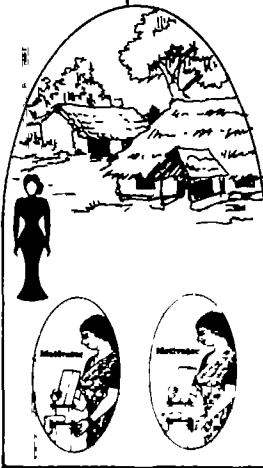


Village

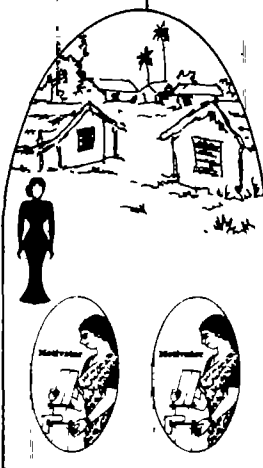
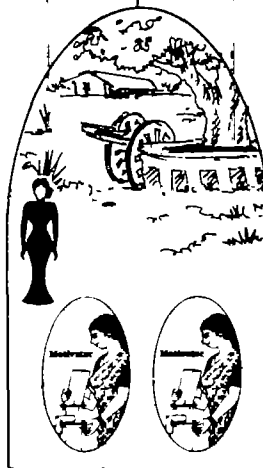
Village

Village

Village



One
Motivator
for each HP
is selected

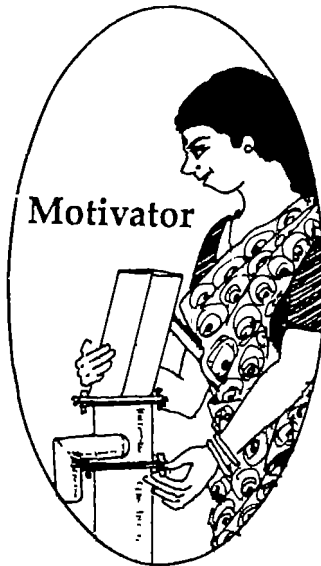


The list of WATSAN
Committee members,
Village Mechanic and
Motivator will be sent
by the N.G.Os to the
Block office and AEE &
PPM Cell.

VLOM TEAM FOR MARK III HP PROJECT

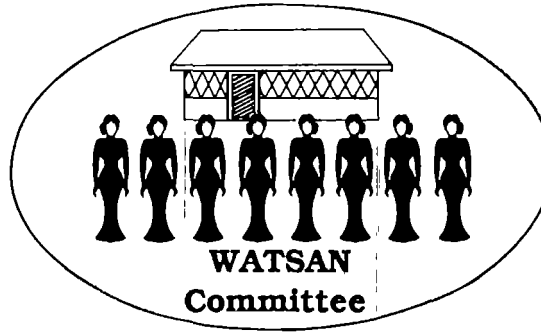
Village Level

- One Motivator for each HP will be selected



Panchayat Level

- One or two Representatives from each Village (Preferably woman)



- One or two Village Mechanics for each WATSAN Committee



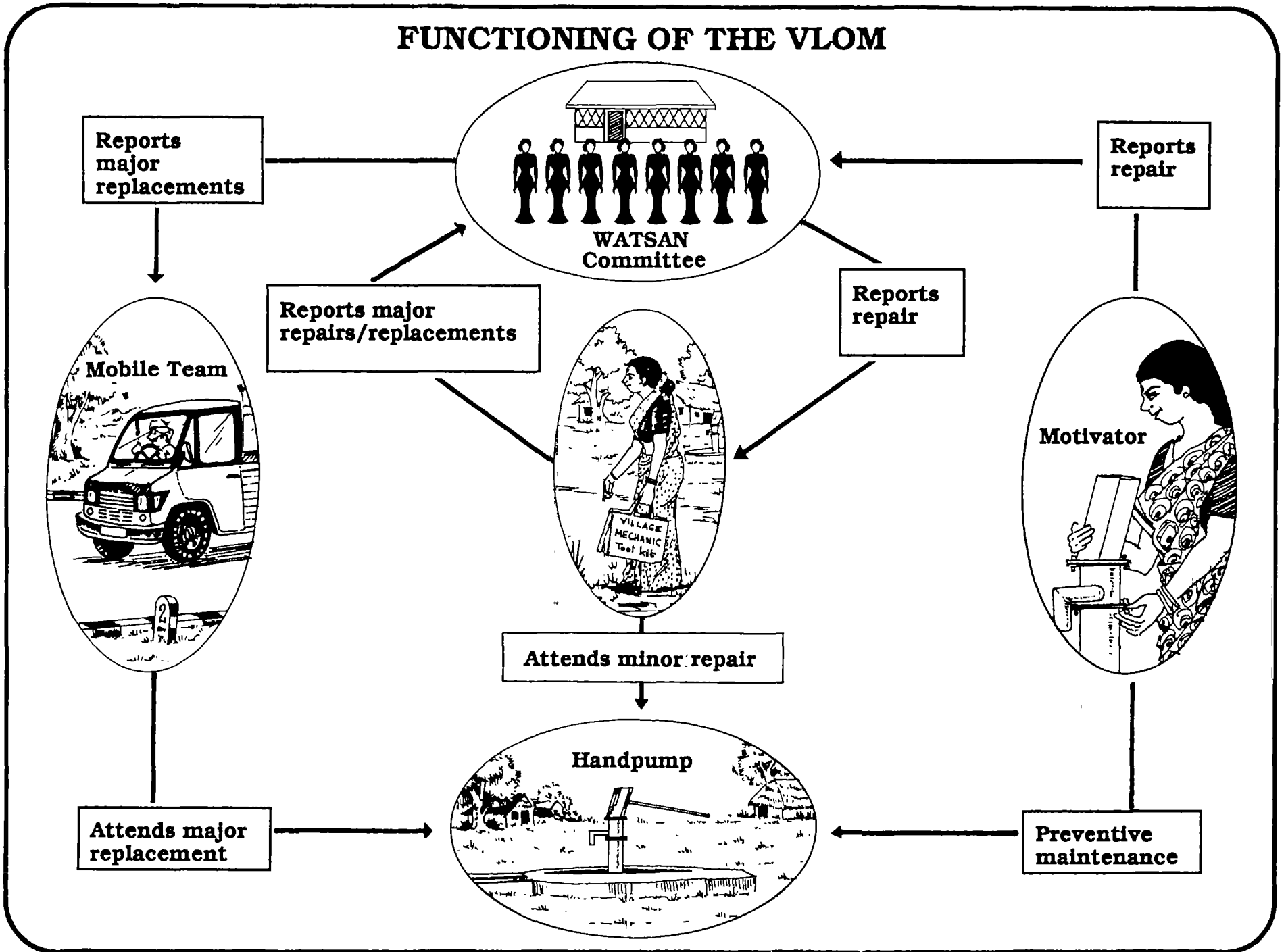
Area Level

Mobile Team

- Junior Engineer 1
- Mechanic 1
- Part-time Mason 1
- Driver with a van 1
- Helpers 2

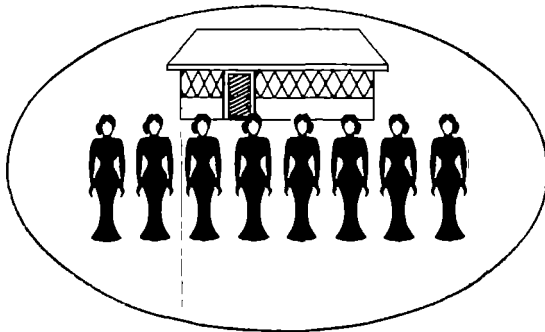


FUNCTIONING OF THE VLOM



CRITERIA FOR SELECTING WATSAN COMMITTEE MEMBERS

WATSAN COMMITTEE MEMBERS



Must be a resident of the habitation, village, willing to serve the community voluntarily.



Preferably a WOMAN from user-community



Able to read and write



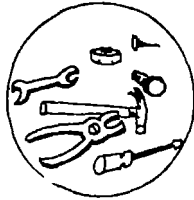
Have leadership qualities



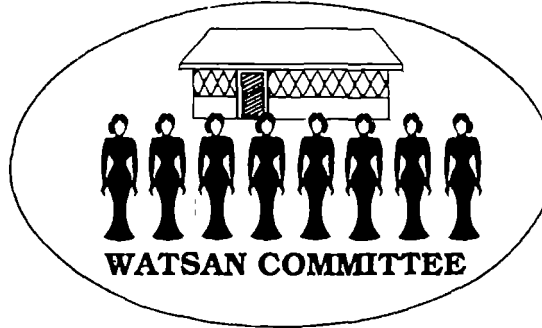
Willing to undergo training

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ROLE OF THE WATSAN COMMITTEE ON OPERATION AND MAINTENANCE OF VILLAGE WATER SUPPLY SYSTEM



Provide tools and spare parts for repairs to Village Mechanics



Maintain records on Handpump repairs



Keep HP surroundings and Drainage areas clean



Monitor Motivators, Village Mechanics Activities



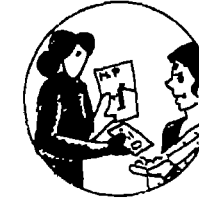
Refer major replacements to the back-up Mobile Team



Promote safe-water disposal



Participate in other development activities



Collect nominal contribution from the community for repairing handpump and paying the village HP Mechanic for carrying out repairs

Take part in conversion



SELECTION OF HANDPUMP MECHANIC

To reduce the handpump downtime and maintenance cost, a Village Mechanic will be selected by WATSAN Committee to undertake repair work of all Mark III Handpumps installed in the Panchayat.



CRITERIA FOR SELECTING VILLAGE MECHANIC



A Woman from user- community.

To be a permanent resident of that area.

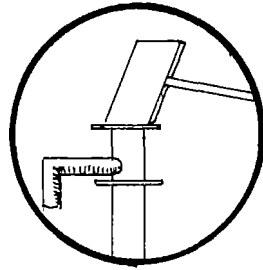
To be able to read and write

To be inclined to undertake the maintenance activity

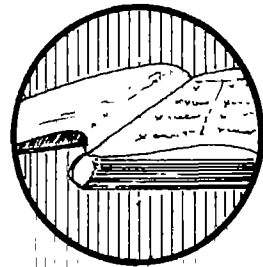
To be willing to undergo training.

A Bi-cycle mechanic or any other Mechanic may also be selected.

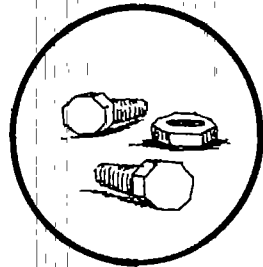
ROLE OF VILLAGE MECHANIC



To attend to the repair of all the handpumps within the Village Panchayat.



To maintain a Register indicating all the repairs done.



To account to WATSAN Committee all the spares used for repairing.



SELECTION OF THE MOTIVATOR

"The Motivator acts as 'pivot' around which the entire Maintenance System revolves. Therefore care should be taken to select the right person as a Motivator".



CRITERIA FOR SELECTING THE MOTIVATOR



Preferably a Woman from user - community.

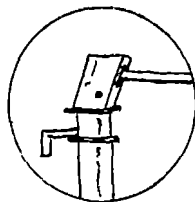
Must be a permanent resident of the village.

Must be able to read and write.

Must be inclined to serve the community voluntarily.

Must be willing to undergo training.

ROLE OF THE MOTIVATOR



To attend to preventive maintenance.



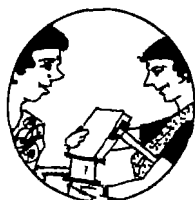
To report the breakdown to the WATSAN Committee.



To educate the Community on proper usage of the handpump and its maintenance.



To impart Health Education.



To help the Village Mechanic while attending the repair.



TRAINING PROGRAMMES FOR THE SELECTED WATSAN COMMITTEE MEMBERS/VILLAGE MECHANICS/MOTIVATORS

INTRODUCTION

The Training Programme is an important cog in the wheel of the Maintenance System. To ensure an efficient and result-oriented Training Schedule, a separate Training Team will be formed in the Project-area.

METHODOLOGY

After successful completion of the village Contact Drive in each Village Panchayat, the list of selected WATSAN Committee Members, Village Mechanics and the Motivators will be sent by the NGOs to the Block office and AEE(PPM).

Block Development Officer sends the list to the Divisional Development Office;

On receiving the list, the AE of Divisional Mobile Team, the AE finalises the dates of the Training Programme in consultation with the BDO & AEE, PPM at Collectorate.

Duties of the officials/staff involved in the Training Programme:

- EE - Overall supervision and functioning
- AEE, (PPM) - Incharge of providing training materials and supervise the programme.
- AE, MO, NGO Fitter - Resource persons
- BDO - Incharge of Training Programme arrangements

A Certificate of Participation will be given to all the Trainees at the end of the Training Programme.





Avoid stagnation of water near the water sources by draining the excess water into a Kitchen Garden or Drainage



