

CHAPTER 10 Workforce Planning of Commune Water Supply Organisation

10.1 The WATSAN Committee

The WATSAN Committee constellation is expected to be more or less the same in each commune. The number of members should not be more than ten to fifteen³³ in order to make effective decisions and facilitate the ability of members to meet. Each member should have deputy representative, which will attend committee meetings in case of absence of the representative. It is expected that the following members will attend the committee:

- The Chairman of the Commune People's Committee (Head of the committee);
- The Chairman of the Commune People's Council (Deputy Head of the committee)
- Village Heads and one elected member from each village;
- Commune Health Centre representative;
- Union representatives.

10.2 The Commune Water Supply Organisation

Workforce planning of the Commune Water Supply Organisation relates to technical design of the water supply facilities in each selected target commune. The technology of the treatment plant will differ depending on the content of iron and mangan, which can be reduced by aeration or oxidation by inducing chlorine.

The water distribution supply technology will depend on the terrain and can be classified into two types e.g. the gravity flow type, and the pump boosting type. Often these two types are combined. In the case of the selected target communes reservoirs are adapted either as an elevation water tank providing water through gravity flow or as ground water tank using booster pumps to keep up the water pressure.

The technological options can be combined in different ways and thus required different set of O&M skills. The staffing pattern for the plant will, however, be the same for all option. Variations can occur, depending on the distance between the treatment plant and the deep

³³ Will depend on the number of villages in each commune.

wells and if there is a need to boost the water pressure further down the piping system. In these cases extra manpower might be needed to manage these pumps. This will need to be decided on a case to case basis at the time of project implementation.

The development of the consumption pattern over time and operating hours for each communal water supply system is presented overleaf.

Table 3.2.1: The development of the Consumption Pattern over time and Operating Hours for each communal water supply system

Province	Commune	Production (m ³ /day)			Operation (hours)		
		2002 Maximum Daily Distri- bution	2005 Maximum Daily Distri- bution	2010 Maximum Daily Distri- bution	2002 Operating hours	2005 Operating hours	2010 Operating hours
Thai Nguyen	Hoa Thuong	450	780	1.010	11	19	24
	Dong Bam	340	610	860	9	17	24
	Thinh Duc	300	530	690	10	18	24
	Nam Tien	390	720	1.010	9	17	24
	<i>Sub total</i>	<i>1.480</i>	<i>2.640</i>	<i>3.570</i>			
Ha Noi	Dong Ngoc	470	840	1.200	9	17	24
	Xuan Dinh	1.070	1.920	2.710	9	17	24
	<i>Sub total</i>	<i>1.540</i>	<i>2.760</i>	<i>3.910</i>			
Ninh Binh	Dong Phong	650	1.170	1.610	10	17	24
	Quang Son	490	880	1.240	9	17	24
	Yen Thang	550	1.000	1.400	9	17	24
	<i>Sub total</i>	<i>1.690</i>	<i>3.050</i>	<i>4.250</i>			
Thanh Hoa	Vinh Loc Town	450	730	1.030	10	17	24
	Vinh Thanh	390	730	1.010	9	17	24
	Dinh Tuong	430	800	1.090	9	18	24
	Thie Hung	450	820	1.130	10	17	24
	Thieu Do	460	860	1.170	9	18	24
	Van Thang	450	810	1.130	10	17	24
	<i>Sub total</i>	<i>2.630</i>	<i>4.750</i>	<i>6.560</i>			
Total = 15 communes and 14 systems		7.340	13.200	18.290			

The diagram indicates that average operational time in year 2002 is 9 hours. In year 2005 operational hours has increased to 17 hours due to increased consumption by the consumers and by year 2010 the water supply system is providing full operational capacity.

The three scenarios indicate that the consumption pattern will develop progressively according to the households' increased appreciation of access to taped water. In order to meet the production demand of the need-based consumption pattern, operation hours of the water supply facilities will need to increase respectively. The three scenarios are adapted to the outlined organisation of a Commune Water Supply Organisation presented in Chapter 3.1. Applying normal Vietnamese working hours (8 hours per shift and 5 working days per week) the following workforce plan for the three scenarios occurs in Table 3.2.2.

Table 3.2.2: Workforce Plan for Commune Water Supply Organisations

Manpower Category	Year 2002		Year 2005		Year 2010	
	Number		Number		Number	
	Week-days	Week-ends	Week-days	Week-ends	Week-days	Week-ends
Administrator	1		1		1	
Treatment Plant Operator	1	1	2	2	3	3
Pump Operator/ Pipeline Inspector	1	1	2	2	3	3
Meter Reader/ Fee Collector	8*)		8*)		8*)	
Total **)	7		11		15	

*) According to average number of villages. Only part-time – one week per month.

***) Part-time Meter Reader/Fee Collector converted into full-time staff.

While the Administrator and Meter Readers/Fee Collector will attend 5 working days per week, the treatment plant and pumps (submerge and booster pumps) will need attention 7 days a week during plant operation. In cases where an elevated tank is replaced by booster pump or applied in combination with an elevated tank, the pumps then needs 24 hours attention. This needs to be specified as part of the detailed design for each commune. The present manpower plan is therefore tentative only, as variations can occur due to the topographic situation of each commune. For each Commune Water Supply Organisation the Administrator should elaborate a detailed rolling manpower shift plan. This might reduce the number of staff, as weekend staff also will take part in shifts during weekdays. The manpower allocations in Table 3.2.2. is therefore indicative for budget purposes only.

The scenario for year 2002 indicates that production (treatment of water) is only necessary during daytime, as storage tanks will be sufficient to cover evening and night consumption. Dayshift only is therefore sufficient. In year 2005 the demand has increased the production to such an extent that two shifts are needed for the plant. Full production is expected to take place in 2010, demanding 24 hours operation and maintenance.

10.3 Tentative Manpower Costs

Based on figures collected during fieldtrips the following tentative salary structure occurs:

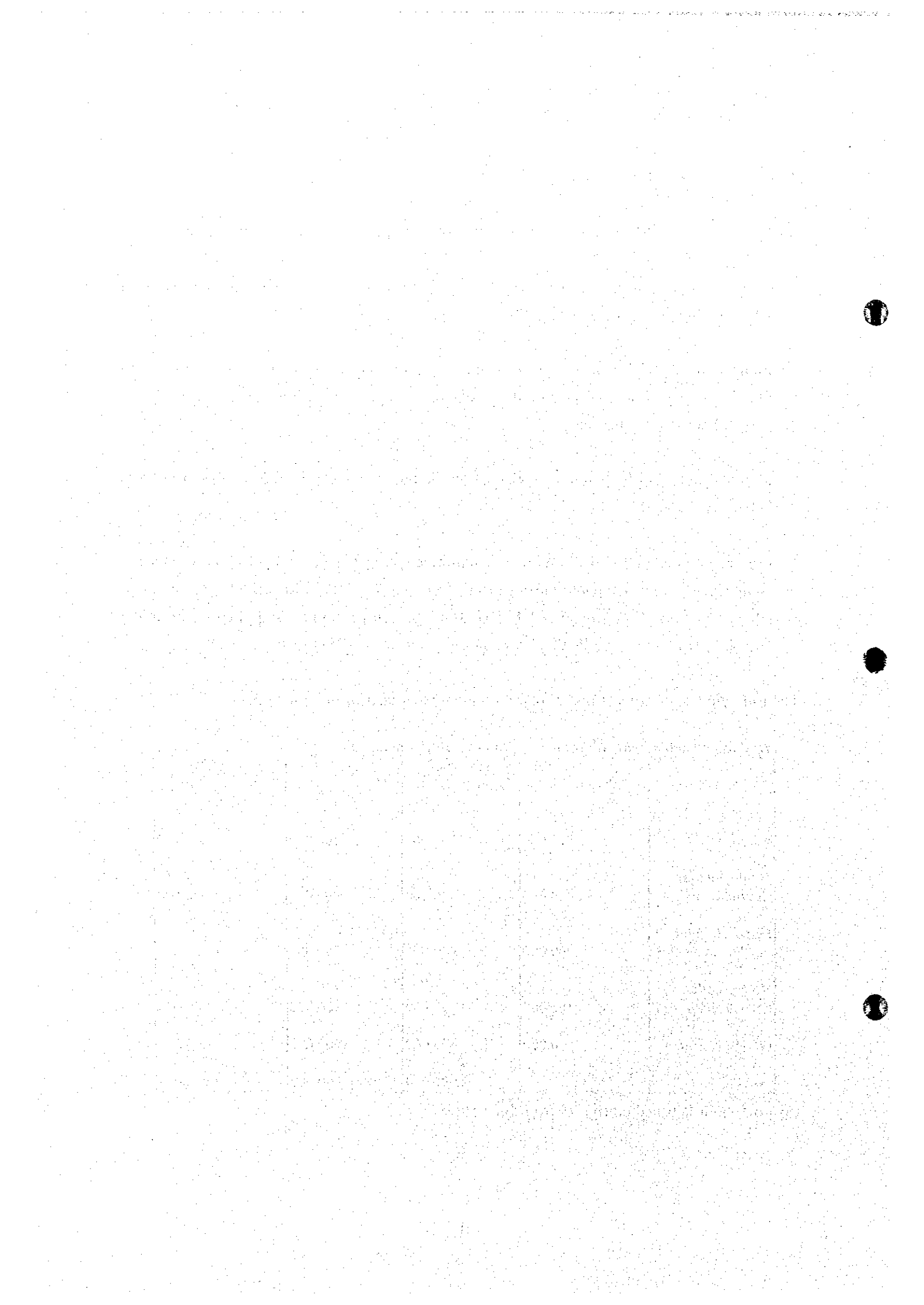
- Administrators are expected to receive a monthly salary equal to Commune PC staff which is expected to be VD 500.000 per month.
- Pump Operators/Pipeline Inspectors and Treatment Plant Operators are expected a monthly salary between VD 200.000 to VD 400.000 per month. For budget purposes VD 400.000 per month is applied.
- Meter readers will be paid on provisional basis, but guaranteed a minimum salary of VD 100.000 per month.
- It is recommended that the WATSAN committee members receive meeting allowances to compensate reduced income during meeting session as well as to provide incentives to attend meetings. An estimate of VD 50.000 per person per month is applied equal to VD 500.000 per month if the WATSAN Committee includes 10 members.

The following cost estimate occurs based on the three scenarios in Table 3.2.2:

Workforce Budget O&M of Commune Water Supply Organisation

Manpower Category	Salary Amount VD/month	Year 2002	Year 2005	Year 2010
		Monthly Costs	Monthly Costs	Monthly Costs
		VD	VD	VD
Administrator	500.000	500.000	500.000	500.000
Treatment Plant Operator	400.000	440.000	880.000	1.320.000
Pump Operator/ Pipeline Inspector	400.000	440.000	880.000	1.320.000
Meter Reader/ Fee Collector	100.000	200.000	200.000	200.000
WATSAN Comm.	500.000	500.000	500.000	500.000
Total		2.080.000	2.960.000	3.840.000

Cost of labour is based on figures from June 1999.



CHAPTER 11 Capacity Building Needs of Commune Water Supply Organisation Staff

11.1 Basic Skills and Experiences Required

To perform both the technical and non-technical tasks of the staff of the Commune Water Supply Section should be equipped with the following skills basic skills:

- read, write and basic communication skills
- simple mathematics
- keep records and books
- ride bicycle (or motorbike for some positions, as e.g. the Administrator)
- have communication skills
- be able to perform good customer relations

It is recommended that general training is initiated during the construction period while specific training is conducted as part of the running-in phase.

11.2 Training-needs of WATSAN Committee Members

The role of the WATSAN Committee is to represent the water users and secure that sufficient quantity and quality of clear water is provided to the users. At the same time it be responsible for facilitating information and campaigns about health issues related to the use of clean water. As such the WATSAN committee will be acting as an advisory to CPC and at the same time direct the O&M of water supply system according to the rules and regulations of the water supply utility.

The WATSAN Committee should be established prior to the construction of the water supply system and act as facilitating force during the mobilisation of the commune. During construction the WATSAN Committee will act as Construction Management Board ensuring that the contractor fulfils its obligations. After handing over the water supply system to the PC the WATSAN Committee will act as an advisory and monitoring body for the PC on water and water related health issues.

It is recommended that the WATSAN Committee does not exceeds more than 10 – 15 permanent members when dealing with O&M. It is expected that provincial CERWASS will

be a member of the committee during mobilisation and construction.

Training of WATSAN committee members will be an important issue during the mobilisation and construction phase. It is expected that after handing over of the water supply system, the need of external support will be reduced to a minimum and mostly as technical backup. The training related to the WATSAN Committee can be grouped as follows:

Topics related to Community Mobilisation:

- Water borne disease and health risks - basic health training;
- How to calculate cost of water;
- Participatory approaches to mobilisation of the community;
- Gender issues and the role of women in connection with water and sanitation;
- Conflict resolution;
- How to make bylaws and rules for O&M of water supply systems;
- Basic management planning;
- Protection of water source;

Training related to tendering and construction:

- How to manage tendering procedures;
- How to evaluate tenders;
- How to make contracts;
- How to monitor contractual performance;
- Contractual penalties;
- Contractual payments;
- Accounting and record keeping;

- Logistics and site management;
- Handing over procedures.

Training related to overall O&M:

- General management procedures of water supply systems;
- Cost and financing of O&M;
- How to calculate correct tariffs ;
- Accounting principles and annual reporting;
- Fee collection systems and payment recording;
- Consumer relations;
- How to make job descriptions for O&M staff;
- How to monitor O&M of water supply system;
- Record keeping.

11.3 Training-needs of O&M Staff

In terms of the physical facilities concerned, there is a need for improved skills and procedures connected to O&M. The training of operators are in most cases not initiated until construction has been completed. Experience also shows that often training is conducted randomly only and a long time after the plants systems are completed. Very seldom the operators have been participating in the construction of the plant and pipe system and therefore do not have the fully understanding of the production process and related O&M requirements.

It is recommended that O&M staff participate in the construction of the water supply system in order to get hands-on-knowledge about where pipes are laid and how the treatment plant will be functioning.

11.3.1 Commune Water Supply Administrator

The Administrator will be responsible for the day-to-day co-ordination and administration of the water supply system. In order to be able to do this he/she will be trained in:

- Basic knowledge of the water supply technology and the operating principles;
- Health risks related to the use of contaminated water and the role of the purification plant;
- General management and accounting procedures;
- Personnel management;
- Consumer relations management;
- The main principles of O&M procedures and how to control O&M performance;
- Manpower planning and time scheduling;
- Procurement and stock management;
- Reporting procedures;
- Tariff calculation;
- Budgeting/cost management including:
 - calculate dues and write bills
 - entry into books of accounts
 - understand and maintain books of accounts
 - understand double entry accounting
- Banking procedures.
- Management and financing O&M of water supply systems;
- Application of accounting system appropriate for rural water supply systems;
- Cost-monitoring and reporting

11.3.2 Treatment Plant Operators

For the operators the training should include:

- Basic knowledge of the water supply technology and the operating principles;
- Health risks related to the use of contaminated water and the role of the purification plant;
- Management and financing O&M of water supply systems;
- Specification of job functions and how to plan work;
- Pump operation and maintenance;
- Back-washing and cleaning of treatment plant;
- How to purify water by the use of chlorine;
- Monitoring and recording procedures;

11.3.3 Pipeline Inspectors/Pump Operators

For the functions as Pipeline Inspector:

- Comprehensive knowledge of the exact positions of the water mains, secondary and tertiary pipe systems and each system element;
- Comprehensive skills in repair the different system elements including:
 - How to repair leakage in the pipelines
 - How to replace components,
 - How to install new pipes with joints including couplers, clamps, fittings, etc.
 - How to record any comments in LogBook and make reports to the Administrator.

For the function as Pump Operator:

- Comprehensive knowledge of pump operation and maintenance requirements;
- How to disassemble pumps and electrical machines for cleaning and basic repair/replacement of parts;
- How to repair minor electrical faults;

- How to record any comments in LogBook and make reports to the Administrator.

11.3.4 Meter Readers/Fee-collectors

For fee-collector the training should include:

- Consumer relations;
- How water meters function and how to read water meters;
- Calculation of fees;
- How to make records and keeping accounts;
- How to record any comments in LogBook and make reports to the Administrator.

CHAPTER 12 Programme Design

12.1 Objectives and Expected Results

It is envisaged that the recommendations of this study will eventually lead to:

1. Provision of water supply systems based on ground water resources in a selected number of communes within the project area;
2. Provision of hygiene education in those commune that will receive water supply systems; and
3. Provision of capacity building at commune level for long-term management of water supply facilities and continuously hygiene education.

The objective is that at the end of the project it is expected that the target communes will be capable of managing their own water supply systems and practice proper hygiene. As a result, they will reap the benefits of improved health.

The underlying issue of capacity building is therefore to change peoples' behaviour and improve their skills so that they able to take control of their own situation and do something about it.

In connection with water supply and sanitation projects the objective is to reach a situation of sustainable operation and maintenance of clean water supply systems and enhanced awareness of the communities on the relationship between the use of safe water and improved health.

In order to facilitate this, main behavioural change must start with the people, particularly regarding their hygiene practices and the way they view their water and sanitation facilities. It is expected that this will facilitate greater understanding and appreciation of the project.

Based on this, a community organisation should be established to manage project implementation and O&M of the water supply system after completion of the project.

12.2 A Training of Trainers Approach to Capacity Building

It is expected that CERWASS through it provincial branches will be the main implementing

agency of the forthcoming projects based on this Study. Other involved parties will be Provincial/District/Commune Health Centres and Provincial/District/Commune Unions - particularly Women's Union.

The overall approach is to establish provincial training organisations including resource persons from Provincial CERWASS, Women's Union; Provincial Health Centres. The training organisation will be organised as a unit under the Project Management Unit (PMU) at national level and supervised by a HRD Expert.

In order for the training organisations to deliver necessary quality training, the trainers will be offered a "training-of-trainers" course. The training will include general teaching techniques as well as specific topics related to:

- Community mobilisation;
- Environmental health education;
- Tendering and construction management;
- Management and operation of rural water supply facilities (covering technical and financial issues)

A specialist HRD team will train the trainers in each province using a pilot scheme-training model. Once the trainers have completed the trainer-of-trainer course, they will be able to complete the training of the remaining communes in the province under supervision of the HRD Expert.

It is expected that the specialist HRD team consisting of consultant experts and local training providers (NGOs or/and staff from national training institutes) will do the training-of-trainers.

12.3 Organisation of Capacity Building at National Level

At national level a Project Management Unit (PMU) will be established, responsible for overall project planning, coordination, monitoring and evaluation of implementation. The National Training Team (NTT) will be attached to the PMU and responsible for the detailed design and implementation of the capacity building component. The implementation of the capacity building component will be applied as a training-of-trainers exercise meaning that the NTT will train the PTT in becoming project related trainers and the PPCC to become

efficient and effective provincial resource mobilises and co-ordinators. The PTT will then act as community development agent responsible for facilitating community mobilisation, establish and train the WATSAN committee and the CWSO to operate and maintain the water supply facilities. The PPCC will receive training in project management tools and be responsible for provincial co-ordination and monitoring/evaluation of project activities under close guidance by the Provincial Project Co-ordinator.

The PMU will be guided by a National Programme Steering Committee (NPSC). The NPSC will include representatives from the donor organisation, MARD, MOH, Vietnam Women's Union, and Central CERWASS. It is expected that CERWASS will be the national executing agency as they have been granted the responsibility for rural water and sanitation. After an Inception Phase it is expected that NPC will meet quarterly to evaluate project progress and national support to facilitate project implementation.

The PMU will be headed by a Chief Technical Advisor (CTA) and assisted by a national Deputy Technical Advisor (DTA). A pool of short-term international - and national experts will support the CTA and DTA according to needs. The National Training Team (NTT), attached to the PMU, will include:

- HRD Team Leader responsible for development and implementation of the capacity building component;
- A national (Vietnamese) HRD Co-ordinator responsible for liaison and contracting national training providers and assist the HRD Team Leader in the implementation of the Training-of-Trainers Programme (training of PTT and the PPCC) and monitor and evaluate training at commune level by the PTT.

To the extent possible national training providers will be used to address training needs in detail, develop training programmes, and do the training-of-trainers. National training providers will most probably include among others Vietnam Women's Union, the Asian Institute of Technology, and selected CERWASS staff. Additional training provider will be selected among the pool of short-term experts available to the PMU according to needs. An outline of the project organisation is presented overleaf followed by a more detailed step-by-step description of the recommended project implementation process.

12.4 Organisation of Capacity Building at District/Province Level

A Provincial Programme Coordination Committee (PPCC) will be established in each

province responsible for co-ordination and monitoring of provincial resources to facilitate project implementation. Provincial Steering Committees for Water and Sanitation (PSCWS) are in the process of being established in most provinces as part of the NRWSS34. The PPCC will liaison with PSCWS in order to co-ordinate and utilise resources in the most effective and efficient way.

The members of the PPCC should include:

- A Provincial Peoples Committee representative;
- Provincial Department of Agriculture and Rural Development represented by Provincial CERWASS;
- Provincial Department of Health representative/District Health Centres;
- Mass-organisations representatives (Women's Union);
- A representative from each District Peoples Committee where target communes are included;
- Provincial Project Co-ordinator.

It is expected that some of the members of PPCC also will be members of the PSCWS). This will benefit the utilisation of local human resources resource and strengthen project implementation. The PPCC will meet on a monthly basis and according to needs.

A Provincial Training Team (PTT) should be established responsible for training community mobilisation agents and provide capacity of selected Commune People's Committee members. PTT will also train the WATSAN committees in managing the different stages of project implementation as well as O&M of the water supply facilities. The PTT will be headed by the Provincial Coordinator and should have assigned staff from:

- Mass-organisations (Women's Union) responsible for community mobilisation, health education³⁵ and WATSAN training; and
- Provincial CERWASS staff responsible for construction supervision and training of O&M

34 National Water Supply and Sanitation Strategy

35 With support from provincial/district health staff .

staff of the water supply systems.

Private- or state construction companies selected through a tendering process will do construction. It is expected that Provincial CERWASS will be responsible managing the construction with support from the Provincial Coordinator.

A National Training Team (NTT) will provide capacity building/training of trainers' programme to the members of the PTT. The NTT will also apply capacity building measures to PPCC.

12.5 Organisation of Capacity Building at Commune Level

The following step-by-step-approach on the organisation of capacity building should be applied:

- Effective information, communication, and education (ICE) programmes will start before detailed planning and construction of RWSS facilities is initiated. This will initially be done by the Project Organisation/Implementing Agency in cooperation with the Village Mobilisers, which will mobilising the community and facilitate a participatory approach to decision-making. It is expected that selected key persons at Commune Peoples' Committee (CPC) and village level will act as initial mobilisers (36).
- A WATSAN Committee should be established and participate in the community mobilisation as part of the community development process. The members should be elected from the villages expected to receive water, and include CPC representatives, Commune Health Centre, union members, head of hamlets/villages, and other elected community members.

Within each province a Provincial Training Teams (PTT) will be established and train the WATSAN committee in community mobilisation and health education as well as the explain the main conditions for sustainable O&M of water supply systems. The PTT will be organised as part of the Provincial Project Organisation. It is expected that a Coordinator will be allocated to each province to facilitate project implementation and assist PTT.

36 Vietnam Women's Union (VWU) is expected to play a central role in community development activities using village VWU as mobilisers.

During mobilisation this committee will act as mediator between the commune people and the Project Organisation/Implementing Agency. The committee will be responsible for sharing information with the commune people about the project and at the same time provide the Project Organisation/Implementing Agency with information that can facilitate appropriate project planning and implementation.

Prior to construction of water supply facilities the WATSAN Committee will be trained in tendering procedures and selection of contractors for construction of water supply facilities. The training will be done by the PTT. At the same time the WATSAN committee will select the members of the O&M organisation of the water supply facilities.

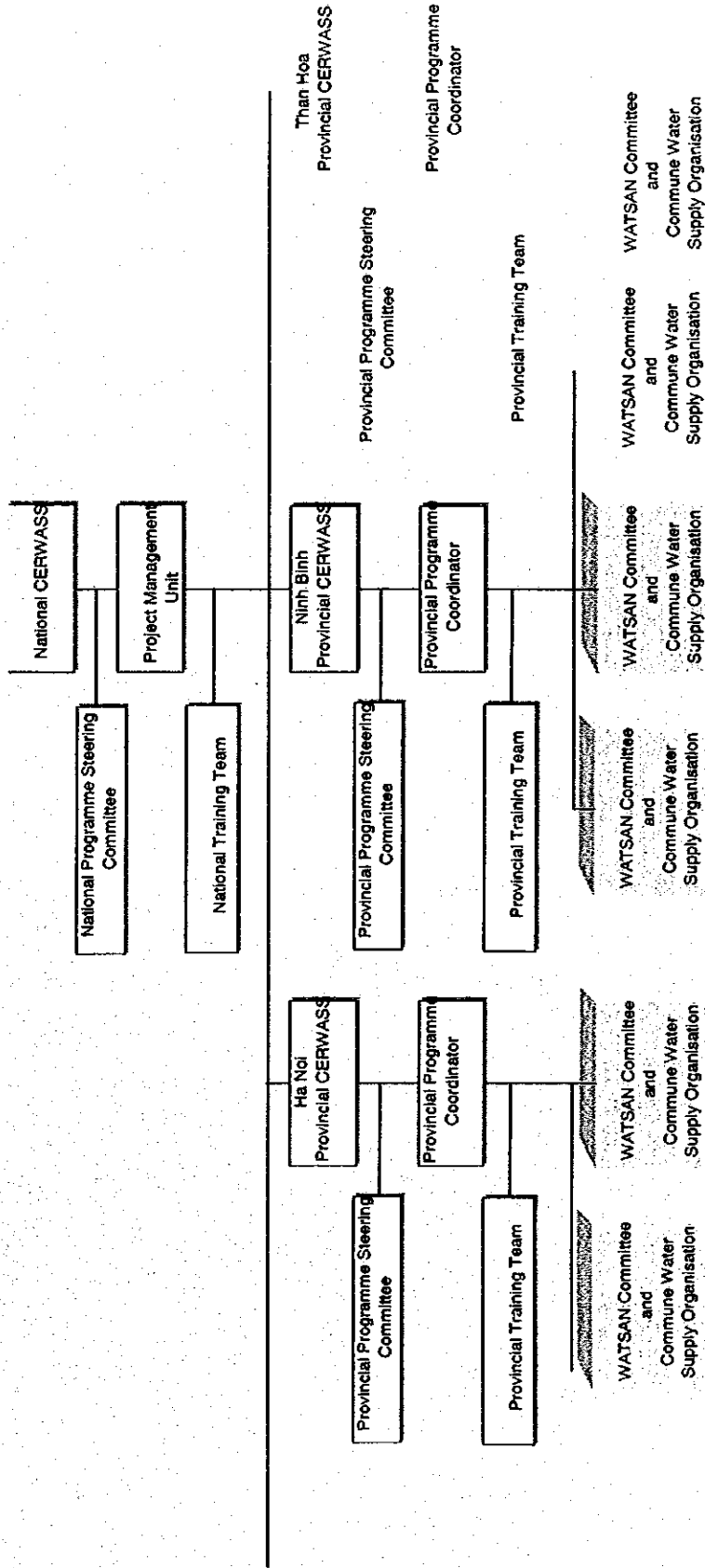
- The Community Water Supply Organisation (CWSO) will participate in the construction work as part of O&M training. Additional O&M training will be provided by PTT prior to the hand-over period. Intensive O&M training will be applied as part of the running-in period. Post-training will be provided 6 months after hand-over based on an evaluation of O&M at that time.

Prior to the completion of the construction, the WATSAN committee would have received training in water supply facility management including accounting and financial management. At the time of take-over and the CWSO is in place ready to operate the water supply facilities, the WATSAN committee will have the capacity of managing the water supply system in a sustainable manner as well as provide continuing information on water and sanitation issues to the commune people. Post-training will be provided 6 months after hand-over based on an evaluation of O&M at that time. Training will be provided by the PTT.

12.6 Outline of Project Organisation

Based on the approach outlined in the previous section, the following Project Organisation appears below.

Figure 11.1 Outline of Project Organisation





CHAPTER 13 Capacity Building Activities

13.1 Pre-conditions

Before any capacity building measures takes place the following components of the project organisation has to been established³⁷ e.g.:

- The **Project Management Unit (PMU)** has completing the detailed planning of the project and the personnel and commodities needed for the project are in place;
- The **National Programme Steering Committee (NPSC)** has been established.
- The **National Training Team (NTT)** is in place and responsible for developing and implementing the capacity building programme³⁸.
- A **Provincial Programme Coordination Committee (PPCC)** is established in each province responsible for planning and co-ordination of project implementation.
- A **Provincial Programme Coordinator** is in place responsible for TA to the PPCC and PTT as well as providing capacity building measures at commune level.
- The **Provincial Training Teams (PTT)** are in place responsible for training the **Village Mobilisers** and selected members of Commune People's Committee as well as the members of PPCC.

³⁷ It is expected that the project organisation has been adapted to the existing institutional set-up of the rural water and sanitation sector e.g. within the framework of MARD and using CERWASS as the implementing agency.

³⁸ The NTT should consist of international and Vietnamese training providers. National training providers will most probably include among others Vietnam Women's Union, the Asian Institute of Technology, and selected CERWASS staff. Additional training provider will be selected among the pool of short-term experts available to the PMU according to needs.

13.2 Project Stages and Main Activities

The main objectives of the capacity building measures to be applied is to secure that sufficient skills, knowledge and attitude exists at commune level to sustain the supply of safe water after project termination. It is recommended that the following organisational arrangements and main capacity building activities are applied accordingly to the different stages of the project:

Stage 1 – Preperation and Capacity Building at National Level:

1. The Project Management Unit (PMU) establishes the National Training Team (NTT) as part of the organisational set-up of the programme.
2. PMU facilitates the establishment of National Programme Steering Committee (NPSC) with support from NTT.
3. NTT addresses capacity building needs at national, provincial and local level in detail;
4. NTT establishes a net of training providers
5. NTT develops capacity building programmes, and monitoring and evaluation systems;
6. NTT provides capacity building measures NPSC

Stage 2 – Capacity Building at Provincial Level

1. PMU establishes Provincial Programme Coordination Committee (PPCC)
2. NTT establishes a net of training providers and consolidate Provincial Training Teams (PTT)
3. NTT applies training of trainers programme for PTT
4. NTT applies capacity building for PPCC.

Stage 3 – Capacity Building at Commune Level

1. PTT liaisons with Commune People's Committee followed by capacity activities to enhance CPC facilitating role.
2. Together with Vietnam Women's Union and the CPC, PTT facilitates the organisation of Village Mobilisers;
3. PTT trains Village Mobilisers to mobilise the commune;
4. PTT supports CPC to establish WATSAN committee;
5. PTT trains WATSAN committee;
6. PTT supports WATSAN committee in the tendering and construction of water supply system;
7. PTT trains Commune Water Supply Organisation (CWSO) staff;
8. PTT supports CWSO staff in the running-in of water supply system and apply on-the-job training of CWSO staff and WATSAN;

Stage 4 - Monitoring and Evaluation

1. NTT trains NPSC, PTT and PPCC in monitoring and evaluation techniques;
2. NTT evaluates monitoring and evaluation by PTT (and NPSC and PPCC).

It is expected that construction of the water supply facilities will be adapted to the implementation of the organisational arrangements and different capacity building activities e.g. that commune involvement and capacities are in place before construction takes place.

As capacity building is a process where the activities are applied in sequences over a longer period, several activities might be applied in parallel. The stages are therefore not to be regarded as strict sequencing. A more detailed outline of the main capacity building measures to be applied are presented in the next sections.

13.3 Stage 1 - Capacity Building at National Level

National Programme Steering Committee

In order to facilitate full and active collaboration of the different stakeholders involved in the project at national level capacity building measure will be provided to the participant of the National Programme Steering Committee. This will be done in the form of an introduction seminar where the project is presented in detail and the role of the committee is outlined. Additional workshops will be applied, which will correspond to the different reporting sequences of the project. Here specific project issues will be addressed including project progress and co-ordinating mechanisms to be applied.

Central CERWASS

Several initiatives related to capacity building of Central CERWASS have been provided by other donor organisation including UNICEF. Selected staff from Central CERWASS has also participated in this study and has received training in Project Cycle Management/Logical Framework Approach and acted as project facilitator at province/district level.

Taking into account that the Danish Government through Danida in the future will be provided considerable capacity building measures to Central CERWASS through its sector programme support programme, programmed support to Central CERWASS is therefore not recommended at this stage. However, as selected staff from Central CERWASS will form part of the National Training Team enhanced capacity will be provided more indirectly through on-the-job experience and working with international and national experts in developing and implementing capacity building at province and district level.

13.4 Stage 2 - Capacity Building at Provincial Level

13.4.1 Provincial Programme Coordination Committees

The PPCC will be responsible for coordination of provincial resources and stakeholder inputs as well as overseeing project implementation within the province. The responsibilities of the PPCC will be very much in line with those of the NPSC, but while the national committee will take national view and thus coordination of national resources, the PPCC will concentrate on coordinating issues within the province.

In order to facilitate full and active collaboration of the different stakeholders involved in the project at province level technical assistance will be provided to the Provincial Project Steering Committee. This will be done in the form of an introduction seminar where the project is presented in detail and the role of the committee is outlined. Additional workshops will be applied, which will correspond to the different reporting sequences of the project. Here specific project issues will be addressed including project progress and co-ordinating mechanisms to be applied.

13.4.2 Provincial Training Teams

Before the any extension agent can be expected to mobilise and train the communes in the different aspects of O&M of water supply facilities, they will need to be trained in the specific approach applied to the project including mobilisation and training techniques.

A training-of-trainers approach will be applied emphasising a participatory approach to community mobilisation and development. Initial contacts have been made with Vietnam Women's Union discussing the possibility of using their community network as Village Mobilisers.

The PTT will train the Village Mobilisers after being trained by the NTT. The PTT will also train CPC in project related subjects. It is expected that the Village Mobilisers mainly will participate in mobilisation and health education. Training of WATSAN committees, CPC and Commune Water Supply Organisation (CWSO) staff will be done by PTT focusing more on O&M management functions.

It is essential that the PTT know the subject to train well, how to perform training as well as how to train trainers in the different project related subjects. A training of trainers programme should therefore be introduced to the PTT members as well as training manuals to be used as

guidance during project implementation. Regarding the training of Village Mobilisers selected PTT staff should be able to facilitate:

- The scope and different steps of the project;
- Project benefits;
- The role of the Village Mobilisers;
- Hygiene education and environmental sanitation;
- The cost of O&M of water supply facilities and financial management;
- Community participation and mobilisation techniques;
- Introduction to IEC programme and how to use apply developed IEC materials;
- How to conduct community meetings;
- Conflict resolution

Although not directly critical for the O&M of the water supply system, as it is based on deep well water submersion, training in hygiene education activities is vitally important when applying new water supply systems. The focus on water-borne diseases and the need for safe water to improve quality of living will be an essential element in the communes' appreciation of the project. While using the Village Mobilisers as hygiene educators it is also important to include the assistance and expertise of the Commune Health Centres (CHC). Selected CHC personnel should therefore be offered a training workshop where the scope and activities of the project are spelled out and a strategy outlined how the CHC can assist the Village Mobilisers in IEC as well as monitor household's improvements in hygiene behaviour. A similar approach should be adopted when involving the local teachers as health agents in the school system.

Given the wide range of skills required, training cannot be accomplished in just a on-time workshop. It is therefore recommended that basic training of trainers courses are provided to the PTTs before any project activities are started at commune level. Training of trainers e.g. the Village Mobilisers are then applied as a two step sequence. The first sequence includes training of the PTT by the NTT in project specific subjects prior to their implementation (T&T). The second sequence constitutes the training of Village Mobilisers and later CPC and CWSO.

The training of PTT can be done in a combination of national training courses and seminars supported by provincial training courses arranged by NTT. It is recommended that a pilot commune is selected in each province to be used as a training ground before full-fledge implementation is applied. This does not mean that the pilot project has to be completed before projects are implemented in other communes, only that experience has been gained

from one project under close supervision by the NTT.

The NTT or special assigned training providers will train PTT members in how to conduct participatory training session based on adult learning theories. The training of trainers sessions should also make PTT members able to plan, prepare and implement training programmes themselves. It will be of vital importance, as the PTT will have delegated responsibility for conducting and facilitating all training at provincial level. After a PTT has been trained the role of the NTT will be reduced to monitoring and evaluation of training results.

13.5 Stage 3 - Capacity Building at Commune Level

The willingness to pay will to a large degree depend upon the household's understanding and acceptance of the costs and benefits they will receive from piped water. In low-income communes it is therefore essential that O&M costs are kept as low as possible in order to attract the largest number of consumers.

The feasibility study has pointed out which target communes that are suitable for receiving water from deep wells. The final decision, however, has to be taken by the communes. The decision should be based on a complete understanding of the financial obligation of O&M as well as an appreciation of clean water and its link to improved health conditions. The willingness and affordability of the potential households must therefore be clarified as a part of the mobilisation phase. Socio-economic studies already conducted during the feasibility study should therefore be supported by more detailed information about household ability and willingness to pay.

A central issue of the mobilisation phase will therefore be to communicate this understanding and get the acceptance from the commune to implement the water supply system. Without community acceptance and commitment to pay for O&M the sustainability of the water supply system will most likely be jeopardised. It is here important to clarify any disagreement between the CPC and the majority of the households about the outcome of the decision making process e.g. the CPC might view the implementation of the water supply system politically while the household's view have a financial stand. Often these two views do not correspond. At the end of the mobilisation phase a rapid appraisal should be performed by a sociologist from the PMU to justify the outcome of the mobilisation phase.

13.5.1 Training of Commune Peoples' Committee Members

After construction of the water supply facilities has been completed, the CPC will be the sole owner of the facilities. To secure sustainable project implementation and O&M of the water supply facilities it is essential that the CPC are involved right from the start of the mobilisation period. Although the day-to-day management of the facilities will be delegated to the WATSAN committee, the responsible for providing sustainable water supply to the commune will in the end be CPC. The CPC must therefore be provided training to such an extent that they are able to evaluate the consequences and commitments of the project as well as to establish a feeling of community ownership.

Before introducing the project to the community the PTT should conduct a workshop with (selected) CPC members to explain about the different steps of the project and how it is going to be implemented. The objectives of the mobilisation phase is explained and discussed in order to get a formal approval to use the Village Mobilisers in the process. This should be followed by the provision of training courses within subjects like:

- Project cycle management ;
- The role of the Village Mobilisers, community participation and mobilisation techniques;
- Hygiene education and environmental sanitation;
- Financial management and tariff calculation;
- Monitoring/evaluation of operation and management of water supply facilities;
- Conflict resolution

Additional subjects should be added to the listed based on a more in-depth assessment of training needs within each CPC.

13.5.2 Training of Village Mobilisers

Selection and Training of Village Mobilisers:

It is expected that the Village Mobilisers will need to be trained before they perform any major IEC as they are not professional community workers, but fellow villagers. Before the Village Mobilisers starts their involvement in project activities they will be asked to join a training session where they will be introduced to the project and trained in communication skills. A central issue of the mobilisation phase will to communicate the need for taped water as well as to link this issue to improved health. The training will tailor-made and correspond to the different steps of the project implementation plan. The training of the Village Mobilisers will therefore not be done in one go.

The Vietnam Women's Union has developed different IEC material for community

mobilisation and health education³⁹. It is expected that this material will be used supported by project related IEC material developed specifically for this purpose by the National Training Team.

Initially orientation training will be given, making the Village Mobiliser able to explain to the villagers about the project. The training will then continue with health education addressing the link between the use of clean water and environmental sanitation. The next step will focus on the need for paying for water to meet operation and maintenance expenses and thereby sustain the supply of clean water. Finally, the need for a WATSAN committee will be addressed and how it can be organised. It is expected that after an intensive IEC the villagers will understand the need for a WATSAN committee, its role and be able to select its members.

Through out the mobilisation phase a number of training activities will be provided to the Village Mobilisers in order to guide them in their assignments. The training activities will be provided by the PTT before any major new project activity will take place. It is recommended that a special mobilisation programme is developed as part of the detailed project implementation programme. The mobilisation programme should include IEC training aids and a Community Management Handbook to be used by the Village Mobilises and trainers at commune level. The development of these items should be done by the NTT in close co-operation with the Vietnam Women's Union and other relevant training providers.

The IEC period and curricula of each IEC component will be decided during the detailed planning of the IEC component. This will be done the National Training Team (NTT) in collaboration with the PTT. It is expected that this will be based on lessons learned from a selected pilot commune.

The members of the Provincial Training Team (PTT) will do the training of the Village Mobilisers to act as village agents. A step-by-step training approach will be applied correspond to the different sequences of the project implementation plan. The Village Mobilisers should keep a diary reflecting the IEC issues addressed and record the villager's

³⁹ WU is using World Bank training kit: Participatory Tool Kit "Training Materials for Agencies and Communities" by Deepa Narayan & Lyra Srinivasan (IBSN 0-8213-2687-2). International Bank of Reconstruction & WB, 1818 H Street NW, Washington DC 20433, USA. The cost is USD 50 from Bangkok. The kit has been used in UNICEF supported WATSAN project, but only 100 was purchased due to expenses. WB is presently supported reproduction of Vietnamese edition (VD 200.000/kit.)

concerns regarding the project. When preparations are made for the next training session, these issues should be addressed and included in the training plan. This interactive training approach will allow flexibility and adapt to the needs of the community.

Mobilisation and Training of Commune People:

It is recommended that a period of at least 4 weeks should be allowed for mobilisation and health campaigns. During this period the PTT will provide additional training sessions and counselling to the Village Mobilisers. It is also expected that each Village Mobiliser share hers/his experience with the other Village Mobilisers in the commune.

The Village Mobilisers will do the mobilisation and training of commune people with support from the PTT. As most Village Mobilisers will be Vietnam Womens' Union members at village level, the existing cell-structure should be adapted when organising the mobilisation and training sessions. It is therefore expected that each Village Mobiliser will be responsible for the same five to ten households her cell-structure consists of. In this way, the Village Mobilisers and the households will know each other. This is regarded as a great advantage as communication links already has been established. A combination of household visits and group meetings should be applied as the main IEC tools supported by visual aids.

It is recommended that a combination of household visits and communal meetings will be applied. Initial household visits will mobilise and prepare each household on the different subject to be addressed by the community. When each Village Mobiliser brings their target household together for broader discussion it is expected that this will facilitate consensus and communal understanding of the different IEC issues addressed.

It is expected that the Village Mobilisers will do household visits one week while the following week bring their target household together for a morning/afternoon session where the IEC issues are discussed more widely.

It is recommended that existing decision-making procedures and lines of communication are followed when implementing community mobilisation and training e.g.

- the Village Mobilisers will arrange meetings within their own cell;
- the Village Heads arrange and conducts village meetings; and
- CPC Chairman arranges and conducts meetings at commune level.

The role of the PTT will be to initiate this process and provide training and support to these three levels of mobilises. While the mobilisation and health education mainly will be a community process, the PTT will play an important role in providing project-related training.

Provincial CERWASS representative will explain about the technology to be adopted and why the particular solution has been selected and its appropriateness. The later should be linked to the organisation of O&M and thereby the cost of water. The relationship between the number of households connected and the price of water will here be an important aspect to address. Visual aids will here be important tools to use.

The PTT representative from the Vietnam Womens' Union should explain about how water fees can be managed followed up by sessions in home economic by the Village Mobilisers. It is also recommended that close contacts between the Commune Health Centres and the Village Mobilisers are established from the start of the project. This will secure that local expertise is available when specific health topics need to be addressed.

At the end of the mobilisation period it is expected that the commune people appreciates the benefits of the taped water as well as the health risks linked to the use of unsafe water.

13.5.3 Organising and Training WATSAN Committees

Organising the WATSAN Committee:

Although the establishing of the WATSAN committee can be regarded as part of community mobilisation, it is addressed within the framework of WATSAN committee training.

It is essential that the commune people understand the role and functions of the WATSAN committee and that this is communicated as part of the mobilisation phase by the VM. At CPC-level this should be facilitated by the PTT.

As its members will be selected (elected) by the households it is expected that the communes will need some assistance in order to reach a consensus on the selection of possible candidates and their final election. Specific attention should be paid to the election of women into the committee. Ideally, the WATSAN committee should have equal representation from both sexes.

Experience reveals that sometimes community leaders simply "appoints" the members of the WATSAN committee. The Village Mobilisers have no power to resist this, so the PTT will have to address this issue as part of the training provided to the CPC.

It is important to assure that the members of the WATSAN committee are people who actually feel committed to the work as committee member and are willing to learn to become a capable WATSAN committee member. The villagers must therefore be informed about the

responsibilities of the WATSAN committee, so that they can choose appropriate people for the job as well as the elected representatives know what they are elected for. The Village Mobilisers should do the IEC for this after completed training by the PTT.

A good committee member must, first, be a known and respected resident of the community. The person must be able to put the interest of the community above personal interest and be able to listen to the opinions of others. He or she must be confident in voicing opinions, asking questions, participating in discussions, have organisational and financial management talents. The person must also be able to take time away from work and family to participate in meetings and attend training sessions. Other qualifications should include – take initiatives to visit homes, call meetings, ask for advice and make decisions.

The members should not exceed 10 persons and should at least have one representative from each village/hamlet. Most likely this will be the Village Head. As the water supply utility will be part of the CPC administrative structure it is expected that the CPC Chairman will head the WATSAN committee. Other members might include among others the Head of Commune Health Centre representative, Vietnam Women's Union representative, the headmaster from the local school.

The role of the WATSAN Committee is to represent the water users and secure that sufficient quantity and quality of potable water is provided to the households. At the same time it be responsible for facilitating information and campaigns about health issues related to the use of clean water. As such the WATSAN committee will be acting as an advisory body to CPC and at the same time direct the O&M of water supply system according to the rules and regulations of the water supply utility. A WATSAN Constitution (by-laws) should be made by the CPC to guide the work of the WATSAN committee. The PTT should guide the CPC in this work.

The WATSAN committee should also play a major role in the selection of contractor for the construction of the water supply facilities and procurement. This will facilitate a feeling of community ownership and commitment to sustain sound management of O&M after project completion.

The day-to-day O&M functions of the water supply facilities will be done the Commune Water Supply Organisation. After project completion the role of the WATSAN committee will be restricted to monitoring and control of Commune Water Supply Organisation, settle water tariffs, reporting, and take action if consumers are not satisfied with the services paid for or introduce sanction on households that are not paying their water bills. The WATSAN

committee should also facilitate general improvements in sanitation behaviour in the commune by applying continuing health education and information campaigns. The Commune Health Centre and the local school can arrange this. This is why it is important that they are represented in the WATSAN committee.

Prior and during construction it is expected that the workload of the WATSAN committee will be high as the members will have to attend training in WATSAN committee management as well as participate in tendering and procurement procedures. The members should therefore be offered economic compensation for the loss of income from other duties/work. It is expected that this will be applied as part of project implementation expenses.

During operation of the water supply system, it is expected that the WATSAN committee will meet on a regular monthly basis or when needs arise in between this period. A meeting allowance should be provided to compensate income loss. Funds for this must be included in the O&M budget and covered through the water tariff.

It is recommended that a Community Handbook/reference book be developed that can support the work of the WATSAN committee throughout the different phases of the project.

Training the WATSAN Committee

It is expected that from the initiation of mobilisation phase and up to the start of construction it will go between four and six months. Within this period the commune has been prepared to appreciate the forthcoming water supply system, and the WATSAN committee has been established and trained and ready to participate in tendering, procurement and construction management.

The objective of the training is to prepare the members of the WATSAN committee to manage the water supply system. The training of WATSAN committee members should be done by the PTT and occur at regular appointed time once a week. A participatory approach should be applied with emphasis on learning by doing, role-playing, demonstration, and if possible, visits to communes where projects are more advanced. Throughout the training references will be made to the Community Handbook and how to apply the different topics in practical terms.

The training should include the following topics:

Mobilisation and community development:

- The role and functions of a WATSAN committee;

- Water borne disease and health risks - basic health training;
- The cost of water;
- Participatory approaches to community management;
- Gender issues and the role of women in connection with water and sanitation;
- Conflict resolution and problem solving;
- How to make bylaws and rules for O&M of water supply systems;
- Protection of water source;

Tendering and construction:

- How to manage tendering procedures;
- How to evaluate tenders;
- How to make contracts;
- How to monitor contractual performance;
- Contractual penalties;
- Contractual payments;
- Accounting and record keeping;
- Logistics and site management;
- Handing over procedures.

Overall O&M management:

- General management procedures of water supply systems;
- Cost and financing of O&M;
- How to calculate correct tariffs ;
- Accounting principles and annual reporting;
- Fee collection systems and payment recording;
- Consumer relations;
- How to make job descriptions for O&M staff;
- How to monitor O&M of water supply system;
- Record keeping and reporting.

13.5.4 Organising and Training the Commune Water Supply Organisation

Organising the Commune Water Supply Organisation:

The main objective of the Commune Water Supply Organisation (CWSO) is to perform the daily operation and maintenance routines required supplying the households with potable water. The members of the CWSO should be selected by the WATSAN committee and include the following staff categories:

- Administrator responsible for accounting, consumer relations and reporting to the WATSAN committee.
- Plant Operators
- Pipeline Inspectors/booster pump operators
- Meter Readers; and

The WATSAN committee will during training be advised on how to select the members of the CWSO in order to get the most appropriate person for each position. The selection of the CWSO members should be done prior to construction in order for the members to participate in the construction of the system. In this way they will be aquatint with the system in detail and have greater chance to make preventive maintenance during operation.

Training of Administrator:

The Administrator will have the overall managerial and administrative responsibility for O&M. He/she will also be responsible for financial management and accounting. Perform banking functions, pay bills and arrange staff salary payments. The Administrator should make monthly reports to the WATSAN committee addressing financial status and any other business that influence on the O&M of the water supply system.

It is recommended that the Administrator take part in the training of the WATSAN committee, as he/she will be the communication link between the public, the plant and the WATSAN committee. The selected candidate should preferably have some administrative background including basic accounting skills. During construction, specialised training will be offered the Administrator to compensate for any skill gaps that might occur after WATSAN committee training.

A manual should be developed by the NTT to guide the daily work of the Administrator. The training programme should be developed and correspond to the manual. It is expected that some of the tops to be trained in will include:

- Tariff calculation;
- Budgeting, financial management and control;
- Accounting and financial reporting;
- Banking;
- Consumer relations;
- Procurement and stock keeping;

The training will be applied as a combination of lecturing and on-the-job training/coaching by

the implementing agency/project organisation.

Training of Plant Operators:

The training of Plant Operators should be confined to the equipment and machinery installed in the plant as well as the plant technology itself e.g. treatment system and appropriate use of system. As the operators will participate in the construction work of the plant they will expedience how the raw water will be processed to drinking water. This will be combined with water treatment theory and visits to other operating treatment plant.

The operators should also get a basic understanding of how electrical motors operate and their maintenance requirements. The same occurs for the pumps and related monitoring equipment. While the plant operators should perform (preventive) maintenance, it is recommended that repairs and overhaul be done by trained mechanics located in the commune or the nearest town. When calculating the water fee it is important that these costs are included.

Training of Booster Pump Operators/Pipeline Inspectors:

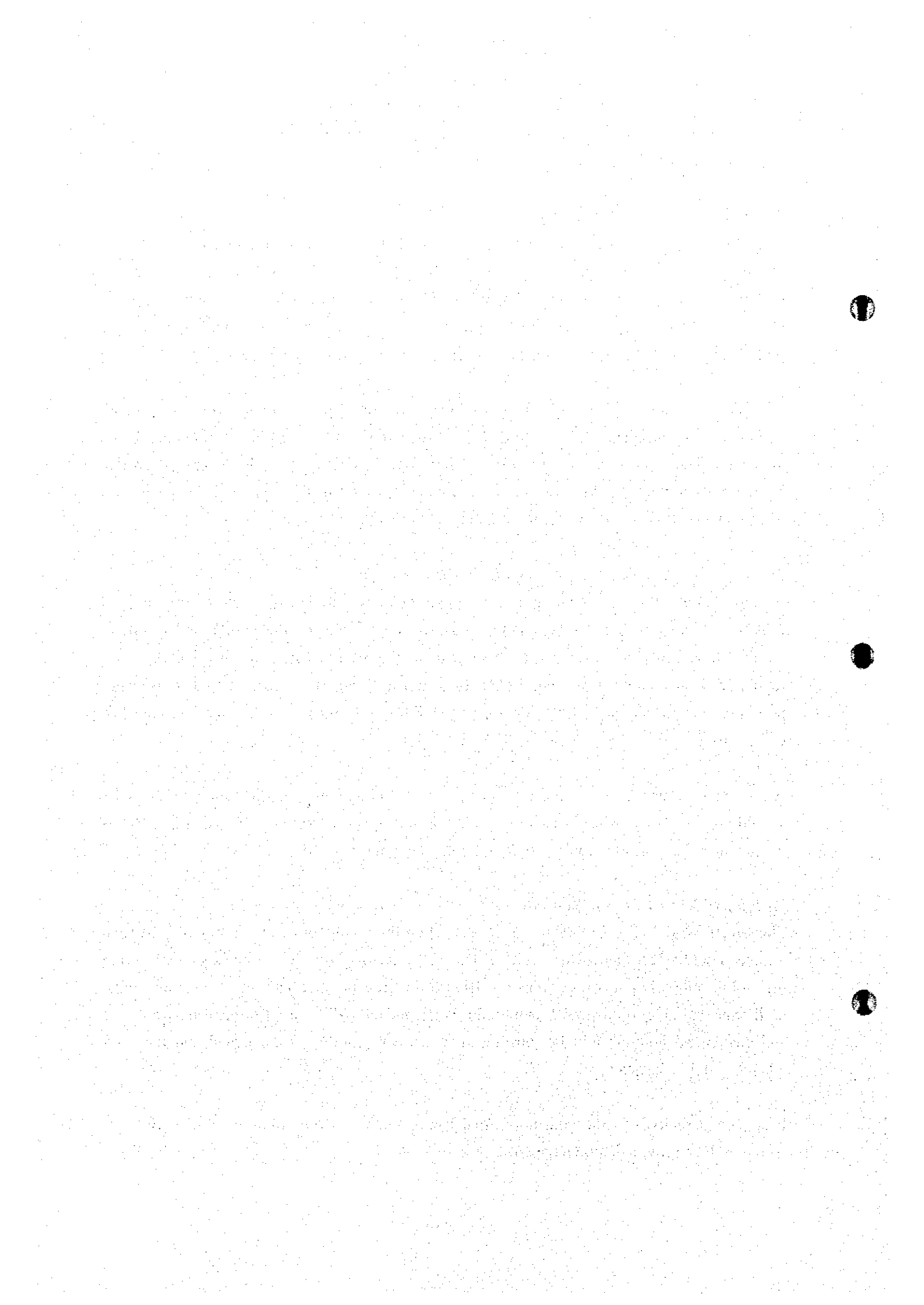
In those cases the system requires booster pump stations, caretakers should be applied and provided training in pump maintenance and proper operation of the pumps and electrical motors. It is expected that the they also will be responsible for inspecting the pipelines regularly to detect any leakage and illegal connections. If there is no requirements for booster pumping, the inspection of the pipeline should be performed by the Meter Reader/Fee Collectors.

All training related to operation and the provincial CERWASS participating in the PTT should provide maintenance procedures. A list of functions related to O&M is annexed to this document and can be used to develop a training plan in more detail.

Training of Meter Readers/Fee Collectors:

The Meter Readers/Fee Collectors must be trustworthy members of the commune and each village should select their own Meter reader/Fee Collector. This should be facilitated during the mobilisation phase in order to have sufficient time for training. The selected persons must be literate and able to do simple arithmetic. Water meters will be used to measure water use and customers' logbook will be introduced where consumption is calculated and recorded whereby a bill is issued.

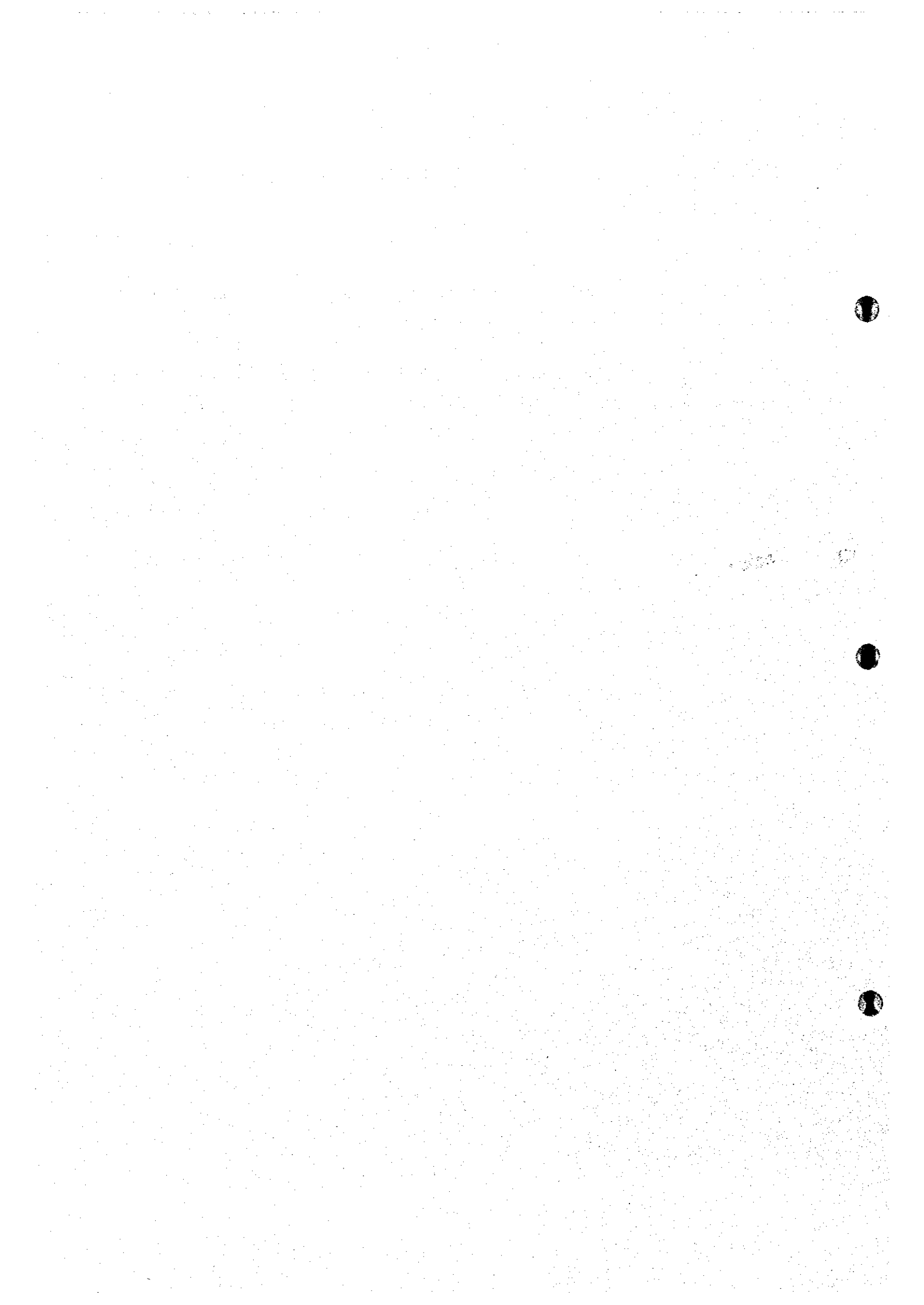
It is recommended that the consumers make the payment at the Administrator's office. A receipt will be provided upon payment.



CHAPTER 14 Plan of Implementation of Organisation and Capacity Building

The Plan of Implementation indicates a three-year period for the implementation of community organisations and capacity building.

The plan for Pilot Commune is presented in Activity Schedule 1 while the Overall Plan of Implementation is presented in Activity Schedule 2.



CHAPTER 15 Tentative Budget for Organisation and Capacity Building

The following budget is based on the Plan of Implementation for the Organisation and

	Cost of Organisation and Capacity Building		
	Manpower allocation	Manpower costs in JY	
	Man-months	Monthly	Totally
<i>National Training Team</i>			
Team Leader (international institutional development experts)	36	2,000,000	72,000,000
Deputy Team Leader (national human resources development expert)	36	800,000	28,800,000
National Specialist (training providers)	48	500,000	24,000,000
International Specialist (training providers)	24	2,000,000	48,000,000
<i>Provincial Training Team (one for each province)</i>			
Team Leader (international human resources development expert)	144	2,000,000	288,000,000
Community Development Specialist (Provincial Vietnam Women's Union)	49	100,000	4,900,000
Water Supply Specialist (Provincial CERWASS)	46	100,000	4,600,000
Short-term Specialists	38	500,000	19,000,000
Total man-months	421		489,300,000
		Community costs	
Village Mobilisers		5,000	225,000
Sub-total manpower cost			489,525,000
Contingencies			10,475,000
Total			500,000,000

Capacity Building Component.

CHAPTER 16 List of Abbreviations

CERWASS	Centre for Rural Water Supply and Environmental Sanitation
CHC	Commune Health Centre
CPC	Commune's People's Committee
Danida	Danish International Development Assistance
DAO	District Agriculture Office
DARD	Department of Agriculture and Rural Development
DARDO	District Agriculture and Rural Development Office
DHC	District Health Centre
DOF	Department of Finance
DOH	Department of Health (provincial level)
DOSTE	Department of Science, Technology & Environment
DPC	District Peoples Committee
DPI	Department of Planning & Investment
HRD	human resources development
IEC	information and education campaign
MARD	Ministry of Agriculture and Rural Development
MOE	Ministry of Education
MOF	Ministry of Finance
MOLISA	Ministry of Labour, Invalids and Social Affairs
O&M	operation and maintenance
PDPSC	Provincial Disease Prevention and Sanitation Centre
RWSS	rural water supply and sanitation
UNICEF	United Nations Children's Fund
VND	Vietnam Dong
WATSAN	water and sanitation
WU	Women's Union