

CHAPTER 8

TECHNOLOGY TRANSFER

DURING THE STUDY

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8.1 Overview

As one of the objectives of the study, technology transfer to the counterpart organizations is a great concern. Needs for technology transfer was identified and the strategy and planning were formulated in a participatory and logical manner with the counterpart organizations. The strategy and planning was summarized in the format of Project Design Matrix (PDM), which shows the objectives, activities, inputs and other components of the plan, together with their logical interrelations. The PDM was further utilized for the participatory monitoring and evaluation of the plan, with an examination of achievements and the progress of each expected output and project purpose in the plan for technology transfer.

For the formulation and the monitoring and evaluation of a plan for technology transfer, the PCM (Project Cycle Management) methodology is utilized, which assures both participation and logicity.

8.2 Planning Stage

On March 21st 2003, a PCM workshop was held for the formation of planning and strategy for technology transfer. In the workshop, problems relating to the technology and management skills of counterpart organizations were identified and analyzed in the form of a problem tree and 11-core problem areas were identified as follows.

Core problems identified.

- (1) There is no public awareness campaign for communities to fix leakages.
- (2) The current water tariff is not high enough to cover the operation and maintenance costs.
- (3) Customer relations are not good enough.
- (4) Staff skills for pipeline network management are not high enough.
- (5) There are few training opportunities.
- (6) Tariff collection is difficult to collect from government organizations that are often late making their payments.
- (7) The skills of electricians and mechanics are not high enough for designing motor pumps.
- (8) There is no overall management strategy
- (9) The skills and abilities of technicians in water quality control are not high enough.

- (10) Skills for assets management have not improved.
- (11) Knowledge and skills for project management is limited.

Each core problem was further analyzed and causes for those problems were identified in the form of a problem tree (See Annex 23). From the problem tree developed by the participants, the areas of problems where the technology transfer was provided, was selected with selection criteria of: 1) needs of the counterpart are high, 2) to be achieved by the end of the study period (Mid Nov. 2003), and 3) to be micro-level. Selected problem areas are as followed:

- (1) Staff skills for pipeline network management are not high enough.
- (2) There is no overall management strategy.
- (3) Skills and abilities of technicians in water quality control are not high enough.
- (4) Knowledge and skills for project management is limited.

Task force members for the preparation of the Project Design Matrix (PDM) were selected (3 staff each from WASA and NPVC), and a meeting was held on 24th March 2003. The PDM was developed from the problem areas selected in the workshop, and with consideration of the most effective and efficient interventions and countermeasures for identified causes of those problems. The PDM is attached in the next page.

8.3 Monitoring and Evaluation Stage

Two consecutive PCM workshops were held (on May 2 and June 5, 2003) for monitoring the progress achieved for technology transfer to the counterpart organization. Measurement of the degree of achievement was made with the counterpart organizations by examining the verifiable indicators in the PDM, and later, a “Monitoring Chart” was developed. Further, for the time management in technology transfer, a “Technology Transfer Work Schedule” was developed (See Annex 23). Opinions and recommendations in observing the progress were extensively discussed in the workshop and they are incorporated into the plan for the effective achievement of outputs and project purpose in the technology transfer.

At the last workshop on 28th October 2003, counterpart organizations evaluated the progress and achievement of each output and the project purpose with the aim to satisfy the target and indicators set in the program term (i.e. by the middle of November). The details of these discussions and the conclusions made in those workshops are described in Annex 23.

Project Design Matrix (PDM)

Program Title: **Technology Transfer** under JICA Study on Vientiane Water Supply Development Project
Implementation Period: March 2003 –Mid November 2003 Target Group: NPVC, WASA, DHUP
Date: March 2002 Version: 1-0

Date: March 2002

version: 1-0

Description	Verifiable Indicator	Means of Verification	Important Assumption
[Overall Goal] <input type="checkbox"/> Water supply conditions in Vientiane Capital City are improved.	<input type="checkbox"/> All Indicator set in master plan prepared by JICA study team is achieved in 2020.	<input type="checkbox"/> Post-Project evaluation	
[Project Objective] <input type="checkbox"/> Technology and management skills of WASA and NPVC are improved in the problem field identified and selected in PCM workshop.	<input type="checkbox"/> All indicator set for outputs below achieved.	<input type="checkbox"/> All cross apply to means set for outputs	
[Output] 1. Staff Skills for pipeline network management is improved 2. Skills and ability of counterpart and technician in water quality management is improved. 3. Knowledge and skills for project management in planning is improved. 4. Staff skills and knowledge for development of strategic plan is improved. In particular, in the field of 1) billing, 2) treatment plant, 3) pipeline network, 4) Planning in modernizing company, 5) Water pressure regulation, 6) Financial forecast and analysis, 7) Project financial analysis and forecast	1. Counterpart in collaboration with JICA Study Team does pipeline network analysis by middle of Nov 03. 2. After provision of OJT, counterpart can analyse heavy metals by themselves by middle of November 03. 3-1. Counterpart facilitate PCM workshop by middle of November 03. 3-2. At least one (1) project report is prepared by Counterpart till middle of November 03. 5. Master Plan is prepared in collaboration with JICA Study Team, ensuring each counterpart understand methodology/strategy of his/her part concerned	1. Completed report / data for network analysis 2. Analysis report prepared by counterpart 3-1. Report on PCM workshop 3-2. Project report prepared by counterpart 4. Master Plan	Technology and management skills transferred can be taken root to the counterpart organizations
[Activity] 1-1. Decide criteria for network analysis 1-2. Provide OJT for network analysis process for counterpart concerned. 2-1. Provide OJT for counterpart and technician concerned in water quality Control, in particular, heavy metal management. 2-2. Conduct water quality analysis together with JICA Study Team and Counterpart/Technician. 3-1. Provide OJT on project management for counterpart and Project Manager of WASA and DHUP concerned, in particular on study-planning methods and reporting. 3-2. Provide Training for counterpart concerned in PCM method 4. Prepare Master Plan together with JICA and counterparts 5-1. Ensure frequent communication between each member of JICA Study Team and counterpart concerned, by conducting weekly progress meeting with JICA Study Team and Counterpart (NPVC) 5-2. Conduct monthly progress meeting with WASA and DHUP 6. Conduct Monitoring and Evaluation on technology transfer program (PCM workshop)	[Input] Japanese Side <u>Human resources:</u> JICA Study Team <u>Fund:</u> Japanese ODA Lao Side <u>Human Resources:</u> Counterpart staff of implementing agency (WASA, NPVC, DHUP) <u>Fund:</u> Fund from Lao Government	[Pre-condition]	