

Country Name	Project on Capacity Development for Urban Water Supply Utilities in the Central Region
Socialist Republic of Viet Nam	

I. Project Outline

Background	Sufficient, reliable and safe water supply to the increasing urban population had been a challenge in Viet Nam. Setting “supply of safe water” as a priority area, Ministry of Construction (MOC) issued the regulation to Water Supply Companies (WSCs) to be responsible for Water Safety Plan (WSP) in 2008. At the same time, MOC had strived for strengthening a human resource development system. The training centers had been established in the North and South Regions. Capacity development of WSCs in the Central Region had remained as one of the urgent issues for safe water supply so that, in 2009, establishment of Training Center for Water Sector in the Central Region (TC) in Thua Thien Hue Province was determined. Meanwhile, WSC of Thua Thien Hue Province (HUEWACO), with support of a JICA’s technical cooperation project, “The Project on Human Resource Development for Water Sector in the Middle Region of Vietnam” (2007-2009), completed WSP and declared “Safe Drinking Water” in Hue City in 2009. At the terminal evaluation of the project, it was recommended to widely extend the technical know-how of HUEWACO gained through the project to other WSCs in the Central Region.				
Objectives of the Project	<p>The Project aimed at initiating capacity development of the WSCs, in strengthened collaboration among relevant organizations, in the Central Region of Viet Nam, which is oriented to WSP through (i) raising awareness of top management of the WSCs regarding human resource management, (ii) establishing short-term retraining courses targeting the existing staff of the WSCs at the newly established TC, and (iii) promotion of operational handbooks for WSCs¹, thereby strengthening capacity of the WSCs for provision of safe water.</p> <ol style="list-style-type: none"> Overall Goal: Capacity of the WSCs for provision of safe water in the Central Region is strengthened. Project Purpose: Capacity development of the WSCs in the Central Region, which is oriented to WSP initiated through strengthened collaboration of the relevant organizations.² 				
Activities of the Project	<ol style="list-style-type: none"> Project Site: The Central Region (18 Provinces/City in total³) Main Activities: <ul style="list-style-type: none"> -Organization of workshops and study tours in Viet Nam oriented to WSP by MOC, targeting top management of the 18 WSCs. -Development of retraining courses oriented to WSP for WSCs by TC, training of its lecturers, implementation of the retraining courses and development of a retraining manual by TC. -Upgrade/improvement of the operational handbooks of HUEWACO, development of reference operational handbooks for other WSCs based on the handbooks of HUEWACO, provision of assistance to 5 pilot WSCs⁴ in applying the handbooks to their conditions by HUEWACO. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side <ol style="list-style-type: none"> Experts: 25 persons (4 long-term experts and 21 short-term experts) Trainees Received: 32 persons Equipment: equipment for distribution management, operation and maintenance (O&M) of facilities, water quality management, and training management, etc. Local Costs: travel cost for participants of training, workshops, study tours, etc. </td> <td style="width: 50%; vertical-align: top;"> Vietnamese Side <ol style="list-style-type: none"> Staff Allocated: 29 persons (2 from MOC, 7 from TC, and 20 from HUEWACO) Land, Building and Facilities: office spaces for Japanese expert team at TC and HUEWACO, 2 buildings for TC with a training yard, facilities for training, etc. Running Expenses: per diem for C/Ps, office expenses, running costs for organization of workshops, cost for rehabilitation of existing 2 buildings for TC and construction of training yard, etc. </td> </tr> </table> 			Japanese Side <ol style="list-style-type: none"> Experts: 25 persons (4 long-term experts and 21 short-term experts) Trainees Received: 32 persons Equipment: equipment for distribution management, operation and maintenance (O&M) of facilities, water quality management, and training management, etc. Local Costs: travel cost for participants of training, workshops, study tours, etc. 	Vietnamese Side <ol style="list-style-type: none"> Staff Allocated: 29 persons (2 from MOC, 7 from TC, and 20 from HUEWACO) Land, Building and Facilities: office spaces for Japanese expert team at TC and HUEWACO, 2 buildings for TC with a training yard, facilities for training, etc. Running Expenses: per diem for C/Ps, office expenses, running costs for organization of workshops, cost for rehabilitation of existing 2 buildings for TC and construction of training yard, etc.
Japanese Side <ol style="list-style-type: none"> Experts: 25 persons (4 long-term experts and 21 short-term experts) Trainees Received: 32 persons Equipment: equipment for distribution management, operation and maintenance (O&M) of facilities, water quality management, and training management, etc. Local Costs: travel cost for participants of training, workshops, study tours, etc. 	Vietnamese Side <ol style="list-style-type: none"> Staff Allocated: 29 persons (2 from MOC, 7 from TC, and 20 from HUEWACO) Land, Building and Facilities: office spaces for Japanese expert team at TC and HUEWACO, 2 buildings for TC with a training yard, facilities for training, etc. Running Expenses: per diem for C/Ps, office expenses, running costs for organization of workshops, cost for rehabilitation of existing 2 buildings for TC and construction of training yard, etc. 				
Project Period	June 2010 - June 2013 (3 years)	Project Cost	(ex-ante) 300 million yen, (actual) 286 million yen		
Implementing Agency	Ministry of Construction (MOC) (as an executing organization); The Training Center for Water Sector in the Central Region (TC); Construction and Water Supply Company of Thua Thien Hue Province (HUEWACO) (Thua Thien Hue Water Supply Joint Stock Company since 2017)				
Cooperation Agency in Japan	Ministry of Health, Labor and Welfare; Yokohama Waterworks Bureau (YWWB)				

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

-Target year for the Overall Goal: Although the target year is not specified in the Project Design Matrix (PDM), Detailed Planning Survey Report defines the Overall Goal as the objective which is expected to be achieved in 3 to 5 years after completion of the Project. For this

¹ Operational handbooks on 5 technical fields (water treatment, distribution management, O&M of facilities, internal training and customer service) and human resource development (HRD).

² “The relevant organizations” include MOC, WSCs, training organizations, Vietnam Water Supply and Sewerage Association (VWSA) and Provincial People’s Committee (PPC).

³ Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue (Central Coast); Da Nang, Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Binh Thuan, Khanh Hoa and Ninh Thuan (South Central Coast); and Kon Tum, Gia Lai, Dak Lak, Dak Nong, and Lam Dong (Central Highlands).

⁴ WSCs in Nghe An and Quang Tri. (Central Coast); Da Nang and Khanh Hoa (South Central Coast); Dak Lak (Central Highlands).

ex-post evaluation, therefore, the target year shall be 5 years from the completion of the Project (i.e. June 2018). If the Overall Goal and its indicator(s) are not achieved/partially achieved at the time of ex-post evaluation, likelihood of achievement by the target year shall be confirmed with grounds for judgement.

-Indicator a for the Overall Goal (Improvement of steps for preparation of WSPs in 18 WSCs): Improvement is supposed to be compared with the situation at the start of the Project as per the note of the Indicator in the PDM. However, the information collected at the start of the project (in February 2011) covered only 11 WSC so that improvement cannot be assessed for the other 7 WSCs. In addition, one of the 11 WSCs, HUEWACO, had completed WSP before the start of the project. The targets of the survey for the Indicator a, therefore, shall be limited to the remaining 10 WSCs, i.e., an alternative indicator – improvement of steps for preparation of WSP in the 10 WSCs for which the information at the start of the project is available – shall be used.

1 Relevance

<Consistency with the Development Policy of Viet Nam at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation and project completion, improvement of water supply services was a priority area as described in such government policy documents as the “Ten-Year Socio-Economic Development Strategy” (2006-2015), the “Five-Year Socio-Economic Development Plan (SEDP)” (2011-2015), and the “Orientation for Development of Water Supply for the Urban Area until 2025, and Vision towards 2050” approved in 2009.

<Consistency with the Development Needs of Viet Nam at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation, the need for capacity development of WSCs in the Central Region, oriented to WSP, was high as explained in the “Background” above. At the time of project completion, necessity of preparing WSP in line with the WHO’s guidelines was confirmed through the issuance of Circular by MOC in 2012 that stipulates the procedure for preparing WSP (and it corresponds to WHO’s guidelines as promoted by the Project); and the WSCs needed to have capacity to follow the said Circular.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan’s Country Assistance Program for Viet Nam (2009), which set “environmental conservation” as one of the four priority areas, focusing on the construction and improvement of facilities concerning water quality management and water supply as well as urban environmental management including the related administrative capability.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. “Development Policy on Human Resources in WSCs” was drafted instead of a concrete plan on HRD of WSCs in the Central Region as envisaged in the PDM⁵, based on the views and ideas of the relevant organizations summarized through study tours, thematic workshops etc. organized by MOC⁶ (Indicator a), and a total of 18 retraining courses concerning WSP were conducted in the newly established TC in collaboration with HUEWACO, in which cumulative total of 349 persons of 18 WSCs participated (Indicator b). All of the 5 pilot WSCs have developed the first draft of the WSPs (Indicator c).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effect is continued at the time of ex-post evaluation. The draft of “Development Policy on Human Resources in WSCs” was not finalized by MOC due to lack of budget. However, some of its ideas, such as roles and functions of organizations in HRD system, are incorporated in the Prime Minister’s Decision approving “National Program on Ensuring safe water supply during 2016-2025” issued in 2016. Therefore, it is expected that during the implementation of this program, policies related to HRD in WSCs would be elaborated⁷. Meanwhile, the retraining courses for WSCs have been provided by TC, using the materials developed by the project. From June 2013 to June 2017, a total of 35 courses were conducted upon request from WSCs, in which cumulative total of 676 persons participated. Average number of training participants per year is almost at same level as the one during the project. Further, all of the 5 pilot WSCs have completed their WSPs. Two WSPs have been already approved by the respective PPCs and in use. In addition, 4 out of 5 pilot WSCs have been utilizing the all operational handbooks on technical fields developed through the project. They have also finalized the handbooks on HRD and put them into use. The other WSC temporarily does not use the handbooks on some fields because it has a plan to update them once ongoing privatization of the company and upgrading of organization structure and facilities is completed.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved by the time of ex-post evaluation. The progress in steps for preparation of WSP are observed in most of the WSCs (Alternative Indicator to Indicator a). All of the 5 pilot WSCs have completed their WSPs (Indicator b). In addition, 7 more WSCs among the 17 WSCs which had not completed WSPs prior to the project have completed their WSPs. Compared with the situation in the base year (2010), the measured value of the residual chlorine and turbidity of all pilot WSCs have been either improved or still within the national drinking water standards (Indicator c).

<Other Impacts at the time of Ex-post Evaluation>

The project has not had negative impacts on the natural and social environments. Many other positive impacts have been observed. For example, cooperation between TC and HUEWACO, strengthened during the project is maintained and further developed (see “Institutional Aspect” of “Sustainability” below). All of the pilot WSCs have shared knowledge and skills acquired through the project to other WSCs as resource organizations. The other WSCs have formulated or are in the process of formulating their operational handbooks, using the reference handbooks and the manual for the reference handbooks prepared through the project. Furthermore, cooperation among the Implementing Agencies (TC and HUEWACO) and the Cooperating Agency in Japan (YWWB), which was nourished during the project,

⁵ Development of draft of a nation-wide policy was discussed and agreed in the third Joint Coordinating Committee (January 2013), which coincided with the terminal evaluation.

⁶ The draft was expected to be further modified after the project completion based on the results of the survey on HRD situation of WSCs nationwide to be conducted by MOC. (Terms of reference of the survey was developed and agreed before the project completion). The modified draft was going to be finalized through hearing of opinions of PPCs, WSCs and other relevant ministries.

⁷ The Prime Minister’s Decision itself only mentioned about tasks related to capacity building for safe water supply. Therefore, MOC and related organizations need to elaborate details in guidance documents for implementation of the Decision.

has been extended to Da Nang Water Supply Joint Stock Company (DAWACO) and a WSC and the Training Center in the Southern Region (i.e. The 6-party cooperation (2015-2018)).

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved at the time of project completion, and the project effect was continued. The Overall Goal was achieved at the time of ex-post evaluation, and many other positive impacts have been revealed. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results																																		
(Project Purpose) Capacity development of the WSCs in the Central Region, which is oriented to WSP, is initiated through strengthened collaboration of the relevant organizations	a. Concrete plan on HRD through collaboration of the relevant organization in the Central Region is drafted by MOC*	Status of the Achievement: achieved (partially continued) (Project Completion) - “Development Policy on Human Resources in WSCs” was drafted. (Ex-post Evaluation) -The draft was not finalized but has been overridden by the Prime Minister’s Decision issued in 2016, in which some ideas of the draft have been incorporated.																																		
	b. Number of participants of the training courses concerning WSP in the Training Center (at least 192 participants of 18 WSCs)	Status of the Achievement: achieved (continued) (Project Completion) - 349 persons of 18 WSCs participated in 18 training courses in 2 years from 2011-2013. (Ex-post Evaluation) -676 persons of 5 WSCs ⁸ participated in 35 training courses in 4 years from June 2013-June 2017. Average number of training participants per year after the project completion (169 persons) is 97% of the one during the project (175 persons).																																		
	c. WSP is drafted by the pilot WSCs by the end of the Project	Status of the Achievement: achieved (continued) (Project Completion) - All of the pilot WSCs developed the first draft of the WSPs (Ex-post Evaluation) -WSP has been completed in all 5 pilot WSCs. 2 WSPs already approved by PPC and implemented. Another 2 submitted to PPC for approval. The other one just completed in August 2017.																																		
(Overall Goal) Capacity of the WSCs for provision of safe water in the Central Region is strengthened	a. Steps for preparation of WSP in the 18 WSCs are improved ⁹ . (Alternative Indicator) Steps for preparation of WSP in the 10 WSCs, for which the information at the start of the Project is available, are improved.	(Ex-post Evaluation) mostly achieved -Steps for preparation of WSP have been improved in 8 of the 10 surveyed WSCs. -One WSC has postponed the preparation of WSP due to the privatization of the companies -One WSC is still in the progress of preparation of WSP but did not show clear progress in each step.																																		
	b. WSP is completed in the pilot WSCs	(Ex-post Evaluation) achieved -WSP has been completed in all 5 pilot WSCs.																																		
	c. Water quality of the pilot WSC is improved in major parameters (residual chlorine and turbidity) comparing to situation at starts of the Project	(Ex-post Evaluation) mostly achieved <Average residual chlorine and turbidity in the pilot WSCs>																																		
		<table border="1"> <thead> <tr> <th rowspan="2">Pilot WSCs</th> <th colspan="2">Residual Chlorine (mg/l)*</th> <th colspan="2">Turbidity (NTU)*</th> </tr> <tr> <th>2010 (base year)</th> <th>2016</th> <th>2010 (base year)</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>Nghe An</td> <td>0.5</td> <td>0.35-0.5</td> <td>0.28</td> <td>0.575-1.25</td> </tr> <tr> <td>Quang Tri</td> <td>0.28</td> <td>0.36</td> <td>1.72</td> <td>0.9</td> </tr> <tr> <td>Da Nang</td> <td>0.7</td> <td>< 0.5</td> <td>0.57</td> <td>0.5</td> </tr> <tr> <td>Khanh Hoa</td> <td>0.89</td> <td>0.68</td> <td>0.39</td> <td>0.43</td> </tr> <tr> <td>Dak Lak</td> <td>0.48</td> <td>0.43</td> <td>n/a</td> <td>0.42</td> </tr> </tbody> </table>	Pilot WSCs	Residual Chlorine (mg/l)*		Turbidity (NTU)*		2010 (base year)	2016	2010 (base year)	2016	Nghe An	0.5	0.35-0.5	0.28	0.575-1.25	Quang Tri	0.28	0.36	1.72	0.9	Da Nang	0.7	< 0.5	0.57	0.5	Khanh Hoa	0.89	0.68	0.39	0.43	Dak Lak	0.48	0.43	n/a	0.42
Pilot WSCs	Residual Chlorine (mg/l)*			Turbidity (NTU)*																																
	2010 (base year)	2016	2010 (base year)	2016																																
Nghe An	0.5	0.35-0.5	0.28	0.575-1.25																																
Quang Tri	0.28	0.36	1.72	0.9																																
Da Nang	0.7	< 0.5	0.57	0.5																																
Khanh Hoa	0.89	0.68	0.39	0.43																																
Dak Lak	0.48	0.43	n/a	0.42																																
		<p>*The national standards as per National Technical Regulation on Drinking Water Quality are as follows: -Residual chlorine: within 0.3~0.5mg/l -Turbidity: under 2 NTU Regarding residual chlorine, the interviewed WSCs commented that the national standard is somewhat unrealistic, and it was suggested that a range of 0.1 - 1 mg/l for residual chlorine could be more practical.</p>																																		

Source: Project Completion Report, questionnaire survey and interview to MOC, TC, and WSCs

⁸ According to Director of TC, other WSCs in the Central Region did not have the demand for retraining or used the services provided by other training provider such as VWSA and universities in their vicinity.

⁹ “Steps for preparation of WSP” are compared with situation at start of project, and evaluated based on “the 10 Steps for Development of WSP” of WHO as per the PDM.

3 Efficiency

The project cost and period are within the plan (ratio against the plan: 95% and 100%). Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

Improvement of water supply service continues to be a priority area in “Ten-Year Socio-Economic Development Strategy” (2011-2020), the SEDP (2016-2020), “Development Orientations for Water Supply for Urban Area and Industrial parks through 2025 with a vision toward 2050” (2016-2025), and “National Program on Ensuring safe water supply during 2016-2025”.

<Institutional Aspect>

Organizational structure for provision of safe water and capacity development for WSCs in the Central Region has been established At MOC, Water Supply Department is responsible for policy issues. TC has organized retraining courses for WSCs in the Central Region with the number of courses and participants almost at the same level as the ones during the project implementation. Cooperation between TC and HUEWACO strengthened during the project is maintained afterwards, and they are jointly developing a new training program for improvement of workers’ skill levels. In addition, HUEWACO has started providing training to other WSCs through collaboration with Japanese partners, including YWWB. It also plans to establish its own training center for WSCs nationwide, which is expected to be put into operation in 2018. The roles of WSCs in water supply have been unchanged, but most of them have been transformed from state-owned companies into joint stock companies. With the involvement of private sector, management and operation of WSCs are expected to be more effective and efficient. As for staffing, the number of lectures at TC is increased from 7 to 10, which is considered sufficient to promote HRD for WSCs as it meets the quota. The number of allocated staff at HUEWACO is reckoned to be sufficient since they cover necessary tasks to implement WSP and provide technical training to other WSCs. Although it is less than the number of quota in the field of human resource management, the tasks are performed by the present number of staff by utilization of information technologies. The pilot WSCs consider that the number of staff, including the staff in charge of HRD, is sufficient to provide safe water in the respective water supply area.

Number of staff allocated at TC, HUEWACO and the pilot WSCs (Unit: person)

Staffing	TC (Lecturers)	HUEWACO	Da Nang	Nghe An	Quang Tri	Đak Lak	Khanh Hoa
Quota	10	453	354	n/a	n/a	n/a	n/a
Actual staff allocated	10	438	360	324	205	116	193

Source: TC and WSCs

<Technical Aspect>

The skills and knowledge of the Implementing Agencies and the pilot WSCs are considered sufficient to sustain the effect of the project. At MOC, the key C/Ps have been transferred or promoted, but the handover regarding the project has been sufficient according to the staff of Water Supply Department. At TC, HUEWACO, and the pilot WSCs, most of the C/Ps and the staff trained by the project continue to work in the respective organizations. According to Director of TC, the lecturers, including the new ones, have enough skills to provide training for WSCs, and the materials, developed though the project, have been utilized and revised/ customized to meet the needs of WSCs. HUEWACO has further improved its capacity to provide technical training to other WSCs through continuous collaboration with TC and YWWB. Also, HUEWACO has been utilizing the operational handbooks updated/improved by the project with regular updates to reflect actual operational status. All of the pilot WSCs reckon that their staffs have sufficient skills and knowledge to carry out their tasks according to the operational handbook. As for the equipment provided to TC and HUEWACO, the persons in charge of management have been assigned. The equipment at TC was observed to be in good conditions, but it has been underutilized because most of the retraining courses have been conducted at WSCs as it seems to be more cost-efficient for WSCs. The equipment at HUEWACO is utilized in good condition except for automatic water quality measurement equipment. According to Deputy head of Training and HRD Division of HUEWACO, 3 out of 4 pieces of the equipment have gone out of order because of the severe weather conditions in Hue, but they have not been repaired since it is expensive to purchase spare parts comparing to the cost of new equipment. HUEWACO plans to replace these equipment with new ones which are more suitable to the weather conditions in Hue.

<Financial Aspect>

As for TC, revenue consists of training fee and financial support for operational costs provided by CUWC, including personnel expenses. The annual budget was 100 million Viet Nam Dong (VND) in 2014, 494 million VND in 2015, and 355 million VND in 2016. The budget is considered sufficient because, during the aforementioned period, the retraining courses requested by WSCs were implemented as planned and the expenditure was within the budget. HUEWACO’s revenue in 2016 was 444.1 billion VND. According to Deputy head of Training and HRD Division, HUEWACO has secured budget to provide training for other WSCs. With regard to the malfunctioned equipment, HUEWACO plans to replace it with a new one as mentioned above, but the necessary budget is not allocated at the time of ex-post evaluation. Regarding the pilot WSCs, the revenue in 2016 was 408 billion VND at Da Nang, 184 billion VND at Nghe An, 110 billion VND at Dak Lak, and 250 billion VND at Khanh Hoa. For the last 3 years from FY 2014 to 2016, the necessary budget for continuation of the effect (i.e., supply of safe water) is considered to have been secured at each WSC because the revenue was either higher than planned or the same as the plan, and the expenditure was within the budget range.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose (i.e. Capacity development of the WSCs in the Central Region, which is oriented to WSP, is initiated through strengthened collaboration of the relevant organizations). The effect of the project has been continued, and the Overall Goal (i.e. Capacity of the WSCs for provision of safe water in the Central Region is strengthened.) has been achieved. Many other positive impacts have revealed. Regarding the sustainability, slight problem has been observed in terms of technical and financial aspects

(underutilization of the equipment provided to TC due to lack of retraining courses at its premises and maintenance of automatic water quality measurement equipment provided to HUEWACO due to delayed budget allocation for new equipment. Nevertheless, the sustainability in the policy and institutional aspects has been ensured. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Considering TC's available facilities and qualified lecturers, it has enough capacity to provide more trainings if there is demand. It is recommended that TC soon implements marketing activities to attract more demand for trainings from WSCs. Activities and Marketing plan of TC should be made annually with understanding of which timing in the year that WSCs likely to organize trainings for their staff. In addition to providing trainings for each company upon request, TC is recommended to take initiative in organizing trainings for multi-companies at TC, in consultation with WSCs in advance.

Lessons Learned for JICA:

1. Good practices:

The model of Training Center – capable company (HUEWACO) cooperation, which was enhanced during the Project, shows a good practice of involving a capable WSC as a role model and practical trainer in the development and implementation of training program. HUEWACO's role as a trainer for other WSCs, which was practiced during the Project, has been shown as effective and now strongly promoted by HUEWACO. Through the Project, capacity of HUEWACO was further developed with their operational handbooks reviewed and updated. After the Project, HUEWACO has been utilizing these operational handbooks with regular updates to reflect actual operational status. The promotion of operational handbooks based on example of handbooks of a capable WSC (HUEWACO) also seems to be effective. All of the pilot-companies have been able to develop their own operational handbooks during project implementation. The fact that almost all of them are still utilizing these handbooks at the time of ex-post evaluation proved the continuance of project impact.

In addition, the technical know-how of HUEWACO gained through JICA's technical cooperation project, "The Project on Human Resource Development for Water Sector in the Middle Region of Vietnam" (2007-2009), was widely extended to other WSCs in the central region through this project. It can be said that this project is a good practice of utilization of the counterpart personnel whose capacity was enhanced through previous JICA's technical cooperation project.

2. What could have been improved:

When implementing similar policy building activity with expectation that the policy can be finalized by Vietnamese side, it is advisable that the activity should be started at least one year before project completion and the full draft of the policy should be completed with input from both sides before the project completion.

Also, in future projects, selection of equipment installed outside should be made with consideration of natural conditions of the area, such as climate conditions. The severe climate in Thua Thien Hue province, with great difference in temperature between seasons, intensive rain and high humidity in rainy season, is one of the reasons that led to damages to some equipment provided to HUEWACO. Possibility of procuring spare parts by recipient organization should also be considered.



Equipment provided to TC is kept in good conditions



A set of operational handbooks used by DAWACO