

Report on Review of Training in the Water Supply Sector  
(FY2011 Report of the International Cooperation Project  
Study Committee in the Water Supply Sector)

Commissioned by  
Ministry of Health, Labour and Welfare

March 2012

Japan International Corporation of Welfare Services  
JICWELS

## Introduction

In order to more effectively engage in international cooperation in the water supply sector, it is necessary to implement a review of the issues that require active and prioritized support among the various issues facing the water supply sector and consider the ideal form for assistance that matches the situations and needs in developing countries. To this end, the Ministry of Health, Labour and Welfare of Government of Japan (MHLW) established the International Cooperation Project Study Committee in the Water Supply Sector under the auspices of Project to Review International Cooperation in the Water Supply Sector (commissioned project to Japan International Corporation of Welfare Services (JICWELS)), which has implemented reviews through a process of public-private cooperation.

In FY2008 a review was implemented into the methods of transfer of water supply technologies in Japan towards promotion of international cooperation in the water supply sector, and a report was compiled.

In FY2009, in order to ensure that the content of training in the water supply sector conducted in Japan and overseas under the auspices of Official Development Assistance (ODA) is implemented more effectively, as a basis for review of training contents, the training implemented in Japan, and the issue-specific training implemented by the Japan International Cooperation Agency (JICA) in particular were focused on. In addition to organizing and setting out information on training and lecture materials, future challenges were identified and these were cited in the report that was compiled.

In FY2010, based on the results of review conducted previously and in order to further enhance information relating to training in the water supply sector, information on training implemented in Japan and overseas were organized as components of technical cooperation projects. At the same time information relating to training implemented by donors was collected as a source of reference to further enhance the information on training in Japan and overseas. Based on this information, which provided a broad-based overview of training implemented in Japan and overseas, a review into the content of training that matches the needs of developing countries was conducted and a report was compiled.

In the current fiscal year, based on the results of the review conducted and compiled in FY2010, a follow-up targeting former training participants was implemented through questionnaires and on-site interviews. Based on the responses received a review was conducted concerning the implementation structure and methods for more effective training through public-private cooperation. This report is a compilation of the outcomes of the review.

We expect that through this review more persons from both the public and private sectors who are engaged in the water supply industry will be able to participate in international cooperation in the water supply sector, including in training and other activities.

The names listed below are the members of the Study Committee for FY2011 and the observers who have provided their cooperation.

(Chairperson)

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The Study Committee met on three occasions during FY2011. The dates of the meetings are as follows:

- First Meeting: Friday, November 25, 2011
- Seconding Meeting: Monday, January 30, 2012
- Third Meeting: Monday, March 12, 2012

For the review for this fiscal year, in response to a questionnaire concerning training follow-up, valuable responses were received from persons responsible in Lao PDR, Cambodia and Vietnam. The secretariat of the Federation of Japan Water Industries, Inc., also provided its cooperation by forwarding a training needs assessment targeted at private companies. In addition, valuable responses were received from 20 private companies in Japan concerning the training needs assessment of private companies. We would like to express our gratitude to these companies for their generous cooperation.

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## **CHAPTER 1 Background**

Under the auspices of the International Cooperation Review Program into the Water Supply Sector to date, a review of the “Enhancement of Transfer of Japan’s Water Supply-related Technologies” (FY2008) and a “Review of Training in the Water Supply Sector” (FY2009) have been implemented. Through these review processes the importance of the following have been highlighted as part of international cooperation in the water supply sector implemented through Official Development Assistance (ODA): (i) advancing information sharing on water supply technologies in order to boost cooperation between the public and private sector, and (ii) advancing cooperation between the organizers of training and the organizers of other aid and assistance schemes. In FY2010, in order to further enhance information relating to training in the water supply sector, coordination and consolidation were implemented for training relating to technical cooperation projects and for information relating to training implemented by various partners. From these deliberations a number of future challenges were identified, including the necessity for post-training monitoring and the importance of considering the potential for participation and cooperation in training at private sector companies.

In FY2011, based on the results of reviews to date, a follow-up survey of previous training participants was implemented, in both questionnaire and on-site interview formats, and a survey of the training needs of private companies in Japan was also conducted. Based on the results of these surveys it was possible to identify points to bear in mind in order to implement more effective training programs.

With regard to the readership of the outcomes contained in this report, it is anticipated that the report will be distributed to water supply sector businesses that are currently implementing training, including those companies that provided their cooperation in the questionnaire survey and also to businesses that are considering cooperating in training-related projects in the future. The report will also be uploaded onto the website of the Ministry of Health, Labour and Welfare.

## **CHAPTER 2 Points to bear in mind in training follow-up and in the promotion of the participation of private companies in training programs**

Based on the responses received to questionnaire surveys and on-site interview relating to training follow-up and also the needs assessment questionnaire directed at private companies, we have compiled the following points to bear in mind concerning training follow-up and future promotion of the participation and cooperation of private companies in training programs.

### **2.1 Points to bear in mind concerning training follow-up**

#### **(1) Post-training activities**

In general, trainees from each country have the obligation to report back to their superiors following the conclusion of training, in addition to which they also hold study groups and seminars, etc. In addition, many trainees are obligated to implement the action plans, etc., which they compiled during the course of the training.

At the same time, trainees utilize in their work duties the things they learned in the training and the information they gained from opinion sharing with other trainees, and it is thus inferred that the trainees are actively utilizing the content of the training in which they participated upon their return to their home countries.

Moreover, half of the persons responsible for selecting the trainee oblige the trainee to provide a report, as abovementioned, on the content of the training, from which it can be implied that there is an expectation that after training has concluded the trainee will share the information he/she has gained in the locations to which he/she is dispatched thereafter. Furthermore, a number of the persons responsible for selecting the trainee reported that the attitude of the trainee had improved after returning to his/her home country, which can be considered to be a further effect of the training.

#### **(2) Recommendations for training**

With regard to the contents of the training, there were requests that the policy-related content of the training should be enhanced, including laws and regulations relating to the water supply sector business. Also, one of the requests from trainees who themselves are affiliated to regulatory authorities was for training contents relating to economic monitoring and appraisal of water works projects, as a method for engaging in regulation of the water supply business.

In terms of contents relating to operation and management of water supply systems, there were requests for the training to include the following: distribution networks, measures to counter non-revenue water (leakage), quality management, and crisis management, including disaster countermeasures.

The abovementioned requests for training contents provide important hints to take into account when considering future training programs.

#### **(3) Exchange and interaction among trainees**

Many trainees remain in contact with other trainees after the training has concluded, regardless of whether the other trainees are from the same country or a different country and it is assumed that the trainees can gain beneficial information through sharing mutual experiences in this way. Furthermore, many trainee selectors confirmed that they promote this interaction among trainees, from which we can infer that there is an expectation that information can be shared through interaction.

With regard to future follow-up activities, it is thought that a vital factor to be added to efforts by the Japanese side from now on will be to implement follow-up in such a way as to more actively promote interaction and exchange among trainees, based on the information gained in the surveys on this occasion.

#### **(4) Follow-up targeting persons who have completed training**

Through the review on this occasion we found that many of the trainees are requesting opportunities to upgrade or refresh the knowledge they gained during training in Japan. These included requests for the provision of new technologies in the water supply sector and this is a point that will need to be borne in mind when implementing follow-up on the Japanese side.

Furthermore, with regard to requests relating to individual contents of training in follow-up exercises, these included specific proposals for training, from which it can be inferred that there is a need to actively provide the information requested, in both the response to future trainees and in follow-up exercises for trainees who have already completed the training program.

#### **(5) Urgent challenges and response measures**

From the results of the follow-up survey it can be surmised that the lack of competent and experienced human resources is a factor in various related-problems and is therefore an urgent challenge to be tackled. A problem deriving from the main issue of a lack of human resources was cited as the quality of the management and operation in the water supply businesses, which leads to further individual issues arising.

From the questionnaire results it was noted that in response to such challenges the main points that trainees seek to gain from training are to benefit from the experience of water supply businesses in Japan relating to various aspects of the water supply business, including systems, technologies, operation and management and crisis management, including disaster response measures.

#### **(6) Expectations of the private sector in Japan**

The questionnaire responses confirmed that many of the trainees have expectations of Japanese companies, not just for the provision of technical cooperation and information, but also for involvement in business itself, including investment.

When considering training programs in the future that will respond to the abovementioned needs, it is thought to be vital to utilize resources held by private companies as sources of information and also consider the development of contents that would enable the provision of a forum for the creation of businesses opportunities for both trainees and companies alike.

#### **(7) Response to requests and hopes relating to training collected from on-site interviews**

In response to the requests expressed in on-site interviews conducted in Vietnam and Lao PDR, we received the following comments from training organizers in Japan (who are also central members of the Study Committee: Japan Water Works Association, Saitama City Water Works Bureau, Kitakyushu City Water Works Bureau, and Yokoyama City Water Works Bureau).

##### **1) General items**

In general, interest appears to be growing in asset management, and other issues that will be faced by water supply businesses include factors such as human resources development plans, and customer service. These various factors would be approached in a uniform and coherent direction.

##### **2) Vietnam Ministry of Construction / Hanoi Waterworks**

Through a cooperative arrangement between Hanoi Waterworks Company and the Tokyo Bureau of Waterworks various human exchanges are taking place for training. It would be beneficial if this arrangement could lead to information sharing and synergetic effects.

With regard to asset management, the training materials have been compiled based on the manual published by the Ministry of Health, Labour and Welfare and it would be good if training could be implemented on “easy-to-implement asset management” targeted at developing countries.

### 3) WHO Vietnam Office

Information on what kinds of training is being implemented by other countries and organizations would be useful when deciding on the type of training to be implemented by Japan and it would be good to utilize such information.

### 4) Lao PDR

At Saitama City Waterworks Bureau, following the acceptance of trainees from Lao PDR and other countries, we have built a training system centered on on-the-job-training (OJT) in the area of operation and maintenance of water supply pipe networks. Upon hearing the results of the interviews on this occasion we think it will be important to further improve the training provided. In particular, we think it will be necessary to enhance training provided by including the following, among other measures: water safety plan, compiled by Saitama City Waterworks Bureau this fiscal year; operation of own groundwater resources and maintenance and management of water purification plants; collection, management and analysis of necessary data; and methods of utilizing performance indicators.

With regard to contracts for public-private-partnership projects, we have the impression that this is an area in which Japan is not particularly strong. It will be necessary to collect information on what kinds of contracts are being concluded overseas. In addition, it will be important to secure experts in this field inside Japan.

## **2.2 Points to bear in mind in the promotion of the participation and cooperation of private companies in training programs**

### **(1) Acceptance of trainees**

More than half of the responding companies indicated that it would be possible for them to cooperate from next fiscal year with the acceptance of trainees, depending on their situation.

In terms of the content for training, the companies indicated that it would be possible to accept trainees to visit facilities, including plants, research facilities, water quality test laboratories, water purification plants (rapid and slow filtration), advanced processing facilities, effluent treatment facilities, and also to view the management of supply and drainage facilities in large buildings. However, no companies responded positively concerning the possibility for visits to pipe installation sites.

With regard to lectures, the companies responded that it would be possible to provide lectures on water works plans, water quality management, sedimentation ponds, filtration ponds, water conveyance methods, pumping facilities, power facilities, leakage prevention measures and distribution management methods, as well as on the processing of stainless steel, and also construction methods that do not cause water supply stoppages, effluent processing, and management of water storage, etc. However, no companies responded that they would be able to provide training on water works management, tariff collection, non-revenue water countermeasures or customer service and management.

In terms of practical training, the companies responded that it would be possible to provide training on facility design, pump performance testing, as well as water purification technologies (water quality management and operation management), stainless steel processing, technologies to prevent leakage and water supply stoppage during construction, effluent processing and management of water storage. However, no companies responded that they would be able to provide practical training on leakage surveys, pipe-laying techniques or water quality inspection.

Many companies were willing to accept trainee engineers and technicians and one company indicated its readiness to also accept standard worker-level trainees. From this we can infer that Japanese companies seek to accept trainees with a certain degree of technical ability.

With regard to the length of the training period, many companies responded that they would be able to accept trainees once a year for a period of a few days.

With regard to the text to be used for lectures, many companies responded that they do not have such texts and therefore it can be surmised that the compilation of training and education materials



for use in lectures is one barrier to training.

## **(2) Dispatch of instructors/lecturers**

More than half of the companies who responded to the questionnaire noted that it would be possible for them to dispatch a lecturer from next fiscal year onwards for the purpose of training programs.

In terms of the content for dispatch of lecturers, for site visits the companies indicated that it would be possible to dispatch lecturers to plants, research facilities, water quality test laboratories, water purification plants (rapid and slow filtration), advanced processing facilities and effluent treatment facilities. However, no companies responded positively concerning the possibility for the dispatch of a lecturer to pipe installation sites.

With regard to lectures, the companies responded that it would be possible to dispatch lecturers to talk on the subjects of water works plans, water quality management, sedimentation ponds, filtration ponds, water conveyance methods, pumping facilities, power facilities, leakage prevention measures and distribution management methods, as well as on the processing of stainless steel, and also construction methods that do not cause water supply stoppages, effluent processing, and to provide explanations of products and technologies. However, no companies responded that they would be able to dispatch lecturers in the areas of water works management, tariff collection, non-revenue water countermeasures or customer service and management.

In terms of practical training, the companies responded that it would be possible to dispatch lecturers for training on facility design, pump performance testing, as well as water purification technologies (water quality management and operation management), stainless steel processing, and technologies to prevent leakage and water supply stoppage during construction. However, no companies responded that they would be able to provide a lecturer for training on leakage surveys, pipe-laying techniques or water quality inspection.

Many companies were willing to dispatch a lecturer for trainee engineers and technicians. From this we can infer that Japanese companies seek to dispatch their lecturers to provide talks to trainees who have a certain degree of technical ability.

With regard to the length of the dispatch period, many companies responded that they would be able to dispatch a lecturer once a year for a period of a few days.

## **(3) Human resources development of persons involved in training at companies (trainee acceptance and lecturers, etc.)**

Almost all companies responded that they are not engaged in human resource development activities for persons responsible for accepting overseas trainees or for persons who are dispatched as lecturers. The questionnaires also revealed that there are also no particular in-house measures in place for language training.

From these responses it can be surmised that when companies accept trainees or provide cooperation in the dispatch of lecturers, there is a particular necessity to pay attention to language-related concerns. Also, in view of the fact that, as abovementioned, no texts for lectures or training have been compiled at present, attention will need to be given to the necessity for translating texts into English and other foreign languages once they have been compiled.

## **(4) Points to bear in mind when companies participate or cooperate in training programs**

We received comments and requests from companies concerning points of issue to consider when private companies participate or cooperate in training programs.

One of the major points of issue that was raised relates to the lack of human resources in companies who are able to engage in international cooperation, given the fact that there are also no HR development systems to nurture such skills within companies. The main reasons for this situation would appear to be cost burden and instability in terms of treatment and guarantee of status, which combine to create a situation where companies are not motivated to engage actively in

such measures. To counter this problem the necessity was highlighted of the establishment of in-house systems for HR development in these areas.

When promoting corporate participation and cooperation in training programs, it is thought necessary to consider methods that would also have merit for the companies themselves and would contribute to human resources development within the companies.

Furthermore, as one means of facilitating the acceptance of trainees and making lectures easier to conduct, as an aid to the compilation of contents for use in training it is thought necessary to develop an English language standards manual relating to the water supply business in Japan.

#### **(5) Potential for participation and cooperation by private companies**

The results of the questionnaires show that many of the responding companies have the potential to provide cooperation for the acceptance of overseas trainees in the future. The areas for this cooperation were confirmed to be those in which private companies have particular strength.

In the review implemented in the previous fiscal year, water supply utilities that could potentially accept trainees were identified and listed in detail. This list showed water supply businesses that could provide cooperation, in terms of site visits to facilities and also with regard to the lecture content that could be provided.

By combining the sectors in which private companies have particular strength, which were identified in the questionnaires this year, with the areas in which there is room for further cooperation by water supply utilities, which were identified in the review report compiled last year, it is thought that it would be possible to effectively utilize the strong points of both water supply utilities and private companies.

In particular, the fact that water supply utilities possess water supply facilities that are able to accept trainees is a considerable strength and by using such facilities for on-site visits and on-site practical training, in combination with specific product introductions and explanations by private companies relating to materials and machinery, it is anticipated that a synergetic effect could be created.

## **CHAPTER 3 Conclusion**

### **(1) Considerations regarding the formation of a structure for public-private partnership and the format for such a structure**

Due to the relatively small sample of 20 companies, although there were limitations to the questionnaire survey issued to private companies concerning training programs, it was possible to acquire information relating to the strengths of private companies, including lectures, on-site visits and practical training. It is therefore considered to be important to give consideration to the creation of programs in the water supply sector that would benefit from the cooperation of private companies.

In terms of areas for public-private cooperation, in addition to the areas where private companies indicated the potential for cooperation in this year's study, it is important to also refer to the areas indicated by water supply utilities where there is a potential for cooperation, which were collected in the survey implemented in the previous fiscal year. In so doing it will be necessary to create a support mechanism for the compilation of lecture materials in English, given the fact that private companies face problems in creating such materials. It is therefore thought to be necessary to continuously engage in such measures and further promote the participation of private companies in training activities.

With regard to the format for cooperation, it is anticipated that the majority of cases would entail water supply utilities taking the lead and requesting cooperation from private companies. However, in recent years it has been the case that increasing numbers of consulting companies, etc., in the private sector have been bidding to take on technical cooperation projects commissioned by JICA. In such cases it will be necessary to bear in mind that in counterpart training the private company would take the lead and submit a request for cooperation to water supply utilities.

### **(2) Needs of manager-class overseas trainees**

Almost all of the overseas trainees who responded to the training follow-up questionnaire are in managerial positions in their respective organizations and therefore, in terms of training needs, they indicated a strong desire for training relating to the operation and management of water supply systems as a whole, rather than training on individual technical aspects.

In response to these manager-class needs of overseas trainees it is considered that it would be of great significance to enhance training content relating to operational aspects of water supply businesses, which would link through to the stable and sound operation of water supply utilities. In this sense, given the fact that asset management could be considered a tool that could provide the means to make management decisions relating to the water supply business as a whole, it is expected that from now active efforts will be made to introduce asset management as important training content for overseas manager-class trainees.

Training relating to business operation and management, including asset management issues, could draw on the knowledge and experience of both water supply utilities and also private companies. It could also be expected that such training could be provided through public-private cooperation.

### **(3) Necessity for implementation of regular follow-up and monitoring**

One of the issues for consideration that has constantly been pointed out is the importance of post-training follow-up. Indeed, from the trainees in Vietnam and Lao PDR who responded to on-site interviews for this follow-up, there were requests for the implementation of regular follow-up. In addition there were requests that follow-up be implemented at the latest within five years of the completion of training and we therefore hope that organizations in Japan that are involved in the implementation of training will make active efforts to regularize their follow-up activities.

By utilizing the information relating to follow-up on training programs compiled by this Study

Committee, we hope that training will be implemented that can benefit from the participation and cooperation of private companies and that responds to the needs and requests of overseas trainees.

Japan International Corporation of Welfare Services (JICWELS) was established with the sanction of the Minister for Health, Labour and Welfare in July 1983 and implements international technical cooperation programmes with purpose of contributing to the promotion of health and social welfare activities in the friendly nations.

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