Table 5.1 Training Perspective for Basin Water Office

Fiscal Year	Phase	Training Perspective				Venue
		Contents	Course Objective, Topics	Target Trainee		
				Trainee	Region	
2007	1	Identification of Present Status	Distribution of the preliminary hydrogeological maps and profiles to all target districts			
		Component-1	• GIS	HG	WR, RS	DSM
		Component-2	• Database	HG	WR, RS	DSM
		Component-3	• Hydrogeological Map	HG	WR, RS	DSM
2008	2	Project Planning				
		Component-1	• Roles and responsibilities of BWOs in RWSSP	BO, HG	WR, RS	DSM DSM
		Component-2	• Assessment of water resources potential for rural water supply	BO, HG	WR, RS	
	3	Project Management				
		Component-1	• Optimization of utilization of water resources for rural water supply	BO, HG	WR, RS	DSM DSM
		Component-2	• Assessment of design of water supply system	BO, HG	WR, RS	
2009	4	Strengthening of Support Service				
		Component-1	• Support for DWSTs in the construction of water source structure	BO, HG	WR, RS	MG
		Component-2	• Water resources management at community level	BO, HG, CDO	WR, RS	MG
	5	O&M and Follow-up	• Support for DWSTs in O&M of rural water supply facility	BO, HG	WR, RS	MT

[Abbreviation]
DSM: Dar es Salaam, **MG**: Morogoro, **MT**: Mtwara, **WR**: Wami Ruvu, **RS**: Ruvuma Southern Coast, **BO**: Basin Water Officer, **HG**: Hydrogeologist, **CDO**: Community Development Officer

5.3 PRELIMINARY HYDROGEOLOGICAL MAPS

5.3.1 INTRODUCTION

In the preparatory phase, the training of hydrogeologists in preparation of hydrogeological maps applying GIS technique was carried out. ***Figure 5.5*** shows the flow of training.

It is advantage for BWOs to be capable to prepare the hydrogeological maps by GIS for effective support to DWSTs. However, it was observed that the existing well data to be utilized for preparation of maps had not been systematically managed. In addition, hydrogeologists were not familiar with operation of GIS. Therefore, the existing well survey for collecting data and the training in database management and GIS operation were carried out. After acquisition of basic skills, the training in preparation of hydrogeological maps and database were conducted. Consequently, the preliminary hydrogeological maps and the existing well database were prepared by the hydrogeologists.

The outline of activities carried out for preparation of preliminary hydrogeological maps are described in the following sections.

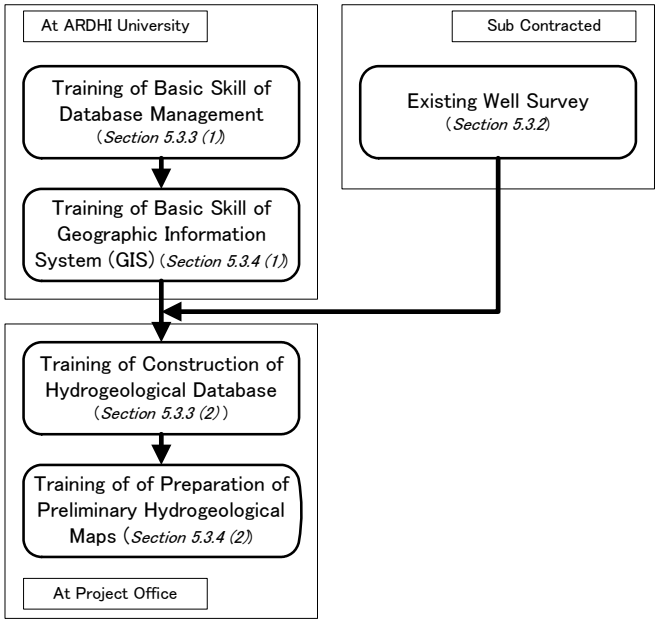

Figure 5.5 Flow of Supporting Activities for Preparation of Preliminary Hydrogeological Maps

5.3.2 EXISTING WELL SURVEY

In order to collect the hydrogeological information for the construction of existing well database, the existing well survey was carried out. Prior to implementation of the survey, the project team analyzed availability of existing well information in the target four regions. As a result, all LGAs of Lindi and Mtwara regions, and Rufiji and Mafia districts of Coast region were selected as areas to be surveyed, since the existing well data for other area within the four regions are available by the previous JICA's study of "Water Supply Improvement in Cost Region and Dar es Salaam Peri-Urban (2007)". The survey was carried out by Network for Water and Sanitation (NETWAS) Tanzania Ltd. under the supervision of the project team.

Outline of survey is described in the following sections.

(1) Contents of the Survey

Base on the result of examination of existing well data, the contents to be surveyed were identified as shown in ***Table 5.2***. A total of 150 wells were selected uniformly to cover the areas to be surveyed. In order to complement the data of selected existing wells, measurement of location of well, structure of well, simplified pumping test, water quality measurement and interview to the owner of well were conducted at each site. All data were entered to the database on MS-Excel format.

Table 5.2 Contents of Existing Well Survey

Survey Item		Contents
1	Study area	All LGAs of Lindi and Mtwara regions, and Rufiji and Mafia districts of Coast region
2	Number of wells to be surveyed	150 wells
3	Period of survey	From 1st October to 20th November 2007
4	Item	
	a. Location survey	Measurement of coordinates and elevation of wells by GPS
	b. Well structure investigation	Investigation of well structure and well facilities
	c. Simplified pumping test	Static water level, Dynamic Water level, yield
	d. On site water quality measurement	Electric conductivity, pH, Temperature
	e. Interview survey	Interview with owner of well about condition of well and water usage
	f. Establishment of existing well inventory and database	

(2) Output

The appointed consultant visited the selected 150 wells. However, it was impossible to survey at some of these wells due to the structure of well head. These wells were sealed without any space to put the equipment for measurement of water level. In such case, the survey was conducted at alternative well. Accordingly, the measurement was conducted at 154 wells out of 194 visited wells. The breakdown of investigated wells in each district is shown in ***Table 5.3***.

Table 5.3 Breakdown of Investigated Wells

Region	District/Municipality	Number of Existing Wells	
		Visited	Measured
Mtwara	Mtwara Municipality	14	12
	Mtwara Rural	17	8
	Tandahimba	5	3
	Newala	9	9
	Masasi	30	13
	Nanyumbu	19	11
	Sub-Total	**94**	**56**
Lindi	Nachingwea	15	15
	Ruangua	3	3
	Liwale	4	4
	Lindi Municipality	6	6
	Lindi Rural	14	13
	Kilwa	11	9
	Sub-Total	**53**	**50**
Coast	Rufiji	40	40
	Mafia	8	8
	Sub-Total	**48**	**48**
	Total	**195**	**154**

The result of measurement was input to the database constructed in the Microsoft Excel format. The databases of Coast and Dar es Salaam regions, and Lindi and Mtwara regions are managed by the hydrogeogist of Wami Ruvu BWO and Ruvuma and Southern Coast BWO, respectively.

5.3.3 CONSTRUCTION OF DATABASE

In order for BWOs to effectively manage the information of existing wells, the training in construction of database for hydrogeologists was conducted.

Prior to constructing database of existing wells, the training for hydrogeologists in database management was carried out at the ARDHI University. Timetable of the training and training materials were prepared by the lecturers from the university in accordance with the training curriculum and plan prepared by the project team.

After completion of the basic skill training, the training in construction of database of existing wells was conducted by utilizing the information obtained from the existing well survey. The training was conducted by the project team at the project office in accordance with the training curriculum.

Consequently, the database of existing wells in each basin was designed and constructed by each hydrogeologist. Respective databases were on the Microsoft Access format and operated on the laptop type computer provided by JICA.

The contents of training curriculum and implementation of the training are described in the section 5.5 and 5.6, respectively.

5.3.4 PREPARATION OF PRELIMINARY HYDROGEOLOGICAL MAPS

The training in preparing the preliminary hydrogeological maps for the hydrogeologists was taken place by utilizing the hydrogeological information entered to the database.

Since the hydrogeologists were not sufficiently conversant with operation of GIS, the training in operating GIS was carried out at the ARDHI University before the preparation of preliminary hydrogeological maps. The package of GIS introduced in the training was ESRI ArcMap 9.2.

After obtaining basic skills, the training in preparing preliminary hydrogeological maps was conducted by the project team at the project office. Hydrogeologist from Wami Ruvu BWO was responsible for Dar es Salaam and Coast regions, and the one from Ruvuma and Southern Coast BWO was responsible for Lindi and Mtwara regions.

As a result, the preliminary hydrogeological maps of each area were prepared by each hydrogeologist during the preparatory and 1st training phases. The maps are composed of location, topographic, geological, hydrogeological, groundwater quality distribution and yield distribution maps, and managed by the hydrogeologist in each BWO. The prepared hydrogeological maps of Dar es Salaam and Coast regions, and Lindi and Mtwara regions are shown in ***Figure 5.6 and 5.7***.

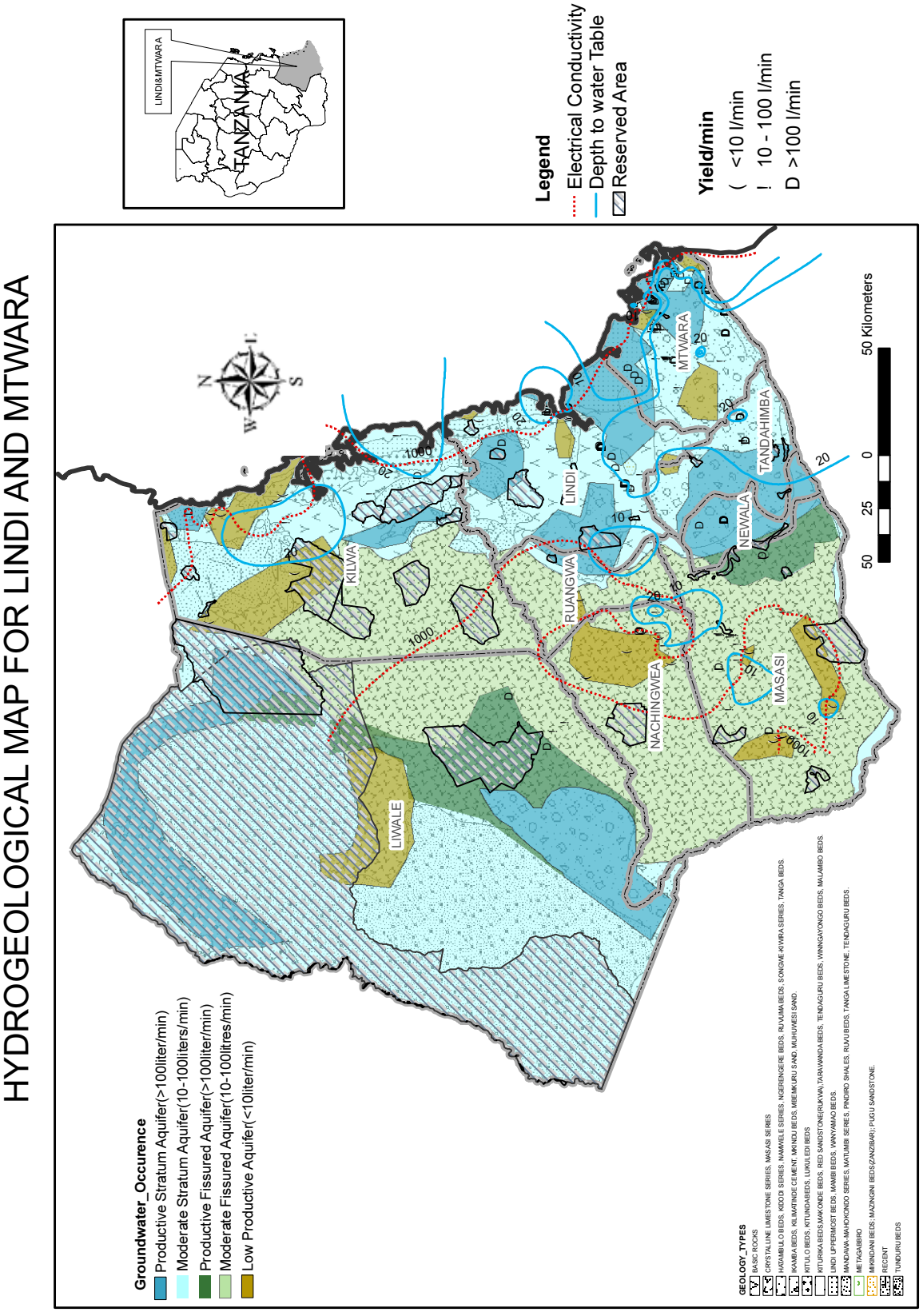

Figure 5.6 Preliminary Hydrogeological Map in Lindi and Mtwara Regions

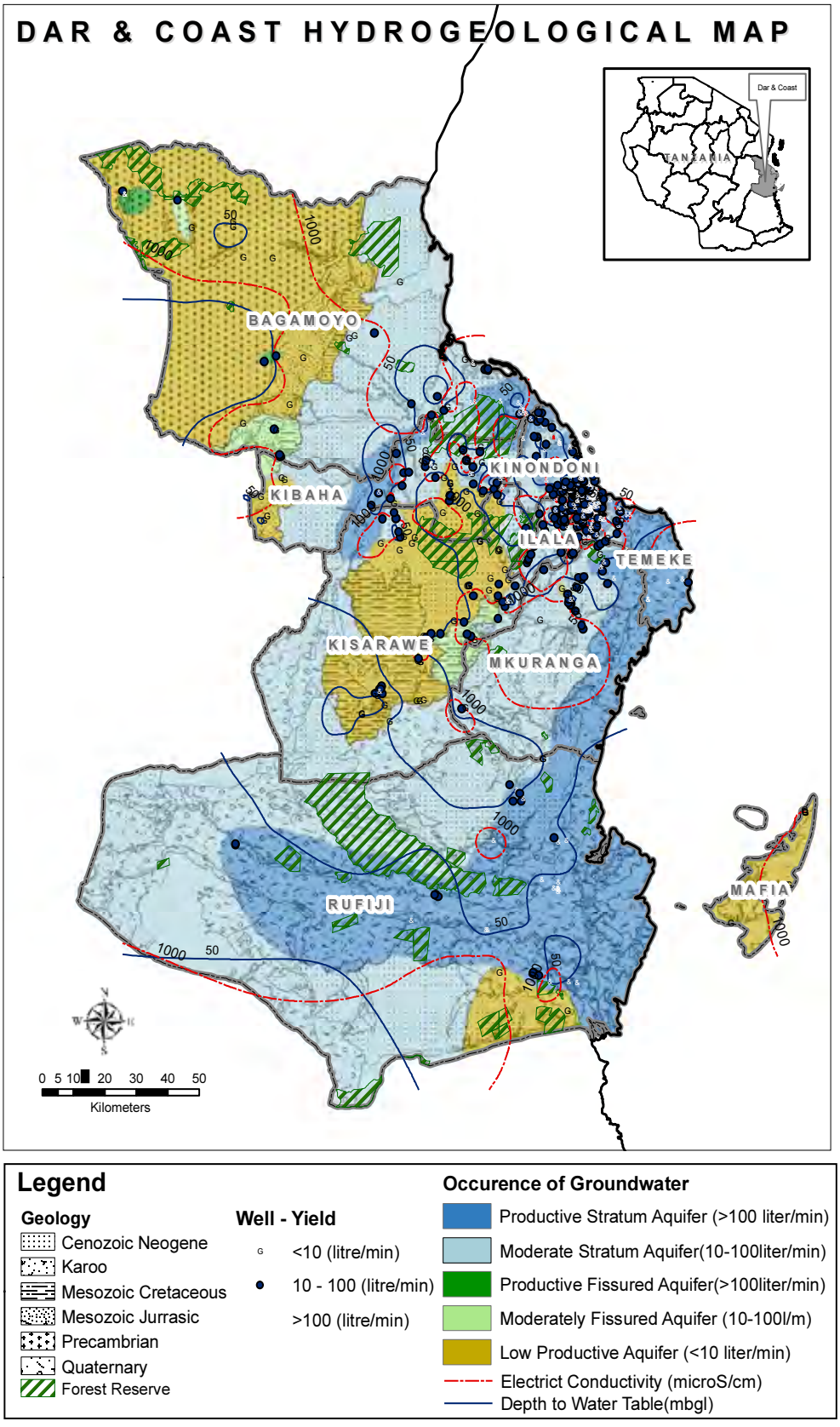

Figure 5.7 Preliminary Hydrogeological Map in Dar es Salaam and Coast Regions

5.3.5 DISTRIBUTION OF HYDROGEOLOGICAL MAPS

(1) 1st Distribution

As described in the section 5.3.4, the preliminary hydrogeological maps were prepared in the preparatory and 1st training phases. In the joint training of DWSTs and RWSTs in the 1st training phase, these maps were distributed as the training material for the session of water resources management. The session was lectured by the engineer of water resources division of MoWI. The hydrogeologist also participated as a resource person to introduce water resources condition in each region, and discussed with the participants.

(2) 2nd Dsitribution

After the 1st distribution, the hydrogeologists have continued to improve the preliminary hydrogeological maps during the 1st training phase. Finally, the hydrogeological maps of four regions composed of six types of maps were prepared and distributed to DWSTs and RWSTs again in the following training phases.

As for Lindi and Mtwara regions, the preliminary hydrogeological maps were distributed by the hydrogeologist of Ruvuma and Southern Coast BWO in the 2nd training phase for DWSTs and RWSTs in July 2008. During the session, active discussion was made with participants.

In the case of Coast and Dar es Salaam regions, the basin water officer has participated in the 2nd training phase for DWST and RWST and lectured participants on the condition of water resources in two regions. In the 3rd training phase for DWST in November 2008, the hydrogeologist has distributed these maps and discussed water resources condition with the participants.

(3) 3rd Distribution

As for Lindi and Mtwara regions, update of hydrogeological maps was completed by the middle of March 2010. However, the laptop computer was affected by virus and updated data has not been recovered. The hydrogeologist scheduled to distribute the maps in August after re-update of the hydrogeological maps by utilizing the available information in his office and new five wells which are being drilled in Nanyumbu district in July, 2010.

As for Dar es Salaam and Coast regions, hydrogeological maps have been updated by the early June, 2010. In the middle of July, 2010, hydrogeologist has distributed the maps to target DWSTs by e-mail.

5.3.6 UPDATE OF DATABASE AND PRELIMINARY HYDROGEOLOGICAL MAPS

After distribution of the preliminary hydrogeological maps prepared in the 2nd training phase, the hydrogeologists have commenced collecting information of wells for update of database and preliminary hydrogeological maps. Although the new wells have not been constructed in the RWSS projects, water quality and water level data of existing wells were collected by hydrogeologists. Achievement of update of the maps in the project is described in the following sections.

(1) Ruvuma and Southern Coast BWO

After the 2nd training phase, the hydrogeologist measured coordinates by GPS of 32 existing wells where electric conductivity and static water level were measured. These data were input to the database of existing wells and analyzed by the hydrogeologist. In addition, the hydrogeologist collected the yield data of the other 10 wells and input to the database. By the middle of March 2010, hydrogeologist updated the yield contour map. The hydrogeologist scheduled to update the maps in July 2010, utilizing the hydrogeological information of new wells in Nanyumbu district.

(2) Wami Ruvu BWO

BWO has carried out existing well inventory survey in Mbagala area in Temeke municipality in June 2008, and measured electric conductivity at around 100 wells. The hydrogeologist input these data to the database and made hydrogeological analysis. Based on the result, water quality contour map has been partly modified. Since the surveyed area was not widely, update was done in the limited area.

After the modification mentioned above, the hydrogeologist input the electric conductivity data of around 200 wells in 2 wards of Ilala municipality to the database. The hydrogeologist made the analysis on the distribution of the electric conductivity by applying GIS technique in the early June, 2010. As a result, water quality contour map was updated. Since newly added wells are located in the limited area, only minor change was added in the map.

5.4 TRAINING MODULE AND MATERIALS

Through the analysis of the exisitng RWSS project cycle, it was identified that the consideration in the water resources management was not included in the cycle, although securing water sources was one of the challenges in rural water supply services. Therefore, the project proposed, as one of the basic concepts, that the RWSS project process shall focus on the adoption of not only a demand responsive approach but also the assessment of the project planning from the standpoint of harmonization of the demand and water resources potential.

However, DWSTs do not have enough experience and knowledge in this field to implement this process. It is, therefore, required for BWOs to support DWSTs in terms of water resources management.

According to the Annex 1 of PIM, water resources management programme operation manual, securing water supply is one of the responsibilities to be taken by responsible organization for water resources management. It is clear that BWOs are required to be involved for securing water supply in the rural areas.

In the preparatory phase, it was observed that BWOs were not aware of their roles and responsibilities, and the support system for DWSTs has not been established yet. Therefore, in order to strengthen the capacity of BWOs to support DWSTs, the 1st version of training modules for BWO were prepared.

By the late of January 2010, five training phases for BWO were completed.. Through these activities, the project team has recognized the necessity of revision of the 1st version of modules for further enhancement of BWO to support DWST. Therefore, the training modules for BWO were reviewed with focus to cover necessary capacity of BWO in wider aspects. Consequently, a total of five modules consisting of 12 sub modules were prepared.

Composition of the training modules for BWO is shown in ***Table 5.4***. Detail contents of modules are attached in ***Separate Volume 1: Training Module Guide for DWST, RWST and BWO*** of this report.

Table 5.4 Contents of Training Module for BWO

No		Title	Sub Title
1.	A	Roles & Responsibility of BWOs in RWSS Project	Perception of RWSSP Sub-Component
	B		Roles & Responsibilities of BWO in WRM Sub-Component
	C		Roles & Responsibilities of BWOs in RWSS Project
2		Establishment of Intercommunication between BWO, DWST and RWST,	
3	A	Assessment of Water Resources Potential for RWSS Project	Provision of Required Water Resources Information for RWSS Project
	B		Selection of Communities in RWSS project
	C		Services to be rendered by Service Providers for RWSS Project

No		Title	Sub Title
4		Assessment of Design of Water Supply System	
5	A	Water Resources Management in RWSS Project	Awareness Creation of Communities through DFT and WUA
	B		Support for DWSTs for construction of Water Source Structure
	C		Advise on Operation and Maintenance of Water Source Structure
	D		Monitoring of Water Sources

Required competence of BWOs is timely to advise DWSTs on sustainability of rural water supply in terms of water resources management. Therefore, one module covers several training phases. The combination of the training modules and the training courses is shown in ***Table 5.5***.

Table 5.5 Training Plan and Modules for BWO

Phase	Training Plan (excluding trainees)		Developed and/or Improved Materials	
	Course Title	Course Objective, Topics	Module	Training Materials
1	**Identification of Present Status**	• To master basic skills for database management and GIS operation • To prepare database management system for hydrogeological information • To prepare preliminary hydrogeological maps in order to support target districts in managing RWSS projects	-	I: Identification of Present Status ➢ Flow of preparation of hydrogeological maps
2	**Project Planning** Component-1	• To clarify the roles and responsibilities of BWOs in RWSSP • To improve intercommunication mechanism between BWO, DWST and RWST	[BWO] 1A, 1C, 2	II: Project Planning ➢ RWSS project cycle ➢ Study on intercommunication mechanism among stakeholders ➢ Matrix of RWSS project cycle and activities in water resources management ➢ Preliminary hydrogeological maps
	Component-2	• To enhance knowledge about necessary information for rural water supply planning • To improve capacities for providing DWSTs with water resources information	[BWO] 3A, 3B	
3	**Project Management** Component-1	• To improve capacity of BWOs in optimizing water resources for rural water supply	[BWO] 3A, 3C	III: Project management ➢ Preliminary hydrogeological maps ➢ Location map of selected community ➢ Case study of preliminary and detail design of rural water supply
	Component-2	• To improve capacity of BWOs for assessment of preliminary and detailed designs from the hydrogeological point of view	[BWO] 3C, 4	
4	**Strengthening of Support Service** Component-1	• To improve capacity of BWOs in advising DWSTs on construction of water source structure.	[BWO] 5B	IV: Strengthening of Support Services ➢ Activities of WUA and DFT for WRM ➢ Support for DWSTs in construction of water source structure
	Component-2	• To improve capacity of BWOs in supporting DWSTs on water resources management at community level	[BWO] 5A	
5	**O&M and Follow-up**	• To enhance capacity of BWOs in supporting DWSTs for O&M	[BWO] 5B, 5C	V: O&M and follow-up ➢ Contents of WRM aspects of O&M of water source structure

The training guides were prepared by the facilitator based on the training curricula. The training materials were prepared by the lectures. The project team discussed the methodology and approach for facilitation and contents of materials with the facilitator and the lecturer in order to secure the quality of the training.

5.5 RUWASA-CAD TRAINING CURRICULUM FOR BWO

In line with the training plan, training curricula were prepared. The component 1 to 3 in the preparatory and 1st phases were targeted for the hydrogeologist, since the contents of the training is the preparation of the preliminary hydrogeolgical maps. The Community Development Officers in both target BWOs were invited to the component 2 in the 4th phase, in order to share the lessons learnt in the activities carried out in Rufiji BWO and apply these to respective BWOs for future activities. Other components were targeted for both the basin water officer and hydrogeologist. The composition of each training curriculum is shown in ***Table 5.6***. The training curricula of component are attached in ***Annex 9***.

Table 5.6 Summary of the Training Curriculum for BWO

Training Phase	Session Composition of the Training Component
Preparatory and 1st Phases: Identification of Present Situation	**Component 1: Basic Skill of Database Management**
	Component 2: Basic Skill of Geographical Information System (GIS)
	Component 3: Preparation of Preliminary Hydrogeological Maps
	1. Construction of database of existing well 2. Preparation of preliminary hydrogeological maps
2nd Phase: Project Planning	**Component 1: Roles and Responsibilities of BWOs in RWSS Projects**
	1. RWSSP sub-component 2. Roles and responsibilities of BWO in water resources management sub-component 3. Required activities of BWO for RWSS projects 4. Intercommunication mechanism between BWO, RWST and DWST
	Component 2: Assessment of Water Resources Potential for Rural Water Supply
	5. Rural water supply planning 6. Provision of required water resources information for rural water supply 7. Assessment of water resources for RWSS projects in the target area Flow of for
3rd Phase: Project Management	**Component 1: Optimization of Utilization of Water Resources for Rural Water Supply**
	1. Awareness creation of water resources management for sustainability of rural water supply 2. Selection of communities in RWSS project in terms of potential of water resources 3. Services to be rendered by service providers for RWSS project
	Component 2: Assessment of Design of Water Supply System
	4. Assessment of preliminary design of rural water supply scheme 5. Assessment of detail design of rural water supply scheme
4th Phase: Strengthening of Support Services	**Component 1: Support for DWSTs in the Construction of Water Source Structure**
	1. Support for DWSTs in the construction of water source structure
	Component 2: Water Resources Management in the Rural Water Supply Sector
	2.Improvement of the management of water resources information 3. Water resources management in the rural water sector
5th Training Phase: O&M and Follow-up	1. Operation and maintenance of water supply facility and support to be provided by BWO 2. Monitoring and evaluation of water source of water supply facility 3. Review of behavior change realized through RUWASA-CAD training 4. Current status of water resource management inside Ruvuma and Southern Coast Basin

5.6 IMPLEMENTATION OF BWO TRAINING

In the project, five training phases have been carried out for BWOs. Implementation of the training including procurement of facilitator, lecturer and resource person, arrangement of the training venue and necessary equipment, and compiling the training materials was organized by the project team. In the following sections, the training proceedings and results are described.

5.6.1 PREPARATORY AND 1ST TRAINING PHASES

(1) Outline of Training

The outline of the preparatory phase and 1st training phases is shown in ***Table 5.7***.

Table 5.7 Outline of Component 1, 2 and 3 of the Preparatory and 1st Training Phases for BWO

No	Outlines		
1	Schedule (implemented)	Component 1: 26/Nov - 30/Nov, 2007 Component 2: 3/Dec - 14/Dec, 2007 Component 3: 14/Jan - 15/Feb, 2008 (15 days in total)	
2	Training venue	ARDHI University for Component 1 and 2 RUWASA-CAD Project Office for Component 3	
3	Trainers (responsible session)	Mr. Guido Uhinga (ARDHI University) Mr. K. Nkembo (ARDHI University)	Component 1
		Mr. Guido Uhinga (ARDHI University) Ms. C. Mshana (ARDHI University) Mr. K. Nkembo (ARDHI University)	Component 2
		Mr. Hiroyoshi Yamada (JICA Expert) Ms. Bertha R. Sambo (GIS Sepcialist) Mr. Gasto Jerve William (Database Specialist)	Component 3
4	No. of Trainees (plan/actual)	Wami Ruvu BWO	(1/1)
		Ruvuma and Southern Coast BWO	(1/1)

Objectives of the training are as follows:

(i)	To master basic skills for database management and GIS operation
(ii)	To establish database management system of hydrogeological information
(iii)	To prepare the preliminary hydrogeological maps in order to support target LGAs in managing RWSS projects

Target of the training was one hydrogeologist from each of Wami Ruvu BWO and Ruvuma and Southern Coast BWO. Two hydrogeologists fully participated in all three components.

The training of component 1 and 2 consisted of the basic skills of software of database and GIS, and was carried out by the specialists of these programmes in the ARDHI University. Contents of the training were tailor-made for the training curricula.

The training of component 3 was conducted by the project team at the project office. Training period was five days every two weeks, that is, 15 days in total. The hydrogeologists were trained construction of database and preparation of hydrogeological maps applying the skills acquired in the previous training.

Consequently, the preliminary hydrogeological maps and database were prepared by each hydrogiologist as it is mentioned in the section 5.3.

(2) Training Results

The results of training are summarized below.

1) Acquisition of Basic Skills

It was observed that the hydrogeologists have actively reviewed the contents of training every day, and addressed the assignment given in the training after the daily training. As a result, the participants could acquire the basic skills for operation of the database and GIS software.

2) Combination of GIS Skill and Hydrogeological Background

The preliminary hydrogeological maps composed of the location of wells, topographical contour, geology, yield distribution and water quality distribution. The hydrogeological maps have been prepared by the hydrogeologists. The participants have effectively applied skills obtained by the previous training, and prepared maps based on their knowledge and experience about hydrogeological condition of respective basins.

3) Understanding of the Required Information for RWSS Projects

In the 1st training phase for DWSTs and RWSTs, the lecture on water resources management was given by the engineer of the division of water resources of MoWI. The preliminary hydrogeological maps were distributed as the training material. Hydrogeologists participated in the training as a resource person, and explained the importance of utilization of these maps in RWSS project. The trainees and hydrogeologists discussed available water resources information in each BWO and necessary information for RWSS projects. This discussion was good opportunity for the hydrogeologists to understand the needs at district level for RWSS projects.

5.6.2 2ND TRAINING PHASE

(1) Outline of Training

The outline of the preparatory phase and 2nd training phases is shown in ***Table 5.8***.

Table 5.8 Outline of Component 1 and 2 of the 2nd Training Phase for BWO

No	Outlines		
1	Schedule (implemented)	• Component 1: 16/Jun - 18/Jun, 2008 • Component 2: 18/Jun – 20/Jun, 2008	
2	Training venue	Ubungo Plaza (Dar es Salaam)	
3	Facilitator	Mr. Modhakkiru Katakweba (Water Supply and Sanitation Consultant) Ms. Annastella Kaijage (Social Development Advisor)	
4	Trainers (responsible session)	Mr. Goyagoya J. Mbena (CWSD, MoWI) Mr. Gibson Kisaka (PCT, MoWI)	Session 1
		Mr. Omari H. Rumambo (WRD, MoWI)	Session 2
		Mr. Hiroyoshi Yamada (JICA Expert)	Session 3
		Mr. Goyagoya J. Mbeba (CWSD, MoWI)	Session 4
		Ms. Rita Kilua (CWSD, MoWI) Mr. Goyagoya J. Mbena (CWSD, MoWI)	Session 5
		Mr. Hiroyoshi Yamada (JICA Expert)	Session 6
		Mr. Omari H. Rumambo (WRD, MoWI)	Session 7
5	No. of Trainees (plan/actual)	Wami Ruvu BWO	2/2
		Ruvuma and Southern Coast BWO	2/2

Objectives of the training are as follows:

(i)	To improve intercommunication mechanism between BWO, RWST and DWST
(ii)	To enhance capacity of BWO in supporting DWSTs for rural water supply planning

Target trainees were the basin water officers and hydrogeologists from two BWOs. Four trainees have fully participated in both components. The training courses were facilitated by the appointed consultants, and mainly lectured by the engineers of the MoWI.

In the component 1, the participants were lectured on the contents of RWSS projects, and roles and responsibilities of BWOs in both water resources management and RWSS projects, in order

to create awareness on the necessity of support to DWSTs. In the following session, intercommunication mechanism between BWO, RWST and DWST were discussed.

In the component 2, water resources information to be given for rural water supply planning was discussed among participants.

(2) Training Result

The results of training are summarized below.

1) Understanding on Necessity of Support to DWSTs

In early stage of 2nd training phase, knowledge and experience of participants on the RWSS project was limited. It might be caused by the degree of understanding on the roles of BWOs of the water resources management. Involvement of BWOs in rural water supply sector is the one of the important activities for the water resources management.

It was observed that all participants have recognized the importance of involvement of BWOs in RWSS projects, through the participation in the training, Consequently, all participants made an active discussion on the activities to be addressed by BWOs to support DWSTs in managing RWSS project.

2) Establishment of Intercommunication Mechanism

All participants have understood that establishment of intercommunication mechanism was important for not only water resources management but also supporting DWSTs for effective management of RWSS projects. One of the participants mentioned that the existence of BWOs and its roles and responsibility should be recognized by DWSTs and RWSTs, therefore, BWOs should attend the regular meeting at RSs and LGAs.

3) Communication with DWSTs and RWSTs

After the training, the officers and hydrogeologists participated in the joint training course for DWST and RWST as a resource person. In the training, necessity of consideration of water resources management in the RWSS projects and importance of establishment of intercommunication mechanism between BWO, RWST and DWST were discussed with participants based on the knowledge obtained in the training for BWO.

5.6.3 3RD TRAINING PHASE

(1) Outline of Training

The outline of the preparatory phase and 3rd training phase is shown in ***Table 5.9***.

Table 5.9 Outline of Component 1 and 2 of the 3rd Training Phase for BWO

No	Outlines	
1	Schedule (implemented)	• Component 1: 3/Nov - 4/Nov, 2008 (Dar es Salaam) • Component 2: 5/Nov - 6/Nov, 2008 (Dar es Salaam)
2	Training venue	Ubungo Plaza (Dar es Salaam)
3	Facilitator	Mr. Mrisho M. Kivugo (Water Resources Management Consultant)
4	Trainers (responsible session)	Mr. Goyagoya J. Mbena (CWSD, MoWI) Session 1 Ms. Tumaini Mwamyalla (WRD, MoWI) Mr. Hosea Sanga (WRD, MoWI) Mr. Majid A. Mtili (DWE, Kisarawe district)
		Mr. Goyagoya J. Mbena (CWSD, MoWI) Session 2 Mr. Majid A. Mtili (DWE, Kisarawe district) Mr. Hiroyoshi Yamada (JICA Expert)

No	Outlines		
		Mr. Goyagoya J. Mbena (CWSD, MoWI) Mr. Majid A. Mtili (DWE, Kisarawe district)	Session 3
		Mr. Goyagoya J. Mbeba (CWSD, MoWI) Mr. Majid A. Mtili (DWE, Kisarawe district) Mr. Hiroyoshi Yamada (JICA Expert)	Session 4
		Mr. Goyagoya J. Mbeba (CWSD, MoWI) Mr. Majid A. Mtili (DWE, Kisarawe district) Mr. Hiroyoshi Yamada (JICA Expert)	Session 5
5	No. of Trainees (plan/actual)	Wami Ruvu BWO	(2/2)
		Ruvuma and Southern Coast BWO	(2/2)

Objectives of the training are as follows:

(i)	To improve capacity of BWOs in advising DWSTs on optimizing utilization of water resources for rural water supply
(ii)	To improve capacity of BWOs in assessment of design of rural water supply scheme in terms of sustainability of water resources

The basin water officer and hydrogeologist from two BWOs were target trainees. Four trainees have fully participated in both components. The training courses were facilitated by the appointed consultant, and lectured by the engineers and community development officer in the MoWI. Furthermore, one district water engineer participated in all sessions as a resource person, in order for BWOs to have an opportunity to understand what kinds of information were necessary for DWSTs in managing RWSS projects.

In the component 1, support and advice to be given in the promotion phase were lectured and discussed. In the component 2, advice on the assessment of preliminary and detail design was discussed by utilizing the case study of design of rural water supply scheme.

(2) Training Result

The results of training are summarized below.

1) Better Understanding of RWSS Project

It was observed that all trainees actively discussed the contents of support for DWSTs, and proposed support activities to be conducted by BWOs, based on the RWSS project cycle. Their attitude might imply that an understanding of trainees about RWSS project has become deepened, comparing the 2nd training phase.

2) Proposal on the Implementation of the Training for other BWOs

Trainees proposed at the end of the training course that the training of enhancement of BWOs to support DWSTs be organized for remaining seven BWOs by MoWI, since the awareness on necessity of support for DWST on managing RWSS projects in other BWOs is generally low. This proposal made by the trainee might imply that the trainees recognized the importance and necessity of the involvement of BWOs in the RWSS project.

5.6.4 4TH TRAINING PHASE

(1) Outline of Training

The outline of the components of the 4th training phase is shown in ***Table 5.10***.

Table 5.10 Outline of Component 1 and 2 of the 4th Training Phase for BWO

No	Outlines	
1	Schedule (implemented)	• Component 1: 26/Oct - 27/Oct, 2009 (Morogoro)

No	Outlines		
		• Component 2: 28/Oct - 29/Oct, 2009 (Morogoro)	
2	Training venue	Oasis Hotel (Morogoro)	
3	Facilitator	Mr. Mrisho M. Kivugo (Water Resources Management Consultant)	
4	Trainers (responsible session)	Mrs. Diana Kimbute (WRD, MoWI) Mr. David Songea (DDCA) Mr. Ipyana Elia Mwakalinga (Water Resources Management Specialist) Mr. Christpher Mduma (DWE, Kibaha DC) Ms. Selestine John (MWE Ilala MC)	Session 1
		Mr. Ipyana Elia Mwakalinga (Water Resources Management Specialist) Mr. Joash E. Nyitambe (ICT&MIS Section, MoWI) Mr. Christpher Mduma (DWE, Kibaha DC) Ms. Selestine John (MWE, Ilala MC)	Session 2
		Mr. Idris Mwarubanda (Basin Water Officer, Rufiji Basin) Mr. Christpher Mduma (DWE, Kibaha DC) Ms. Selestine John (MWE, Ilala MC)	Session 3
5	No. of Trainees (plan/actual)	Wami Ruvu BWO	(3/3)
		Ruvuma and Southern Coast BWO	(3/3)

Objectives of the training are as follows.

(i)	To improve the capacity of BWOs in advising DWSTs on construction of water intake facilities
(ii)	To improve capacity of BWOs in supporting DWSTs on water resources management at community level

The training course focuses on the support to be provided by BWO for construction of water intake facilities and activities to be carried out for water resources management in the rural water supply sector. In order to receive the comments on the technical issues, two DWEs of Kibaha district in Coast region and Ilala municipality in Dar es Salaam region were invited as a resource person.

The officer of Rufiji BWO was invited as a lecturer for the session of water resources management in the rural water supply sector, since the Rufiji BWO was the one of the favorable offices for involving communities in the water resources management. In order for participants to share the lessons learnt in the Rufiji BWO and apply these to respective BWOs for future activities, the CDOs in both BWOs were invited to this session.

(2) Training Result

1) Participation of DWEs on water resources management

It was observed that DWE's understanding on necessity of water resources management have been deepened, since DWEs actively participated in discussion based on their experience in the water resources management such as sensitization of communities on protection of water sources and water right processing.

2) Sensitization of communities on water resources management

It was observed that all of participants, especially CDOs had active discussions and deepened their understanding on the effective approach to the communities through DFTs and WUAs.

5.6.5 5TH TRAINING PHASE

(1) Outline of Training

The outline of the components of the 5th training phase is shown in ***Table 5.11***.

Table 5.11 Outline of the 5th Training Phase for BWO

No	Outlines		
1	Schedule (implemented)	• 27/Jan – 30/Jan, 2010 (Mtwara)	
2	Training venue	COTC (Mtwara)	
3	Facilitator	Mr. Mrisho M. Kivugo (Water Resources Management Consultant)	
4	Trainers (responsible session)	Mrs. Neema Siara (CWSD, MoWI) Mr. Ipyana Elia Mwakalinga (Water Resources Management Specialist) Mr. Peter Malekia (DWE, Tandahimba DC) Mr. Enock Nyanda (DWE, Nachingwea DC)	Session 1
		Mr. Ipyana Elia Mwakalinga (Water Resources Management Specialist) Mr. Peter Malekia (DWE, Tandahimba DC) Mr. Enock Nyanda (DWE, Nachingwea DC)	Session 2
		Mr. Hiroyoshi Yamada (JICA Expert) Mr. Peter Malekia (DWE, Tandahimba DC) Mr. Enock Nyanda (DWE, Nachingwea DC)	Session 3
		Mr. Peter Malekia (DWE, Tandahimba DC) Mr. Enock Nyanda (DWE, Nachingwea DC)	Session 4
5	No. of Trainees (plan/actual)	Wami Ruvu BWO	(2/2)
		Ruvuma and Southern Coast BWO	(2/2)

Objectives of the training are as follows:

(i) To improve the capacity of BWOs in supporting DWSTs in O&M of rural water supply facility

(ii) To evaluate achievement of capacity development through RUWASA-CAD and draw lessons learnt and recommendations

The training course focuses on the support to be provided by BWO to DWST in the stage of Operation and Maintenance in RWSS project, from the view point of water resources management. In this regard, 2 DWEs of Tandahimba district in Mtwara region and Nachingwea district in Lindi region in the Ruvuma and Southern Coast basin were invited as a resource person for receiving comments and recommendations, in order to improve support services to be provided by BWO.

In the last session, all DWEs and RWAs in Lindi and Mtwara regions were invited, in order to deepen their understating on the activities of BWO, and promote further communication between BWO and RWST/DWST.

(2) Training Result

1) Difference of perception of support to be provided

It was observed that the perception of DWEs on the support to be provided for operation and maintenance differed from the ideas of BWOs. The group of DWEs stated more practical opinions such as support on supervision of well rehabilitation and frequent water quality analysis, while the groups of BWOs had opinions from the view point of water resources management such as identification of recharge and discharge areas for the protection of water resources and

strengthening of WUAs. During the session, these opinions were discussed by all participants and compiled into one statement to be addressed by BWOs.

2) Necessity of improvement of intercommunication

All participants recognized that the intercommunication was still weak and confirmed that improvement of communication should be addressed by DWST, RWST and BWO.

5.7 MONITORING AND EVALUATION

5.7.1 DELIVERY OF THE TRAINING

In order to improve the training plan for BWOs, evaluation of the delivery of training was carried out by the participants during the implementation of training. The results of evaluation of each training phase are described in the following sections. Outline of the training phases evaluated by the participants is described in section 5.5.

(1) Preparatory and 1st Training Phases

Evaluation of the training in the preparatory and 1st training phases was not systematically carried out, because the contents of training were basic and technical subjects. According to the interview to the participants in these phases, both hydrogeologists were satisfied with the contents of the training, and requested to have an opportunity to learn for further improvement of skills.

(2) 2nd Training Phase

The most of evaluation results of training delivery were scored over 4 points. Especially, the participants scored higher value for the training materials, usefulness of sessions and their understanding on the sessions. While, time arrangement was rated as 3.6 points, because of insufficient allocated time for the sessions comparing the importance and volume of the contents. Participants, therefore, requested to allocate enough time for each session.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
BWOs	4.0	4.2	4.4	3.6	4.0	4.5	4.6

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(3) 3rd Training Phase

The participants scored high value for the training delivery. Especially, the training materials, usefulness of sessions and understanding of the participants on the sessions were evaluated higher than other areas of evaluation. On the other hand, time arrangement and training venue were scored lower than other areas. The participants pointed out that the insufficient time was allocated for each session comparing to the contents.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
BWOs	4.2	4.0	4.5	3.6	3.3	4.4	4.6

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(4) 4th Training Phase

The most of evaluation results of training delivery were scored 4.5 points. However, time arrangement and training venue were scored lower than other areas.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
BWOs	4.5	4.5	4.5	3.8	3.5	4.5	4.5

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(5) 5th Training Phase

The participants scored high value for training delivery. The areas except for time arrangement and training venue are scored over 4.7 points. Although scores of time arrangement and training venue are over 4 points, evaluation of these 2 areas are relatively lower than other areas.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
BWOs	4.9	4.7	4.9	4.5	4.0	4.8	4.8

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

5.7.2 LEARNING OF THE TRAINEES

Evaluation of accomplishment of course objectives by the participants was carried out from the 2nd to 5th training phases. The results of evaluation are described in the following sections.

(1) 2nd Training Phase

Trainees made an evaluation of their own accomplishment of four course objectives. Seven sessions were prepared to attain four course objectives. Course objective 1 is expected to be attained after the completion of session 1,2 and 3. Course objective 3 is to be achieved after the completion of session 5 and 6. Course objectives 2 and 4 are accomplished after the completion of sessions 4 and 7, respectively.

Trainees evaluated the accomplishment of objectives as fair. In the result of evaluation of the delivery of the training, an understanding on the sessions was evaluated as good. These results might suggest that the linkage between the course objective and sessions were not appropriately set.

Objectives	1	2	3	4
BWOs	3.3	3.3	3.3	3.3

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(2) 3rd Training Phase

The participants assessed the level of own accomplishment as good. These scores are higher than those of the 2nd training phase. This fact shows that the contents of the training in this phase were rather technical matters that have been practiced by the participants. In addition, the level of understanding on the RWSS projects has been deepened.

Objectives	1	2	3	4	5
BWOs	3.8	4.0	3.8	4.2	3.5

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(3) 4th Training Phase

The participants assessed the level of own accomplishment as good. These scores are higher than those of the 3rd training phase. The contents of sessions have been issues to be addressed by BWO. This situation might help them to reach to better accomplishment.

Objectives	1	2	3
BWOs	4.0	4.3	4.5

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(4) 5th Training Phase

The participants assessed the level of own accomplishment as good. The most scores are over 4.7 points. In this training phase, all participants are requested to prepare presentation materials related to the contents of each session, in order for them to discuss issues actively in each session. This might help all participants to deepen their understanding.

Objectives	1	2	3	4
BWOs	4.8	4.8	4.4	4.7

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

5.7.3 BEHAVIOR CHANGE AT THE INDIVIDUAL LEVEL

(1) Introduction

In order to verify the effectiveness of five training phases, and make a feedback to the contents of training, behavior change at the individual level was monitored and evaluated by the following activities.

i. Monitoring of achievement of the assignment given in each training phase

ii. Monitoring visit to BWO

Observed behavior change at the individual level is described in the following sections.

(2) 2nd Training Phase

1) Observation on the Assignment

A total of three kinds of assignment related to the contents of training was given to the participants, in order for them to have an opportunity to deepen their understanding about activities for RWSS projects. Contents and status of the assignment are shown in ***Table 5.12***.

Table 5.12 Contents and Status of the Assignment in 2nd Training Phase

	Assignment	Wami Ruvu BWO	Ruvuma & Southern Coast BWO
1	To fulfill the matrix of General Guidelines for River/Lake Basin Management and revised RWSS project cycle	Not accomplished	Not accomplished
2	To prepare the minutes of meeting of intercommunication between BWO, RWST and DWST with regard to providing water resources information and support	They have not communicated with RWST and DWST	They had the meeting one time with DWST and RWST during the training course for DWST and RWST.
3	Provision of water resources information including hydrogeological maps prepared during 1st training phase to be distributed and distribution of provided water resources information to each District in Dar es Salaam, Coast, Lindi and Mtwara Regions.	They have not provided DWST with hydrogeological information, though the hydrogeological maps were distributed. They could not make any chance to contact with DWSTs.	They have distributed only hydrogeological maps to DWST in the training course for DWST. Description about water resources information has not been prepared yet.

As of October,2008, attainment of the assignment has not been well progressed in both BWOs. The participant explained that time allocated for the assignment had been forced to change due to newly assigned works. In addition, LGAs were located very far from the office. Therefore, the participant was not able to visit DWSTs frequently. In order to make further progress of the assignment, the project team has continued to encourage them.

As a result, it was confirmed that both BWOs have accomplished preparation of matrix in the assignment 1 by June 2009. As for the assignment 2, both BWOs have started to communicate with DWSTs and RWSTs by means of e-mail and telephone. However, they did not prepare the minutes of meeting. With regard to the assignment 3, it was confirmed that Wami Ruvu BWO had partly prepared the hydrogeological information of each district and carefully continued preparation. Ruvuma & Southern Coast BWO has started to prepare the information and continued preparation.

2) Observation on the Monitoring Visit

In the middle of October 2008, the monitoring visit to BWOs was conducted.

Although the progress of RWSS project was behind the schedule, the hydrogeologists have started updating the hydrogeological data and maps by utilizing the preliminary hydrogeological maps prepared in the 1st training phase as described in section 5.3.6.

(3) 3rd Training Phase

1) Observation on the Assignment

A total of four kinds of assignment was given to the participants, in order for the participants to have an opportunity to practice the support for DWSTs. The contents of assignment and the status of the assignment are shown in ***Table 5.13*** and ***Table 5.14***, respectively.

Table 5.13 Contents of Assignment in 3rd Training Phase

	Assignment	Objective
1	Complete the table related to each Basin in the Terms of Reference of the Request for the Proposal	Attention to be given for groundwater development in each basin was mentioned in the Request for Proposal to be distributed to the consultants for tendering purpose. Since these are not sufficient to cover each District, the BWOs are required in order to improve the contents of those descriptions by applying their experience and knowledge in each basin.
2	Prepare the record of the discussion made when BWOs distributed the preliminary hydrogeological maps to DWSTs	In order for BWOs to effectively update the preliminary hydrogeological maps in consideration of necessary information for rural water supply, they are required to prepare the record of discussion.
3	Update the database created by hydrogeologist in each BWO then update the preliminary hydrogeological maps	BWOs are required to update database and hydrogeological maps so that they are able to provide further detailed hydrogeological advice with DWSTs.
4	Prepare the record of discussion made between BWO, RWST and DWST with regard to advice on assessment of Design	In order for BWOs to be more capacitated to support DWSTs, they as the organization are required to accumulate their experience and knowledge about what kinds of advice on water resources are necessary for the design of rural water supply.

Table 5.14 Status of the Assignment in 3rd Training Phase

Assign-ment	Wami Ruvu BWO	Ruvuma & Southern Coast BWO
1	They have already completed required assignment for this item.	They have already completed required assignment for this item.

Assign-ment	Wami Ruvu BWO	Ruvuma & Southern Coast BWO
2	They have prepared the record of discussion made on 7th of November 2008	They have prepared the record of discussion made on 30th June 2008
3	They have carried out borehole inventory survey in Temeke District and updated database. Water quality map was updated. They have also contacted with all LGAs in Dar es Salaam and Coast Regions by e-mail in order to collect newly constructed boreholes.	They have collected information of existing boreholes that were not stored in the database.
4	N/A	N/A

As shown in ***Table 5.14***, BWOs have accomplished the assignment 1 and 2 by January, 2009. As for the assignment 3, one BWO have continued the activity. With regard to the assignment 4, both BWOs did not have opportunity to advice DWSTs on the design of rural water supply, since the progress of implementation of RWSS project has not reached to the stage of procurement of TSP and FSP in all of target LGA. Considering the situation, the project team has frequently communicated with and encouraged BWOs to work on the assignment 3 and 4.

As a result, it was confirmed that Wami Ruvu BWO has added new water quality data to the database and further updated the hydrogeological maps on June 2010. Wami Ruvu BWO has added yield data to the database and updated the hydrogeological maps by March, 2010. As for the assignment 4, both BWOs have verbally advised DWSTs on the design of rural water supply and not prepared the minutes of meeting.

2) Observation on the Monitoring Visit

In January 2009, 2nd monitoring visit was conducted.

It was observed that the hydrogeologists had made an effort to improve not only their own skills but also skills of their colleagues in the office. As a result, other members have been influenced by the hydrogeologists' active performance and started to improve their skills, such as utilization of GIS.

As for intercommunication with DWSTs and RWSTs, hydrogeologists have faced difficulties, though they have tried to communicate. According to them, locations of LGA offices and limited resources are recognized as factors to prevent their attempts.

(4) 4th Training Phase

1) Observation on the Monitoring Visit

The monitoring visit conducted on January 2010, confirmed following observations.

It was observed that the CDO of BWO actively established the DFTs after 4th training phase applying good practices introduced in the training.

BWO has started to communicate with DWSTs, more frequently than before.

As for update of hydrogeological maps, hydrogeologists made various efforts to collect water resources information, although development of water sources for the selected villages in the RWSS project was not started yet.

5.7.4 BEHAVIOR CHANGE AT THE ORGANIZATIONAL LEVEL

In the monitoring visit, behavior change at the organizational level was verified through the interview. The officer, hydrogeologist and other staffs participated in the meeting for the interview. Interview was taken place at respective BWOs, and the results are presented section below.

(1) 2nd Training Phase

Interview was made in the early October, 2008 for Ruvuma & Southern Coast BWO and Wami Ruvu BWO, separately. Observed significant behavior changes are summarized in ***Table 5.15***. Wami Ruvu BWO has started activities to improve the capacity of staffs of the office. In the Ruvuma and Southern Coast BWO, staffs of the office have utilized the preliminary hydrogeological maps prepared in the 1st training phase. However, since the RWSS project was still in the promotion phase, noticeable communication with RWSTs and DWSTs has not yet conducted.

Table 5.15 Observed Significant Behavior Change at the Organizational Level in the 2nd Training Phase

Wami Ruvu BWO	Ruvuma & Southern Coast BWO
- They have started internal training about database management and update of preliminary hydrogeological maps.	- Preliminary hydrogeological maps prepared in the preparatory phase are frequently utilized for the activities to support BWOs.

Other observations made during the 1st monitoring visit are described below.

It was observed that awareness creation of staffs on the contents of RWSS projects and necessity of support for DWSTs had just started. In order to deepen their understanding on this matter, necessity of integration of water resources management into RWSS projects should be discussed and addressed in the BWOs.

Hydrogeologists who participated in the training courses have been mainly addressing update of database and preliminary hydrogeological maps. It is essential for effective support for DWSTs. However, establishment of intercommunication mechanism should also be addressed as discussed in the 2nd training phase.

BWOs have been recognized by DWSTs as the sole responsible organization for the water resources management after the 2nd training phase. This observation could be regarded as the positive impact to the implementation of the RWSS project, though it is not direct behaviour change at the organizational level.

(2) 3rd Training Phase

Interview was made in the late of January, 2009 for Ruvuma & Southern Coast BWO and Wami Ruvu BWO separately. Observed significant behavior changes are summarized in ***Table 5.16***. Although the progress of the RWSS project is still behind the schedule, both BWOs have started some activities to be addressed by them applying the contents of trainings conducted. Ruvuma and Southern Coast BWO utilized the proposed RWSS project cycle in the workshop for stakeholders within the basin, in order to explain the roles and responsibilities of BWO, and create awareness on the necessity of water resources management. Wami Ruvu BWO has started the regular internal training on GIS operation.

Table 5.16 Observed Significant Behavior Change at the Organizational Level in the 3rd Training Phase

Wami Ruvu BWO	Ruvuma & Southern Coast BWO
- BWO has contacted DWSTs in Dar es Salaam and Coast Regions by sending e-mail to collect data of newly constructed borehole - Hydrogeologist has started internal training about GIS operation regularly. As a result, one hydrogeologist has created the base map of one sub-catchment.	- BWO has utilized the proposed RWSS project cycle when they held the workshop to explain the roles and responsibility of BWO to stakeholders inside the basin. - Officer has tried to send the staff to LGAs to communicate with them.

In addition to these behaviour changes, positive impression on their mindset was observed as described bellow.

During the 2nd monitoring visit, a concern about availability of support to DWSTs with regard to water resources for RWSS project was raised. The interviewee mentioned that if the inquiries from DWSTs were concentrated in a short period, BWO would not be able to provide effective and timely support to them due to insufficient number of staff. This may imply that the BWOs have practicably considered that what kind of support would be provided to DWSTs.

There was a request from interviewee that MoWI should organize the training of remaining seven BWOs to enhance the capacity to support DWSTs. This means that BWOs have recognized the necessity of integration of water resources management into rural water supply project, communication with RWSTs and DWSTs as well as relevance of training contents.

(3) 4th Training Phase

Interview was made in the middle of January, 2010 for Ruvuma & Southern Coast BWO and Wami Ruvu BWO separately. Observed significant behavior changes are summarized in ***Table 5.17***.

Table 5.17 Observed Significant Behavior Change at the Organizational Level in the 4th Training Phase

Wami Ruvu BWO	Ruvuma & Southern Coast BWO
- Awareness of necessity of support to DWSTs is continuously improving. - Facilitation of community for water resources management was started together with DFTs	- Frequency of communication with DWSTs is increased. - Staff has understood that support to DWSTs was a part of their activities.

One of the interviewees recommended that field training on awareness creation of communities and support to DWSTs on construction of water source structure be dealt in the training. This means that BWOs recognized the capacity areas to be enhanced for effective support to DWSTs.

(4) End Line Survey

The end line survey was carried out from May to June, 2010. Observed behavior changes are summarized in ***Table 5.18***..

Table 5.18 Observed Behavior Change at the Organizational Level in 2009/10

Wami Ruvu BWO	Ruvuma & Southern Coast BWO
- BWO has updated the database of existing wells and preliminary hydrogeological maps by the middle of May 2010. - BWO has been sought advice from 7 out of 10 DWSTs and advised them. - BWO has conducted internal training of staff on management of database prepared by the hydrogeologist. - Although BWO has already communicated with DWSTs, however, they recognized that it should be more frequently.	- BWO has updated the database of existing wells and preliminary hydrogeological maps by the middle of March 2010. - BWO has been sought advice from all of 12 DWSTs and advised them. - BWO has conducted internal training of staff on skill of GIS operation. - They have communicated with DWSTs in both seminar organized by BWO and meeting organized by DWSTs. However, BWO recognized that the linkage should be strengthened.

As for distribution of updated hydrogeological maps, Wami Ruvu BWO distributed to DWSTs after completion of the end line survey.

Ruvuma and Southern Coast BWO has not distributed hydrogeological maps. The maps were already updated in March 2010, however, the computer was affected by virus and data was disappeared. In order to update and distribute maps in August 2010, hydrogeologist has planned to analyze available information in the office and new drilled well in Nanyumbu district.

It was also observed in 2009/10 that 14 out of 22 DWSTs in the four regions were commonly utilizing the hydrogeological maps distributed while it was 13 DWSTs in 2008/09. This fact shows that the increase of LGA using the hydrogeological information as the RWSS project is proceeded. As its background, members of DWSTs were aware of the effectiveness of the hydrogeological maps for activities of RWSSP and also the preparation and distribution of maps by BWO was one of effective supports to DWSTs.

Considering these activities carried out, it is assessed that the support to DWSTs has been effectively provided.

5.7.5 COMPARISON BETWEEN TARGET AND NON-TARGET BWOS

In order to verify the impact of the project input to the BWOs, end line survey was carried out both target and non-target BWOs of Pangani and Lake Tanganyika. As the results of the survey, following differences between target and non-target BWOs are observed.

(1) Status of Awareness of BWO on Activities of RWSSP

It was observed that awareness of activities carried out to support the RWSS projects in non-target BWOs were still not reaching the satisfactory level, although they have implemented activities related to the water resources sub-component such as proceedings of water use permit and geophysical survey.

However, it was observed that two target BWOs have already asked DWSTs to provide information about activities of RWSSP, and advised on the report submitted by DWSTs. It is, therefore, assessed that target BWOs have actively communicated with DWSTs for understanding on activities of RWSSP, in order to increase their awareness on activities in RWSSP.

(2) Support Services by BWO in RWSS projects

It was observed that two non-target BWOs have not prepared the hydrogeological maps, while two target BWOs have prepared and updated maps, and already distributed to target DWSTs in their daily work.

As for seeking advice from DWST for RWSS project, two target BWOs and one non-target BWO were sought by DWSTs. The contents of advices are hydrological and hydrogeological issues identified on the site and environmental aspect.

It was observed that two target BWOs have advised DWSTs on the reports submitted from them, while two non-target BWOs have not received any reports from DWSTs. To advise on the reports on water supply plans and facility plans submitted by DWST is the one of the effective support from BWO, therefore, the necessity of the support has been emphasized in the training courses of the Project. Eventually, it could be assessed that the emphasis from RUWASA-CAD training induced appropriately the behaviour change among the trainees as intended.

(3) Formulation of Capacity Development Plan

The status of formulation of the capacity development plan based on the identified priority area of capacity development was confirmed in the survey. It was confirmed that both target and non-target BWOs have already formulated CD plan, based on the result of capacity assessment. The assessment was conducted in accordance with the CD Guideline prepared by MoWI.

Prioritized capacity areas to be enhanced are different from BWO to BWO. Identified areas are mainly general and basic areas such as enhancement of capacity of staffs for water resources management and procurement of the office and field equipments, which do not directly cover the support services to DWSTs for RWSSP. The difference identified in the prioritized areas between target and non-target BWOs is that one target BWO gave the priority to more specific capacity areas compared to other 3 BWOs, such as the community mobilization skills and GIS operation skills, which are effective skills to support DWSTs.

5.7.6 CONCLUSION

(4) Assessment of Support Services Provided to DWST

1) Distribution of the Preliminary Hydrogeological Maps to DWSTs

In order to assist DWST's understanding on the availability of groundwater resources, the preliminary hydrogeological maps are the most effective tools. As described in the *section 5.3.5*, both target BWOs have prepared the maps and distributed to DWSTs. The target DWSTs have utilized the maps, when they needed the information of groundwater resources for the RWSS project.

Considering these activities carried out, it is concluded that both BWOs have internalized the distribution of the hydrogeological maps to DWSTs.

2) Update of the Preliminary Hydrogeological Maps

Update of hydrogeological maps is the basic requirement for BWO so as to provide DWSTs with reliable information about groundwater condition. During the project period, both BWOs have continuously collected well information and made hydrogeological analysis these data by applying GIS techniques. As a result, the hydrogeological maps have been partly updated in both BWOs.

It is, therefore concluded that both BWOs have already recognized necessity of update of the hydrogeological maps for the implementation of RWSS project.

3) Importance of Support to DWST from BWO

In order to support DWSTs for implementation of RWSSP, it is indispensable that all staff of BWO, even those who did not participate in the training, take part in the supporting activities for DWSTs. Therefore, basin officers and hydrogeologists of target BWOs have organized a series of internal training to share acquired skills for them.

In the monitoring visit, it was observed that those who had not participated in the training courses attended the interview meeting and actively discussed the linkage with DWSTs, and staffs of BWO had gradually acknowledged that the importance of the support to DWSTs and internalize it as a part of activities to be carried out by BWO.

It is, therefore, assessed that the awareness of necessity of support to DWSTs had been increased in the staffs of BWOs.

4) Intercommunication between BWO and DWST

In the early stage of the project, the communication between BWO and DWST was made minimal and only in the personal basis. Therefore, the necessity of establishment of official communication with DWSTs has been discussed regularly among participants.

It was observed, eventually at the end of the project period, in the monitoring visit, that the frequency of official communication between BWO and DWST has been gradually increased as the RWSS project proceeded.

Considering these practices, it is assessed that communication between BWO and DWST has been gradually established and would be further improved.

(5) Assessmnet of the Capacity of BWO to support DWST

As mentioned above, the capacity of BWO to support DWST is assessed to be enhanced to a certain extent, comparing the level of capacity in the early stage and the end of the project period.

According to the result of comparison between target and non-target BWOs, it was assessed that awareness on the necessity of support to DWST and actual support services provided in the target BWOs were relatively higher than those in the non-target BWOs.

It is, therefore, assessed that the capacity of the target BWOs to support DWSTs was enhanced under the influence of positive impact from the activities of the Project.

CHAPTER 6 OUTPUT 4: ENHANCEMENT OF CAPACITIES OF RWST

6.1 ACTIVITIES CARRIED OUT FOR OUTPUT 4

The expected output of【Output 4】is "Capacities of Regional Water and Sanitation Teams (RWSTs) in the target Regions for supporting Districts in managing RWSS projects are enhanced.".

6.1.1 WORK IN TANZANIA I (SEPTEMBER 2007 TO MARCH 2008)

Through baseline survey and the interviews to the institutions concerned, present situation of the RWST and the practice of the team pertaining to supporting and monitoring water supply services in the target Districts were examined. Simultaneously, intercommunication mechanism between MoWI, Regions and Districts was examined through the analysis of the roles and responsibilities of the Regions. Based on the examinations, training programme for the RWST was developed. Accordingly, 1st Trainings for RWST association with DWST was carried out. The activities taken by this term for the Output 4 is summarized in ***Figure 6.1***.

Activities Carried Out	Year	2007				2008		
Activities	Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar
4-1 Examine practices of the RWSTs of the target Regions pertaining to supporting and monitoring water supply services in the target Districts.			■	■				
4-2 Examine the intercommunication mechanism between MoW, PMO-RALG, target Regions and Districts.			■	■				
4-3 Develop training programmes for RWSTs of the target Regions based on the examinations of 4-1 and 4-2 above.						■		
4-4 Provide training for RWSTs of the target Regions based on the training programmes of 4-3 above.						■	■	
4-5 Monitor the implementation of support services by RWSTs to the target districts.		(to be carried out in Next Phase)						

Figure 6.1 Activities Carried Out for Output 4 During the Work in Tanzania I

6.1.2 WORK IN TANZANIA II (MAY 2008 TO MARCH 2009)

The item No. 4-1, 4-1, the activities related to the examination of the practice and intercommunication mechanism between the Regions and other institution were completed during the project step 2. In this term, the development of training programmes for RWSTs, provision of training for RWSTs raining phase 2 and 3, and monitoring of the implementation of support services by the RWSTs were carried out as schedule. The activities taken by this term for the Output 2 is summarized in ***Figure 6.2***.

Activities Carried Out	2008								2009		
Activities	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
4-1 Examine practices of the RWSTs of the target Regions pertaining to supporting and monitoring water supply services in the target Districts.	(completed in project step 1)										
4-2 Examine the intercommunication mechanism between MoWI, PMO-RALG, target Regions and Districts	(completed in project step 1)										
4-3 Develop training programmes for RWSTs of the target Regions based on the examinations of 4-1 and 4-2 above		■				■					
4-4 Provide training for RWSTs of the target Regions based on the training programmes of 4-3 above.		■	■				■				
4-5 Monitor the implementation of support services by RWSTs to the target districts.			■		■		■		■		

Figure 6.2 Activities Carried Out for Output 4 During the Work in Tanzania II

6.1.3 WORK IN TANZANIA III (MAY 2009 TO MARCH 2010)

In this term, the development of training programmes for RWSTs, provision of training for RWSTs raining phase 3 and 4, and monitoring of the implementation of support services by the RWSTs were carried out as schedule. The activities taken by this term for the Output 2 is summarized in ***Figure 6.3***.

Activities Carried Out	2008								2009		
Activities	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
4-1 Examine practices of the RWSTs of the target Regions pertaining to supporting and monitoring water supply services in the target Districts.	(completed in project step 1)										
4-2 Examine the intercommunication mechanism between MoW, PMO-RALG, target Regions and Districts	(completed in project step 1)										
4-3 Develop training programmes for RWSTs of the target Regions based on the examinations of 4-1 and 4-2 above			▬					▬			
4-4 Provide training for RWSTs of the target Regions based on the training programmes of 4-3 above.				▬	▬				▬		
4-5 Monitor the implementation of support services by RWSTs to the target districts.						▬					

Figure 6.3 Activities Carried Out for Output 4 During the Work in Tanzania III

6.1.4 WORK IN TANZANIA IV(MAY 2010 TO JULY 2010)

By the Work in Tanzania 3, all the activities related to the training were completed. In this project step, monitoring of implementation of support services by RWST was carried out as the end line survey. The activities taken by this term for the Output 2 is summarized in ***Figure 6.4***.

Activities Carried Out	2010			
Activities	May	Jun	Jul	Aug
4-1 Examine practices of the RWSTs of the target Regions pertaining to supporting and monitoring water supply services in the target Districts.	(completed in project step 1)			
4-2 Examine the intercommunication mechanism between MoW, PMO-RALG, target Regions and Districts	(completed in project step 1)			
4-3 Develop training programmes for RWSTs of the target Regions based on the examinations of 4-1 and 4-2 above	(completed in project step 3)			
4-4 Provide training for RWSTs of the target Regions based on the training programmes of 4-3 above.	(completed in project step 3)			
4-5 Monitor the implementation of support services by RWSTs to the target districts.		▬		

Figure 6.4 Activities Carried Out for Output 4 During the Work in Tanzania IV

6.2 PERSPECTIVE OF RWST TRAINING

Formulated training plan for the RWST is shown in ***Table 6.1***. The alignment between regions and districts may create better water supply plan. Therefore, the joint trainings with DWST were planned depend on the course objectives.

All training courses have been implemented as planned. The outline of the trainings carried out is described in section 6.4.

Table 6.1 Training Perspective for RWST

Fiscal Year	Phase	Training Perspective				Venue
		Contents	Course Objective, Topics	Target Trainee		
				Trainee	Region	
2007	1	Identification of Present Status ***(association with DWST)***	• Present situation of RWSS sub-sector in districts and regions • Setting output of the training programme and performance indicator	RWA RCDO RMO	Coast, DSM Lindi, MT	DSM (DWST) MT (DWST)
2008	2	Project Planning Component-1	• Skills for the preparation of RWSP	RWA RPO RCDO RMO	Coast, DSM Lindi, MT	DSM MT
		Component-2 ***(association with DWST)***	• Strategic planning of RWSS with considering sustainability of water resources	RWA	Coast, DSM Lindi, MT	DSM (DWST) MT (DWST)
	3	Project Management Component-1 ***(association with DWST)***	• Project management witch requires consciousness to link the activities of DWST	RWA RPO	Coast, DSM Lindi, MT	DSM (DWST) MT (DWST)
		Component-2 ***(association with DWST)***	• Strengthen capacity of DWST in formulation of the integrated approach and activities of water and sanitation	RMO REA	Coast, DSM Lindi, MT	DSM (DWST) MT (DWST)
2009	4	Strengthening of Support Service	• Monitoring in accordance with RWSPs. • Evaluation of quarterly and annual report	RWA RPO RCDO RMO	Coast, DSM Lindi, MT	DSM MT
	5	O&M and Follow-up	• Sustainability of rural water supply	RWA RPO RCDO RMO	Coast, DSM Lindi, MT	DSM MT

[Abbreviation] **DSM**: Dar es Salaam, **MT**: Mtwara, **DWST**: District Water & Sanitation Team, **RWST**: Rigional Water & Sanitation Team, **RWE**: Rigional Water Advisor, **WPO**: Regional Planning Officer, **RMO**: Regional Medical Officer, **RCDO**: Regional Community Development Officer, **REO**: Regional Education Officer

6.3 TRAINING MODULE AND MATERIALS

In the implementation of RWSS projects by LGAs, the Regional Secretariat through RWST is responsible to provide support services to DWSTs in the region. Such services include provision of technical backstop to DWSTs throughout the project cycle, quality assurance of plan and design of the proposed community subprojects, coordination of interventions in the region, and monitoring and coaching of DWSTs.

The training plan for RWST was designed in order to enhance capacities of RWST for supporting districts in management of RWSS projects. The training courses for RWST are partly organized in a manner of joint workshop for DWST and RWST with aiming at the following;

- To improve understanding of RWST on roles and responsibilities of each actor in RWSS sub-sector, project cycle, activities to be employed at each stage of the project, and other basic topics common to the district and region.

- To share views and opinions at district and regional levels in implementation of RWSS projects and to strengthen coordination among them.

No training programme is designed for RWST in the current training modules included in the Programme Implementation Manual (PIM). The training modules for RWST were, therefore, developed in the project as shown in ***Table 6.2***. Detail contents of these modules are presented in ***Separate Volume 1: Training Modul Guide for DWST, RWST and BWO*** of this report..

Table 6.2 Composition of Training Modules for RWST

Modules		Module Title	Sub Module Title
I		Situation analysis of present RWSS conditions in LGAs	
II	A	Understanding of RWSS implementation procedures and arrangement of RWSS implementation structure	Review of RWSS project planning and implementation process
	B		Review of task allocations and coordination among RWST members
III	A	Regional water supply and sanitation plan for strategic management of RWSSP at the LGA level	Introduction of strategic planning of RWSS
	B		Regional water supply and sanitation plan
	C		Water resources evaluation
iV	A	Strategic support and coordination on CD intervention at the LGA level	Capacity assessment
	B		Management of capacity development process at the regional level
	C		Basics of coaching
	D		Review of behavior change realized through CD interventions
V	A	Introduction of new planning framework under WSDP	National policies and strategies related to RWSS
	B		Roles and responsibilities of RWST and relation with other key player
VI	A	Assessment of district water supply and sanitation plans from the view point of regional water supply and sanitation plan	Setting framework for RWSP
	B		Assessing available information
VII	A	Technical and administrative support services by RWST for better implementation of RWSSP at the regional level	Support services by RWST at promotion stage
	B		Support services by RWST at planning stage
VIII		Communication and reporting	
IX	A	Strengthening of Support Services in implementation phase of RWSSP	Project supervision based on the contract documents between LGAs and TSPs, FSPs, and Contractors
	B		Evaluation of quarterly and annual report
	C		Support on water supply and hygiene & sanitation activities carried out by DWSTs
	D		Support and monitoring community participation in sub projects
X	A	Strategic support and management on O&M of RWSSP at the regional level	Monitoring of O&M conditions in RWSSP/ WSDP
	B		Indicators for monitoring at O&M stage
	C		Operation and maintenance requirements for sustainability
XI	A	Evaluation on progress of RWSSP at LGA level and practical planning approach of follow-up	Post-construction follow-up support
	B		Evaluation of community sub-projects and preparation of follow-up plan

6.4 RUWASA-CAD TRAINING CURRICULUM FOR RWST

Five training courses have been conducted for RWST since commencement of the project. Among them, 1st Component of the 2nd Training Phase was specifically targeted for RWST while other four were organized for participants from both DWST and RWST. ***Table 6.3*** shows composition of the sessions of each training course. Curricula of the trainings are attached in ***Annex 7***.

Table 6.3 Summary of the Training Curriculum for RWST

Training Phase	Session Composition of the Training Course	
1st Phase: Identification of Present Situation ***[Joint with DWST]***	1. Situation analysis on RWSS conditions of the districts 2. Review of processes of the project planning and implementation in the districts 3. Review of the task allocation and coordination in the team 4. Introduction to the strategic planning of water supply 5. Regional water supply master plan 6. Water resources evaluation 7. Capacity assessment 8. Management of the capacity development process at the district & regional levels 9. Setting the goal and performance monitoring indicators for the training programme	
2nd Phase: Project Planning	**Component 1: Formulation of RWSP**	
	1. National policies and strategies related to RWSS sub-sector 2. Roles and responsibilities of RWST and relations with other key players 3. Setting framework for RWSP 4. Assessing available information 5. Support services by RWST at promotion stage 6. Support services by RWST at planning stage 7. Communication and Reporting 8. Basics of coaching	
	Component 2: Water Supply Planning *[Joint with DWST]*	
	1. Flow of formulation of preliminary study and detailed design of rural water supply projects 2. Assessment of water resources potential 3. Consideration of socio-economic conditions 4. Water supply planning 5. Facility plan and design 6. Operation and maintenance plan 7. Impact assessment 8. Appraisal of the community subprojects	
3rd Phase: Project Management	**Component 1: Project Management *[Joint with DWST]***	
	I. Project Cycle Management based on the Logical Framework	1. Introduction to the project cycle management with using the logical framework 2. Stakeholders analysis 3. Problem analysis & objective analysis 4. Formulation of the logical framework
	II. Result Based Management (RBM) in the Project Cycle	5. Activities linked to the expected output 6. Managing assumptions and risk and success factors 7. Monitoring and evaluation
	III. Communication in the Project Management	8. Information sharing for management of the change processes
	IV. Contract Management	9. Procurement and contract management
	Component 2: Sanitation and Hygiene Promotion *[Joint with DWST]*	

Training Phase	Session Composition of the Training Course
	1. National strategies on sanitation and hygiene promotion 2. Participatory Hygiene and Sanitation Transformation (PHAST) 3. Community-Led Total Sanitation (CLTS) 4. School sanitation and hygiene education 5. Technology options for improvement of sanitation 6. Social marketing for the improved sanitation 7. Mainstreaming of HIV/AIDS in RWSSP
4th Phase: Strengthening of Support Services	1. Project supervision based on the contract documents between LGAs and TSPs, FSPs, and Contractors 2. Evaluation of quarterly and annual report 3. Support on water supply and hygiene & sanitation activities carried out by DWSTs 4. Support and monitoring community participation in sub projects
5th Phase: Strengthening of Support Services	1. Operation and Maintenance Requirements for Sustainability 2. Post-Construction Follow-up Support 3. Monitoring of O&M Conditions 4. Evaluation of Community Sub-Projects and Preparation of Follow-up Plan 5. Review of Behaviour Change Realised through RUWASA-CAD Training

6.5 IMPLEMENTATION OF RWST TRAINING

As mentioned in the previous section, four training courses out of five so far conducted in the project were targeted both for DWST and RWST. Outline of the training of these joint-training courses are explained in Chapter 4. 4. Results of the 1st Component of the 2nd training phase, 4th training phase, and 5th training phase which were solely for RWST are described in the next section.

6.5.1 2ND TRAINING PHASE: COMPONENT 1

Table 6.4 shows outline of the 1st Component "Formulation of RWSP" in the 2nd training phase.

Table 6.4 Outline of Component 1 of the 2nd Training Phase for RWST

No	Outlines		
1	Consultant	WEDECO Ltd.	
2	Schedule (implemented)	• 16/Jun – 20/Jun, 2008 (Dar es Salaam) for DSM and Coast regions • 23/Jun – 27/Jun, 2008 (Mtwara) for Mtwara and Lindi regions	
3	Training venue	• Pearl Hall, Ubungo Plaza (Dar es Salaam) • Clinical Officers Training Center (Mtwara)	
4	Facilitator	Ms. Mwanasha Ally (WEDECO Ltd.) Ms. Marry Liwa (WEDECO Ltd) Mr. Johannes Ishengoma (WEDECO Ltd)	
5	Trainers (responsible session)	Ms. Neema Siarra (MoWI) Ms. Mwanasha Ally (WEDECO Ltd.)	Session 1
		Ms. Kirenga D.A.T. (MoWI) Ms. Neema Siarra (MoWI) Ms. Mwanasha Ally (WEDECO Ltd.) Ms. Marry Liwa (WEDECO Ltd)	Session 2
		Ms. Mwanasha Ally (WEDECO Ltd.) Mr. Charles Panyika (WEDECO Ltd)	Session 3
		Ms. Mwanasha Ally (WEDECO Ltd.) Mr. Charles Panyika (WEDECO Ltd)	Session 4
		Ms. Neema Siarra (MoWI) Ms. Mwanasha Ally (WEDECO Ltd.) Mr. Charles Panyika (WEDECO Ltd)	Session 5
		Mr. Johannes Ishengoma (WEDECO Ltd)	Session 6

No	Outlines		
		Ms. Julieth Kahembe (WEDECO Ltd.)	
		Ms. Kirenga D.A.T. (MoWI) Ms. Marry Liwa (WEDECO Ltd)	Session 7
		Ms. Mwanasha Ally (WEDECO Ltd) Ms. Julieth Kahembe (WEDECO Ltd.)	Session 8
6	No. of Trainees (plan/actual)	Dar es Salaam	6 participated / 8 invited
		Mtwara	5 participated / 8 invited

Objectives of the training are the following;

1. To strengthen capacities of participants in planning of RWSP based on principles of the National Water Policy, National Water Sector Development Strategy, and WSDP.
2. To enhance understanding of participants on support services to be rendered by RWSTs at promotion and planning stages of the DWSP.

Target group of the training was Regional Water Advisor (RWA), Regional Planning Officer (RPLO), Regional Health Officer (RHO), and Regional Community Development Officer (RCDO). 11 persons attended the training while the original plan was intended to host 16 participants from Coast, Dar es Salaam, Lindi and Mtwara regions. Four persons from Dar es Salaam and Lindi regions could not participate in the training due to other commitment that they were required to close their previous year activities at the end of the fiscal year. Also, Coast Region could not send RWA as the post was vacant at the time of the training.

(1) Training Results

Results of the training are summarized below:

1) National Policy, Principles and Strategies

Principles and strategies of NAWAPO, NWSDS and WSDP/RWSSP were confirmed by the participants. Basic approaches employed in this policy and strategy includes DRA, cost recovery, community ownership and management, and private sector participation. The participants reviewed experiences of the regions in applying these strategies and approaches in implementation of RWSS projects in the regions. Key observations in the session are the following;

- RWST members are not well versed in integration of the Obstacles and Opportunities for Development (O&OD) methodology in promotion and planning processes of RWSS projects. While the O&OD is recognized as the major planning methodology based on DRA, participants observed that the community subprojects in the districts had not necessarily been formed with using the O&OD. It is recommended that the O&OD methodology be incorporated into the RWSS project cycle.
- There was an increased awareness, sensitivity and understanding among the participants, especially those who were from outside the water sector, on the different approaches and policies as well as the linkages between NAWAPO, WSDS, RWSSP and LGCDG. The increased understanding was also on different basic concepts such as DRA and COM.

2) Roles and Responsibilities of RWST and Relations with Other Key Players

The RWSS project cycle and activities revised by the project were introduced in the 1st training phase. Based on the review and discussion held by each RWST after the 1st training, the participants shared how they examined the revised project cycle, activities, and relations between RWST, DWST and BWO. Demarcation of roles and responsibilities among RWST members were also confirmed according to the activities in the project cycle.

With regard to status of the teamwork of RWST, the participants observed hindrance as follows;

- RWST is a new team that is not in the framework of the Regional Secretariat, thus does not bind the members to work as a team.
- The RWSTs have not been formally instructed on their roles and responsibilities.
- Lack of coordination between members and other key players.
- Lack of incentives to RWST members, which reduced commitment. This was due to the fact that salaries of heads of departments at district level are by far bigger than the RS advisor.

For operationalization of RWST as the team, the participants agreed that the team is required to be formally recognized in the Regional Secretariat and each member is to be mandated specific tasks.

3) Setting Framework for Regional Water Supply and Sanitation Plan (RWSP)

Currently, the regions do not have its RWSP which describes consolidated intervention plan of the respective districts as well as overall situation of water supply and sanitation in the region. In this session, purpose and importance to formulate RWSP were discussed and the basic framework of the plan was set as to contain the environmental scan of the region, contents of district plans, assessment made by the region on the district plans, and plan of activities of RWST for support services to the districts. The process to be involved in RWSP is;

- First communities do prepare their application for the project by defining their priority through O&OD methodology then submit it to district for support through ward management.
- DWST compiles the community plans as DWSP based on the priorities earmarked by the community.
- RWST provides technical input to DWSPs.
- Upon finalization of DWSPs, RWST compiles RWSPs based on the project plans submitted by the district and the plan of activities as RWST.

It was found important for the RWST to provide support services to DWST for smooth and professional planning processes. At the promotion and planning stage of RWSS projects, the support will be given the following points by RWST.

- During compilation of baseline data
- When assessing demand and community readiness for the project
- Checking adherence to the policy framework
- During designing and cost estimation

4) Assessment of Available Information

This session focuses on collection and analysis of data and information required for preparation of RWSP. It included methods of data collection, review of quality of data and information, procedures of analysis, and data management system. Information available at BWO was also introduced to RWST in order to encourage utilization of facilities in the BWO to obtain required information for preparation of RWSP. The facilities include basin development plan such as the hydrogeological maps and Integrated Water Resource Management Plan.

5) Communication and Reporting

The participants observed present communication and reporting flow within the team and with DWST, BWO, PMO-RALG and MoWI as follows;

- Communication among RWST members is weak.
- Line of command of RWST to DWST is advisory which doe not hold RWST responsible for any shortfall that may occur at LGA.

In line with the on-going government efforts to restructure the Regional Secretariat, special emphasis was put in the discussion that RWST is expected to play more positive roles not only to give advisory to DWSTs but to provide quality assurance through checking of and granting approval to the projects to meet policy and standard set by the central government.

The major comment from the participants was on the frequency in the interaction between stakeholders in the RWSS. They indicated the need for the partners such as the MoWI, RS and LGAs to meet more frequently and discuss issues that need joint resolutions, for example the issue of communication and coordination channels which the participants felt not open to all the stakeholders.

6) Basics of Coaching

Utilization of coaching skills is recommended to RWST in Annex 8 Field Monitoring and Coaching Guide of PIM in order to facilitate capacity building of DWSTs through dialogue and consultation with RWST. Basics of coaching skills were explained to the participants in order to strengthen their capacities to conduct supervision and monitoring of the districts effectively. The participants discussed how they could make monitoring and supervisory visits to the district more productive and interactive with utilizing coaching skills.

6.5.2 4TH TRAINING PHASE

Table 6.5 shows outline of the 4th training phase "Strengthening of Support Services".

Table 6.5 Outline of 4th Training Phase for RWST

No	Outlines		
1	Consultant	ACHRID Ltd.	
2	Schedule (implemented)	• 17/Aug – 21/Aug, 2009 (Dar es Salaam) for DSM and Coast regions • 14/Sep – 18/Sep, 2009 (Mtwara) for Mtwara and Lindi regions	
3	Training venue	• Pearl Hall, Ubungo Plaza (Dar es Salaam) • Clinical Officers Training Center (Mtwara)	
4	Facilitator	Mr. Deo Binamungu (ACHRID Ltd.) Mr. George Rwehumbiza (ACHRID Ltd)	
5	Trainers (responsible session)	Mr. Gibson Kisaka (MoWI) Mr. Goyagoya J.M. (MoWI)	Session 1
		Mr. Gibson Kisaka (MoWI) Mr. Goyagoya J.M. (MoWI)	Session 2
		Mr. Goyagoya J.M. (MoWI) Mr. Gibson Kisaka (MoWI) Ms. Neema Siarra (MoWI)	Session 3
		Mr. Gibson Kisaka (MoWI) Mr. George Rwehumbiza (ACHRID Ltd)	Session 4
6	No. of Trainees (plan/actual)	Dar es Salaam	10 participated / 10 invited
		Mtwara	10 participated / 10 invited

Objectives of the training are the following;

To enhance skills of RWSTs in the provision of support services to DWSTs for implementing activities of DWSPs

Target group of the training was Regional Water Advisor (RWA), Regional Planning Officer (RPLO), Regional Health Officer (RHO), Regional Community Development Officer (RCDO), and Regional Education Officer (REO). All 20 persons perfectly attended the training.

(1) Training Results

Results of the training are summarized below:

1) Revision of Session Objectives

The following observations on the specific objectives of sessions 2 and 3 were expressed by the participants.

- The specific objectives for both sessions were too broad and long term and as such could not be achieved or measured immediately at the end of the sessions.
- The contents of session 2 were too general and therefore did not reflect the specific session topic, which was about evaluation of quarterly and annual reports.

Based on these observations the trainers in consultation with the organisers revised the specific objectives for sessions 2 and 3 as shown in ***Table 6.6***.

Table 6.6 Revised Training Objectives

Sessions	Original Objectives	Revised Objectives
Session 2: Evaluation of quarterly and annual report	• Assess monitoring and evaluation (M&E) plans including indicators for LGAs and communities • Assess the progress of projects according to indicators • Analyze the project situations based on the assessment	• List down qualities of a good progress report • Develop verifiable indicators to assess progress of sub projects • Make recommendations on how to improve the quality of progress reports
Session 3:Support on water supply and hygiene & sanitation activities carried out by DWSTs	• Analyze the progress and situation of water supply project based on the assessment • Analyze the progress and situation of hygiene and sanitation project based on the assessment	• Identify specific aspects for assessment of water supply situation • Identify specific aspects for assessment of sanitation and hygiene situation at household level • Identify specific aspects to assess school sanitation situation

2) Enhancement of RWST Knowledge on Current Water Sector Reforms

It transpired from the discussions with the participants that perhaps because of the transfers of some RWST members who had attended previous courses organised under RUWASA-CAD, most of them were not very adequately conversant with the new water sector reforms.

Hence, by recapping on the key aspects of these reforms, this training helped to fill in that knowledge gap. Consequently, this also helped the participants to contribute to the group and/or plenary discussions more effectively.

3) Rekindling of Team Spirit among RWST Members

In the course of the training particularly during group discussions it was evident that RWSTs were gradually gaining confidence in working as a team. Whereas most of the discussions were led by the respective Regional Water Advisors (RWAs) mainly because of their regular involvement

in the RWSSP implementation, through group discussions other RWST members were able to identify their roles and responsibilities.

Also during plenary sessions this team spirit was expressed indirectly when participants admitted that they were previously not aware of their tasks under RWSSP since most of the work was done by RWAs. They concluded that because RWAs were working almost alone district reports were not being submitted in time and their quality was not thoroughly checked.

4) Understanding of RWST Roles and Responsibilities

Based on the discussions during the training it was clear that RWST members were appointed but they had not been oriented to their new roles and responsibilities under RWSSP. This training as they admitted helped them greatly to understand how they could participate in RWSSP by providing support to DWSTs specifically in supervising service providers.

5) Participants' Acquisition of New and Practical Skills

Of most importance participants expressed that they had not been exposed before to contract management principles and therefore felt that this training had enabled them to acquire practical skills in inspection of RWSSP subprojects. Other skills they claimed to have acquired included developing their monitoring and support plans in order to provide support to DWSTs.

6) RWST and DWST Linkage

By stipulating the roles and accountability of RWSTs in the implementation of RWSSP, this training has initiated at least in principle a linkage between RWSTs and DWSTs which was not very clear to both parties. The discussion during the training revealed that DWSTs have in the past not recognised the role of RWSTs and therefore tended to by pass them in reporting RWSSP progress. On the other hand, through this training RWSTs realised their responsibility for quality assurance of DWSTs work.

6.5.3 5TH TRAINING PHASE

Table 6.7 shows outline of the 5th training phase "O&M and Follow-up in RWSSP".

Table 6.7 Outline of 4th Training Phase for RWST

No	Outlines		
1	Consultant	WEDECO Ltd.	
2	Schedule (implemented)	• 25/Jan – 29/Jan, 2010 (Mtwara) for Mtwara, Lindi, DSM and Coast regions	
3	Training venue	• Clinical Officers Training Center (Mtwara)	
4	Facilitator	Ms. Marry Liwa (WEDECO Ltd) Mr. Johannes Ishengoma (WEDECO Ltd)	
5	Trainers (responsible session)	Mr. Johannes Ishengoma (WEDECO Ltd)	Session 1
		Mr. Johannes Ishengoma (WEDECO Ltd)	Session 2
		Mr. Johannes Ishengoma (WEDECO Ltd)	Session 3
		Mr. Johannes Ishengoma (WEDECO Ltd)	Session 4
		RUWASA-CAD members	Session 5
6	No. of Trainees (plan/actual)	Mtwara	19 participated / 20 invited

Objectives of the training are the following;

3. To strengthen capacity of RWST in providing support services at the O&M and follow-up stage
4. To strengthen capacity of RWST in monitoring and evaluation of RWSSP at the regional level
5. To evaluate achievement of capacity development through RUWASA-CAD and draw lessons learnt and recommendations

Target group of the training was Regional Water Advisor (RWA), Regional Planning Officer (RPLO), Regional Health Officer (RHO), Regional Community Development Officer (RCDO), and Regional Education Officer (REO). RPLO of Lindi RS could not attend the training while other 19 persons did.

(1) Training Results

1) O&M requirements for sustainability

The trainees realized that there was an increased awareness, sensitivity and understanding on the policies and strategies related to O&M in water sector in Tanzania. The understanding also increased on logical linkage between basic concepts on the areas of O&M requirements as technical issues, institutional setting, financial management, social and environmental consideration, community ownership and management and capacity development of water user entities. Thus the trainees gained more understanding to practice O&M at a wider range.

Based on this understanding the trainees realized that they had to re-assess their roles in all aspects under NAWAPO. They should make follow ups and facilitate use of NAWAPO principles and strategies in O&M of water supply systems for the stated action areas (aspects) that bring about project sustainability. They also recognized that strengthening their RWST teams was an opportunity to perform better in all aspects of O&M.

2) Post construction follow-up

The section on the roles and responsibilities was accomplished most since the trainee realized the need for each of the stakeholder to play its role in order to sustain the project.

They also appreciated the importance of registering WUEs such that promised to make follow-up on the new process for registration of WUEs to reduce the bureaucracy and increase number of WUEs managing communal water supply.

3) Monitoring and evaluation of O&M Conditions

The trainees realized that monitoring and evaluation is the most effective management and control tool to O&M. The trainees found this session more important to their work since they are responsible for monitoring and evaluation of LGAs activities and projects. The session gave awareness to the RWST on having plans for monitoring follow-up activities done by DWST and SP at LGA level. The recognition of RWST on the need to monitor and evaluate the LGA performance on follow-up to management of community project has enhanced trainees to participate more in the training and consequently they prepared monitoring and evaluation plans to be practiced in their LGAs.

4) Evaluation of community subprojects

The trainees practiced the evaluation of a sample monitoring report prepared by the consultant. This was the first time for trainees to practice the evaluation in such a systematic way, which was quite different from the way how trainees have done previously. Their perception pointed out that the way introduced in the training was more logical and practical in order to evaluate the real progress of the project and prepare the follow-up plan. The trainees commented that this session was most involving and made the trainees to think and review the DWST plans and give advice on what was expected in the plans in order to deliver the best messages for the districts. The exercise awakened RWST to think on how they are going to monitor the execution of those particular plans.

6.6 MONITORING AND EVALUATION

Effectiveness of the training for RWST has been monitored and evaluated in accordance with the framework explained in Chapter 4.5.2. This section describes results and findings of the monitoring and evaluation during the project period.

6.6.1 DELIVERY OF THE TRAINING

(1) 2nd Training Phase: Component 1

Evaluation results by trainees on the training delivery were generally high. Especially, the participants valued the teamwork of the facilitator and presenter in the session to deliver the message and to stimulate discussion among the participants based on the presentation on the specific topics. Participants also accepted the quality of the training handouts met the requirements of the training and found that they were easy to read. The handouts were relevant in the working environment of the participants.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
DSM	4.3	4.5	4.6	4.2	4.3	4.3	4.3
MTW	4.3	4.5	4.5	4.1	4.1	4.1	4.1

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(2) 4th Training Phase

First, all factors at both centres were rated above average ranging from 3.8 to 4.3 at the Dar es Salaam centre and 3.6 to 3.9 at the Mtwara Centre, which indicated that the training delivery was more or less satisfactory to the majority of the participants and thus the course was useful to their day to day work.

Secondly, the participants at Mtwara centre revealed relatively low scores to those at the Dar es Salaam centre. This phenomenon could be explained by the fact that to most of the participants at the Mtwara centre this was their first time to attend RUWASA-CAD trainings and as such they were somehow unfamiliar with the training approach used. It was observed by the trainers during the training that most of the persons who had participated in previous training had either been transferred elsewhere or had retired. Hence, a new batch of RS personnel had in the recently replaced them.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
DSM	4.2	4.2	3.8	4.0	4.3	4.2	4.1
MTW	3.9	3.9	3.9	3.7	3.7	3.9	3.8

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(3) 5th Training Phase

As shown hereunder below, there was a general indication that trainees were satisfied above average with how the course was organized and facilitated and as a result assessed it as useful. The scores more than 4 were obtained in factors of facilitator, presenter, training materials and usefulness.

On the other hand, most of the trainees repeatedly commented that the duration of five days for this training which required a lot of group and plenary discussions and other practices was inadequate. Others commented that some of the new and long topics were not allocated enough time. Nevertheless, the issue of poor timekeeping was critical for the trainees from Mtwara region. It was observed that they were reporting to their work offices before they came to the

training venue. While time arrangement was ranked lowest in almost all training sessions with a minimum score of 3.1, it was realized that the time allocated for session one and session three was the limiting factor for full deliverance of the material presentation. Participants would have liked to learn more on the sessions but time was limited. The limitation of time affected the management of time negatively.

As for the venue factor, the conference room which was provided at the Clinical Officers Training College (COTC) in Mtwara was less convenient in terms of ventilation as well as space, that is why has been rated with a lower score of 3.1.

Despite of these shortcomings the personal understanding of each session and usefulness of each session in work factors were averagely rated with good scores. It was a new experiential learning to more than 94% of all trainees rated the understanding and usefulness factors with an average score of 3.8 and 4.1 respectively. It can be an indication that the trainees clearly understood the training to simulate in their work places.

The trainees appreciated that the topics were very practical and relevant to the work they were doing in the regions except that the topics needed more time in terms of presentations and discussions for thorough understanding. The trainees also showed a concern on practicability of some of the topics such as Monitoring and Evaluation of the water supply and sanitation projects. They thought such topics needed a lot of preparation in order to practice.

Indicator	Facilitator	Presenter	Training Materials	Time Arrangement	Training Venue	Understanding	Usefulness
4 regions	4.1	4.1	4.2	3.3	3.1	3.8	4.1

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

6.6.2 LEARNING OF THE TRAINING

(1) 2nd Training Phase: Component 1

The participants evaluated level of their learning from the aspect on what extent they could practice actions which were set as the specific objectives of each session. The results show that the accomplishment of specific objectives by the participants in Mtwara venue was relatively lower than the one for participants in Dar es Salaam course. New requirements for the regional staff to work as RWST in the WSDP framework were regarded by some participants too complex. It was also noted from general comments of the participants especially from Dar es Salaam, Lindi Township and Mtwara Municipal that some of the objectives were not realistic and need to be reconsidered to include consideration of situation in urban and peri-urban settings as sell because they referred to rural setting interventions.

Session	1	2	3	4	5	6	7	8
DSM	4.3	4.2	4.0	4.3	4.3	4.0	4.2	4.6
Mtwara	3.9	3.9	4.1	4.1	3.9	3.7	4.0	4.1

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(2) 4th Training Phase

As table below, session 1 scored the highest at Dar es Salaam centre 4.5 and 4.1 at Mtwara centre. The scores of other sessions at both centres depicted more or less a similar consistency though at the Dar es Salaam centre they were higher (ranging from 4.2 to 4.3) than at the Mtwara centre.

Based on these results two conclusions can be made. First, generally, all sessions were understood as all the scores were above average. Secondly, by comparing the quantitative data and qualitative comments expressed by the participants in the provided evaluation forms, there was a general consensus that the training contents were relevant for the RWST work though some concerns were also raised by the participants on necessity of guidance by MoWI about clear

mandates of RWST. It is considered that vast working experiences and some generic knowledge which most of the participants possess helped them understand the topics such as monitoring and backstopping of LGAs.

Session	1	2	3	4
DSM	4.5	4.3	4.3	4.2
Mtwara	4.1	3.8	3.8	4.0

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

(3) 5th Training Phase

As for the assessment of the achievements of the trainees per specific session objectives, the results in table below indicate that on the average most of the sessions were understood since the score was above 4 out of 5 for sessions 1, 2, 3 and 4 on O&M requirements for sustainability, post-construction follow-up support, monitoring of O&M conditions and evaluation of community sub-projects and preparation of follow-up plan respectively.

The trainees rated session 5, which was in fact not directly related to their work, the least on an average score of 3.9 on review of behaviour change realized through RUWASA-CAD Training.

However, in all cases these scores were still above average. Basing on these results it can be concluded that the accomplishment of the specific objectives, which were set before the training and as observed from the evaluation forms were accepted as well turned-out with guidance to specific topic presented. In this regard, the level of understanding as per general evaluation can be attributed to the excellent formulation of the objectives.

Session	1	2	3	4	5
4 regions	4.3	4.0	4.1	4.1	3.9

[5: Very good 4: Good 3: Fair 2: Poor 1: Very poor]

6.6.3 1ST AND 2ND MONITORING VISITS

(1) Findings from the 1st and 2nd Monitoring Visits

As one of the contributing factors to enhance behavior change at the organizational level, practice of RWST on knowledge sharing and management was also monitored from the aspects of information sharing and means to keep records on trainings at the Regional Secretariat. It was confirmed that those who attended the training course had submitted reports to RWST which summarize training contents and salient points of discussion. In the quarterly RWST meetings, the trainees also verbally introduce what they have leant to other members. Training materials are normally kept in the files and computers in respective offices of trainees so that other members of the team can access to the documents. In case that the Regional Secretariat has a resource center, the training materials are stored in the center.

(2) Behavior Change at the Individual Level

Behavior Change at the Individual Level The project team made monitoring visits to the Regional Secretariat in four regions in September – October 2008 and January 2009. Semi-structured interviews were conducted to RAS and other members of RWSTs separately in order to verify behavior change of the trainees as the individual and as the team of RWST. Findings from two monitoring surveys were summarized as ***Table 6.8***;

Table 6.8 Individual Behavior Changes

Visit	Facts (Behaviour Change)	Region
1st	Trial has been started to collect necessary information from DWSTs for formulation of RWSP.	Lindi, Mtwara

Visit	Facts (Behaviour Change)	Region
	The training course provided RCDO with an opportunity to define how facilitation skills of CDOs can be utilized in RWSS projects and what points are especially to be paid attention to in the process of community mobilization and capacity development in the projects. This knowledge on roles of CDO in RWSS projects has been effectively utilised in monitoring and supervision of activities of DWSTs.	DSM
2nd	Teamwork and coordination of RWST is strengthened by utilizing what members of Mtwara RWST learnt from the trainings.	Mtwara
	Monitoring of activities in the LGAs is enhanced by use of monitoring skills given at the training.	Mtwara
	REO advised all the districts in the region to facilitate appointment of a water and sanitation focal point from teachers at each school.	Coast
	During the monitoring visit to schools in the respective districts, attention is made to emphasize improvement of environmental sanitation and hygiene practices by pupils such as promotion of hand washing.	DSM
	Approaches for problem analysis and formulation of the project were considered in planning of the regional activity plan.	DSM

It was observed that the trainees were trying to apply knowledge, skills, and way of work in their activities at the individual level. They mentioned that there would be no hindrance to adopt these skills and knowledge in the daily activities though they would still need more enough time to practice in accordance with the project cycle.

(3) Behavior Change at the Organizational Level

Though it is still at early stage to observe behavior change at the organizational level after the trainings, it was found that RWST members at least shared common understanding on roles and responsibilities expected to the team in WSDP/RWSSP framework and importance of collaboration with DWST and BWO.

Table 6.9 Organizational Behavior Changes

Visit	Facts (Behaviour Change)	Region
1st	Before RWST members attended the trainings, role of RWST practiced was limited to just consolidate reports from the districts and forward them to PMO-RALG and MoWI. As a result of the training, RWST members recognized importance of supportive roles of RWST to provide advice and coaching for DWSTs.	Coast, DSM
	Common understanding was formed among RWST members on activities to be employed at each stage of the RWSS project cycle and necessity of cooperation among DWST, RWST and BWO in implementation of the projects.	Lindi
2nd	RWST drafted the RWSP and is intending to incorporate DWSPs in the RWSP in March 2009.	Mtwara
	Quarterly monitoring visits to districts were included in the activity plan of RWST for 2008/2009.	Coast

6.6.4 3RD MONITORING VISIT

This section describes findings from the third monitoring visits to the Regional Secretariats in four target regions conducted by the Project Team in the end of October 2009. Method employed in the monitoring is semi-structured interviews separately held with RAS and other members of RWST.

(1) Overview of Activities Related to RWSS Projects at the Regional Level

Table 6.10 shows overall status of the first cycle of RWSSP/WSDP in four regions and activities conducted by TSP/FSPs.

Table 6.10 Status of the 1st Cycle of RWSSP/WSDP in the Target Regions

Region	Appointment of TSP/FSPs by LGAs	Activities of TSP/FSP
Coast	All LGAs except for Kisarawe have completed siginig. Kisarawe DC will soon enter a contract with the second ranked consultant due to disqualification of the first ranked one for limitation of mazimum nuber of contracts given to one company	• Rufiji DC, Kibaha TC, Kibaha DC and Mkuranga DC have received the inception reports from TSP/FSPs. • TSP/FSP for Mafia and Bagamoyo are preparing the inception reports.
DSM	• Kinondoni MC has completed sigining. • Ilala MC is waiting for No Objection from the Workd Bank to proceed to siningin of the contract. • Temeke will soon enter a contract with the second ranked one due to the same reason for Kisarawe DC.	Not yet started
Mtwara	All LGAs have completed signing.	• All LGAs except for Tandahinba have received the inception reports from TSP/FSP. • Introduction of RWSSP/WSDP to communities has been done by FSP in all LGAs.
Lindi	All LGAs have completed sigining.	Field survey for the Scoping Study has completed in Lindi District, Kilwa, and Liwale while the survey is on-going in Nachingwea, Ruangwa and Lindi Town.

RWSTs in four regions have team meetings in quarterly basis though it is sometimes difficult to keep the meeting schedule due to other commitments by the members.

With regard to the monitoring of activities of DWSTs, joint monitoring visits are conducted by all the members of RWST except for RAS quarterly in Dar es Salaam and Coast. In case of Coast region, the team members divide themselves into two groups to visit different districts.

In Mtwara region, only RWA currently conducts monitoring visits to districts with regard to WSDP since the budget for joint monitoring with other RWST members have not been available. RWST Mtwara expressed their expectation to have the necessary costs budgeted in 2010/2011 for execution of the joint monitoring.

Though RWST Lindi does not presently conduct monitoring visits to LGAs, they organized a meeting with DWSTs in the region in order to check the contracts between LGAs and consultants for the first cycle of WSDP and progress of the scoping study. Next meeting with DWST is also planned by RWST Lindi to examine reports on the scoping study and DWSPs and to check utilization of attainment of the trainees from the fourth training phase of RUWASA-CAD in the actual works by DWSTs. The team is also planning to make filed visits to verify if the scoping study was properly done by TSP/FSP in each district.

(2) Behavior Change at the Individual Level

RWST members who attended the interviews expressed their behavior change in implmentation of their activities after attending the training as mentioned in ***Table 6.11***.

Table 6.11 Individual Behavior Change of RWST Members

Area	Facts (Behavior Change)	RS
Project management	Quarterly reports of LGAs can be examined more thoroughly and effectively.	RWA and RPLO of DSM
	A monitoring plan has been formulated by the team members after the 4th training phase.	RWST Coast
	After the 4th training phase, contracts between LGAs and	RPLO of Lindi

Area	Facts (Behavior Change)	RS
	TSP/FSPs and quarterly progress reports submitted by LGAs were examined. Shortfalls found in the progress reports were given as a comment to RWA.	
Teamwork	Quarterly reports and other submittals of LGAs are now shared with other members of RWST for their perusal and input to prepare comments.	RWA of Mtwara
Collaboration with other actors	Frequency of communicating with LGAs has increased to obtain current status of acitivities at LGAs and to give instructions and advice.	RWA of Coast

Due to absence of majority of the members at the monitoring visit, only limited information could be obtained on observation on the behavior change at the individual level of each trainee. However, attendants of the interviews commonly mentioned that their awareness had been improved in terms of importance of roles of RWST to provide quality assurance to WSDP though checking reports and other submittals from LGAs and making periodical monitoring.

They also explained that some of skills, knowledge and working procedures dealt in the training could not be applied at this moment since the first cycle of RWSSP/WSDP has not reached to that stage. However, the interviewees agreed that the training contents were practical, especially on the following aspects;

- Examination of plans and reports submitted by LGAs
- Monitoring of activities of DWSTs
- Teamwork and coordination with other sectors

(3) Behavior Change at the Organizational Level

Behavior change of RWST was analyzed from the following aspects;

i. Formulation of RWSP

ii. Review and provision of comments on the quarterly reports submitted by DWSTs in the region within one month from receipt of the reports

iii. Provision of advice and approval to the community subprojects formulated and designed by DWSTs in the region

iv. Coordination with BWO in appraisal of the community subprojects submitted by DWSTs

Table 6.12 summarized findings from the interviews with RWSTs.

Table 6.12 Organizational Behavior Change of RWST

Indicator	Facts (Behaviour Change)	RS
i. Formulation of RWSP	The team is currently updating the information from LGAs. This activity is mainly done by RWA, but other members also share information in order to prepare a well elaborated RWSP.	DSM
	RWST is facilitating LGAs to complete preparation of DWSPs so the they can compile a RWSP. Though RWST initially thought that RWSP would be prepared by RWA, they realized that the plan should be comipled jointly among the members.	Coast
	RWSP has not yet been compiled as RWST is waiting for DWSPs to be submitted from LGAs.	Lindi, Mtwara
ii. Review of quareterly reports of LGAs	All the RWST members examine the reports submitted by LGAs and prepare comments jointly.	All regions
iii. Provision of advice and approval to subproject	When the on-going RWSSP/WSDP enters into the appropriate stage, all the RWST members will be involved in examination of the community subprojects to be submitted by LGAs.	DSM, Lindi, Mtwara

Indicator	Facts (Behaviour Change)	RS
s		
	RWST has given advice on the inception reports received from Rufiji, Kibaha DC and Kibaha Town.	Coast
iv. Coordination with BWO	RWA visited Ubungo Branch of Wami Ruvu BWO to ask about previous water rights of existing water supply facilities in Ilala.	DSM
	RWA visited Wami Ruvu BWO in Morogoro in order to obtain hydrogeological data for Rufiji.	Coast
	RWA advised a consultant serving as TSP to enquire BWO of hydrogeological data and information which can be referred to in the sciping study.	Lindi

Compared to the situation at the 1st and 2nd monitoring visits, activities related to four aspects mentioned at the beginning of this section have commonly been acknowledged by RWSTs in all the target regions and put into practice though progress of the first cycle of RWSSP/WSDP influences on application of working procedures dealt in the training.

In addition to the behavior change mentioned in the table above, the interviewees expressed that the coordination among the team members had improved and they had become more conscious to understand what their colleagues are doing.

6.6.5 COMPARISON BETWEEN THE TARGET RSS AND OTHERS

The purpose and methodology of the end line survey were explained in section 3.6. In this survey RWSTs from four regions in the project area and two regions in other area were interviewed separately with the semi-structured questionnaire.

The outputs of the survey were assessed carefully with respect to the different aspects, which were associated with expected outputs and purpose of the Project. The results of assessment are described in the following section, respectively.

(1) Team Work as RWST

Interviewers expressed their observation on awareness and group dynamic of interviewees subjectively that members of RWST in the target group were typically aware of issues discussed in the interview and sector responsible members responded separately to their own topic. On the contrary, in the non target group only RWA was aware and responded actively during interview.

This result gives the clear contrast how much the team work as RWST has been encouraged through RUWASA-CAD training, which is very fundamental to realize the concept of sector wide approach to planning under WSDP.

(2) Formulation of RWSP

Principally RWSP is a plan consolidating DWSPs in a respective region. Therefore, RWSP can not be formulated without DWSPs submitted from all LGAs. From this point of view, the responses from interviewees were examined thoroughly.

All four RWSTs in the target group stated that their RWSPs have not yet been formulated because DWSPs were not in place. However, two RWSTs in the non target group stated that RWSPs have been formulated even though the progress of RWSSP in their regions did not reach the stage of formulation of DWSP. This situation could indicate the risk of information shortfall in the non target group regarding to the key processes of RWSSP and tasks mandated to RWST.

(3) Comments from RWST to Reports submitted by DWST

Specific manner in commenting to the documents submitted by DWSTs does not show much difference in RWSTs between target and non target groups. Comments used to be conveyed

from RWST to DWST commonly by verbal communication, but not paper basis. The comments given to DWST are categorized based on their nature mainly into 1); affinity of contents with official report format, 2); accuracy of statistical figures, and 3); technical suggestion.

According to the response from DWSTs interviewed, 21 DWSTs (22 LGAs in total) in the target group have received comments from RWSTs while 4 DWSTs (5 LGAs in total) in the non target group

(4) Advices from RWST to DWST

Similarly to the situation of comments, there is no significant difference in RWSTs between the target and non target groups on specific manner in advising from RWST to DWST. Advices given to DWSTs mainly focus on technical and administrative issues for implementation of RWSSP.

21 DWSTs in the target group have received such advices from respective RWSTs while 4 DWSTs in the non target group.

(5) Approval of Facility Design by RWST

RWST has a significant function as a quality assurer between LGA and central government under the institutional arrangement of WSDP. Approval of water supply and sanitation facilities is one of the most important tasks of RWST.

In the target group, 10 out of 22 LGAs have obtained the approval on the design of water supply facilities proposed by the consultant working under RWSSP/WSDP. Clarification on the progress of RWSSP given from the rest of 12 LGAs was reasonable that the stage of consultancy work did not reach the formulation of DWSPs which include the proposal of facility design in each target community.

In the non target group, 2 out of 5 LGAs have obtained the approval on the design of water supply facilities. The explanation given from other 3 LGAs illustrates the gap of understanding on this process of RWSSP/WSDP. 1 out of 3 LGAs described their opinion where RWST had a function of advising and assisting DWST and the authority to approve the facility design remained among the council of LGA. Their opinion is correct with respect to the contract management, but technical management. The rest of 2 LGAs have the same reason with those in the target group.

(6) Result of Comparison

There is no particular gap observed in the manners of commenting and advising, and approving as described in the previous sections. However, considering the understanding on the process of RWSSP and the behavior among RWSTs, it can be assumed that the activities of RWSSP in the target group have been done more appropriately with accurate institutional formality and multidisciplinary approach (integration of hygiene & sanitation, community development, school sanitation, etc with water supply plan).

It might be optimistic judgment but the present approach in the target group is assessed more comprehensive, which was apparently induced from the impact of RUWASA-CAD training. Considering the current situation of RWSTs in the non target group, their approach would become more effective to assist the implementation of RWSSP at the LGA level if they conduct the capacity development programme with similar concept of RUWASA-CAD training.

6.6.6 CONCLUSION

(1) Achievement of Trainings with Respect to Roles and Responsibilities

In this section, the improvement of capacity among RWST is assessed with respect to the roles and responsibilities of RWST under RWSSP/WSDP.

The training topics dealt in RUWASA-CAD training are composed based on the concept of project cycle management, which consists of planning, implementation and monitoring & evaluation. Besides, session contents were carefully selected according to the result of baseline survey and the analysis of tasks and capacities of RWST (see ***section 3.5***).

Therefore, five phases of RUWASA-CAD training could correspond rather broader with the roles and responsibilities of RWST as a supporter for DWST as shown in the table below.

Table 6.13 Comparison of Roles and Responsibilities with Training Topics

Roles and Responsibilities of RWST	Training Topics by Training Phase	
• Coordination of RWSS activities within the region. • Assist LGAs to form and train DWSTs • Oversee community development & hygiene/AIDS activities • Provide technical advice to LGAs. • Capacity development of LGAs • Help LGAs prepare their DSWPs. • Provide technical oversight and monitoring of service providers who are contracted by the LGAs • Ensure quality of works and services of contractors • Monitoring and evaluation (*Ref: Page 16, POM*)	1	• Present situation of RWSS sub-sector in districts and regions • Setting output of the training programme and performance indicator
	2	• Skills for the preparation of RWSP • Strategic planning of RWSS with considering sustainability of water resources
	3	• Project management witch requires consciousness to link the activities of DWST • Strengthen capacity of DWST in formulation of the integrated approach and activities of water and sanitation
	4	• Monitoring in accordance with RWSPs. • Evaluation of quarterly and annual report
	5	• Sustainability of rural water supply

Reflecting the relevance of training contents with respect to the roles and responsibilities of RWST, members of RWST participated in RUWASA-CAD training evaluated highly respective training effective, understandable, and useful to their works. It could be concluded based on the evaluation result that the delivery of the training was successfully completed by achieving the high satisfaction among trainees.

Here is a question "How much are the delivered knowledge and skill utilized by trainees in their works?" According to the observation and findings from monitoring visits, it was confirmed that target RWSTs have changed various work processes and approaches either individually or organizationally by adopting the issues discussed in RUWASA-CAD training. In fact, some trainees mentioned that a series of changes has been initiated by RUWASA-CAD training.

It, however, is the project team's consideration that training obtainment are not fully utilized yet in their daily works because there are LGAs needing more technical and administrative support from RWST and more importantly the performance indicators for RWSSP/WSDP do not show any major improvement in the target LGAs, meaning that support services from RWST to DWST did not contribute much in terms of quantity and/or quality to the improvement of water supply and sanitation situation in LGAs.

Referring to such a consideration, the following factors are attentively remarked according to the theory[1] of capacity development.

- In principal, the time necessary for knowledge and skill improvement at individual level is much shorter than that for individual and organizational behavior change.
- Synergy of various improvements in knowledge and skill at individual level, individual and organizational behavior change could enhance comprehensively the performance of society

In addition to these factors, the delay of RWSSP implementation is a significant factor which negatively limits the place and opportunity as the enabling environment, where trainees can put

[1] Capacity Assessment Hand Book, JICA , 2008

their training obtainment and behavior changes into practice, as well as the improvement of capacity among all stakeholders under RWSSP.

As the overall conclusion on the achievement of RUWASA-CAD training, it is fair to say that RUWASA-CAD training have improved the capacity of members of RWST in the target regions appropriately by enhancing their knowledge and skills and initiating both individual and organizational behavior change. However, due to some factors and limitation, these outputs have not contributed enough to generate the positive impact upon the performance indicators.

In order to ascertain and sustain this positive change, it is strongly recommended that MoWI should adopt the RUWASA-CAD approach into their activities and continue to oversee the capacity development in target regions and other regions as well.

(2) Assessment of Training System for RWST

As it was described in the last section, RUWASA-CAD training curriculum was formulated based on the capacity gaps identified from comparison with the roles and responsibilities of RWST and the existing capacity at the time of the baseline survey and these curricula were fully implemented through five phases of RUWAS-CAD training, which resulted successfully in improvement of their capacity at both individual and organizational level. Consequently it is assessed that RUWASA-CAD training system is considerably efficient to enhance the capacity of RWST in both technical and administrative supporting services to DWST.

In addition to this, the result of the end line survey illustrates that the performance of RWST in the non target group, where only RWA is actively supporting DWSTs in the respective LGAs, is resemble to the situation of RWSTs in the target group when the baseline survey was conducted. This gives the rational to extend the concept and/or activity of RUWASA-CAD project to other regions for the effective management of their capacity development. Besides, all RWSTs came to have their own capacity development plans Under such a circumstance, it is a good time to apply the approach of RUWASA-CAD project for implementing capacity development intervention nationally in Tanzania.

CHAPTER 7 OUTPUT 5: ADAPTATION OF REVISED PROJECT CYCLE AND PROCEDURES OF RWSSP

7.1 ACTIVITIES CARRIED OUT FOR OUTPUT 5

The expected output of 【Output 5】is "The project cycle and procedures of the RWSS reviewed through the Project are applied to implementation of Rural Water Supply and Sanitation Programme (RWSSP) in the target districts".

7.1.1 WORK IN TANZANIA I (SEPTEMBER 2007 TO MARCH 2008)

During the preparatory phase, the existing RWSS project cycle and procedure was reviewed and proposed project cycle and procedures were prepared. The project team member have participated the Institutional Development and Capacity Building (ID&CB) Thematic Working Group regularly, and have reported activities carried out. The these activities taken by this term for the Output 5 is summarized in ***Figure 7.1***.

Activities Carried Out	Year	2007				2008		
Activities	Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar
5-1 Review the existing RWSS project cycle and procedures and prepare proposal on the necessary revision.			▬	▬	▬	▬	▬	
5-2 Facilitate consensus building among Community Water Supply Division, regional secretariats, BWOs, and local government authorities on application of the revised project cycle and procedures in implementation of RWSSP in the target districts.					▬	▬	▬	▬
5-3 Report the progress of the project periodically to the meetings of Thematic Working Group of Institutional Development and Capacity Building.		▲		▲		▲		▲

Figure 7.1 Activities Carried Out for Output 5 During Work in Tanzania

7.1.2 WORK IN TANZANIA II (MAY 2008 TO MARCH 2009)

In this term, through work period, the project team member have presented and discussed with stakeholders about proposed project cycle and procedure which prepared by last phase of the project.

The existing RWSS project cycle and procedure were reviewed, in order to prepare the proposed project cycle and procedure. Simultaneously, the consensus on the proposed project cycle and procedure among CWSD, Regions, BWOs and LGAs was built. In order to facilitate the consensus building, the project team member participated the Thematic Working Group of ID&CB. The activities taken by this term for the Output 5 is summarized in ***Figure 7.2*.**

Activities Carried Out	Year	2008								2009		
Activities	Month	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
5-1 Review the existing RWSS project cycle and procedures and prepare proposal on the necessary revision.		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
5-2 Facilitate consensus building among Community Water Supply Division, regional secretariats, BWOs, and local government authorities on application of the revised project cycle and procedures in implementation of RWSSP in the target districts.		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
5-3 Report the progress of the project periodically to the meetings of Thematic Working Group (TWG) of Institutional Development and Capacity Building (IDCB).			▲		▲		▬	▲		▲	▲	

Figure 7.2 Activities Carried Out for Output 5 During Work in Tanzania II

7.1.3 WORK IN TANZANIA III (MAY 2009 TO MARCH 2010)

The proposal on "Matrix of RWSSP Project Cycle and Task Allocation" as the project cycle and procedures of the RWSSP was made for PCT (Programme Coordination Team) members and CWSD. The dialogue between the project team, PCT and CWSD has been continuing in order to deepen the understanding the contents of the proposal. By the discussion with PCT, it was agreed that the proposal shall be examined in the future revision of PIM (Project Implementation Manual) of WSDP, since this proposal is aligning the policy of WSDP, and CWSD expressed their consensus to this process. The expected year of the revision of PIM is 2012. Including above activities, the activities taken by this term for the Output 5 is summarized in ***Figure 7.3***.

Activities Carried Out	Year	2008								2009		
Activities	Month	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
5-1 Review the existing RWSS project cycle and procedures and prepare proposal on the necessary revision.		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
5-2 Facilitate consensus building among Community Water Supply Division, regional secretariats, BWOs, and local government authorities on application of the revised project cycle and procedures in implementation of RWSSP in the target districts.		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
5-3 Report the progress of the project periodically to the meetings of Thematic Working Group (TWG) of Institutional Development and Capacity Building (IDCB).			▲		▲		▬	▲		▲		▲

Figure 7.3 Activities Carried Out for Output 5 During Work in Tanzania III

7.1.4 WORK IN TANZANIA IV (MAY 2010 TO JULY 2010)

The activities related the proposal and consensus building for the revision of RWSS project cycle and procedures were completed in the project step 3. In this term of project step 4, the project team made presentation of progress of the project periodically in Thematic Working Group of ID&CB. The activities taken by this term for the Output 5 is summarized in ***Figure 7.4.***

Activities Carried Out	Year	2010			
Activities	Month	May	Jun	Jul	Aug
5-1 Review the existing RWSS project cycle and procedures and prepare proposal on the necessary revision.		(completed in project step 3)			
5-2 Facilitate consensus building among Community Water Supply Division, regional secretariats, BWOs, and local government authorities on application of the revised project cycle and procedures in implementation of RWSSP in the target districts.		(completed in project step 3)			
5-3 Report the progress of the project periodically to the meetings of Thematic Working Group (TWG) of Institutional Development and Capacity Building (IDCB).		▲		▲	

Figure 7.4 Activities Carried Out for Output 5 During Work in Tanzania IV

7.2 PARTICIPATION OF SECTOR DIALOGUE

7.2.1 COORDINATION WITH WSDP SECTOR DIALOGUE AND RUWASA-CAD PROJECT

The first Joint Water Sector Review (JWSR) was held on 18th to 20th September 2006. One of the main purposes of the JWSR is to establish the dialogue and co-ordination mechanism between the Development Partners (DPs) and MoWI, under the Sector Wide Approach to Planning (SWAp) policy.

As the conclusion of the 1st JWSR, Agreed Minutes of the JWSR between the Government of Tanzania, DPs and other stakeholders signed on September 20th 2006. This agreement will take forward to the established Water Sector Working Group (WSWG) and the Thematic Working Groups (TWG). Accordingly, four TWGs, namely 1) Performance and Monitoring, 2) Planning

and Financing, 3) Institutional Development and Capacity Building and 4) Sanitation and Hygiene were established.

JICA has decided to participate the Thematic Working Groups of 1) Planning and Financing and 2) Institutional Development and Capacity Building. The structure of these sector dialogue and co-ordination mechanism are shown ***Figure 7.5***.

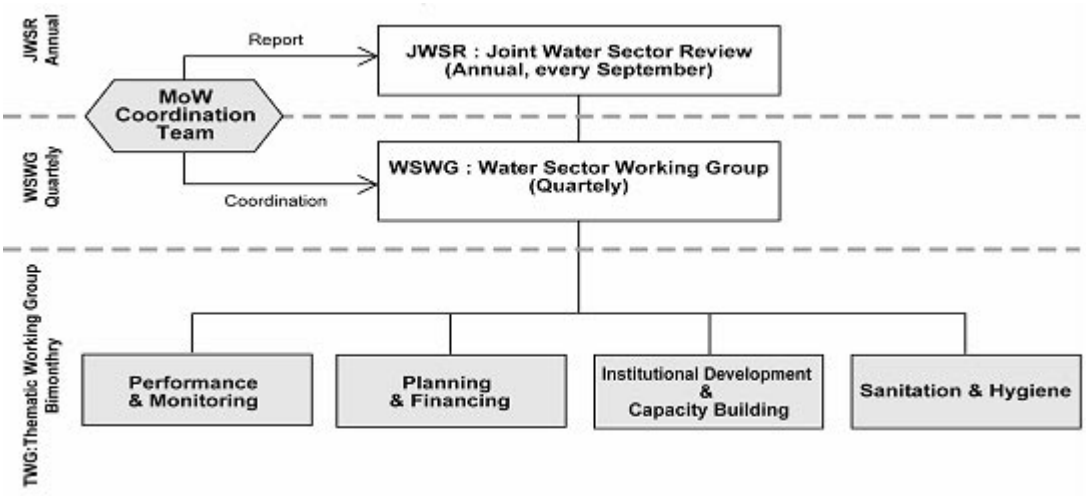

Figure 7.5 Sector Dialogue and Coordination Mechanism in WSDP

The RUWASA-CAD Project members were proposed to be a member of the TWG of "Institutional Development and Capacity Building (ID&CB)", in order to share the information on capacity development activities for the WSDP.

The tasks of ID&CB TWG confirmed by the 1st JWSR are as follows.

- Review current practices for capacity building and suggest new approaches
- Review the current institutional landscape against NWSDS and sketch out a road map for gradual changes
- Discuss and follow-up on activities, projects and programmes related to institutional and capacity development
- Review impact of institutional changes and capacity development measures
- Promote understanding on concepts and approaches with regard to change management and human resources development
- Contribute to a situation analysis in the areas of HRD (Human Resources Development), education and training
- Prepare documentation for the WSWG and the JWSR and suggest actions/undertakings for the following year

7.2.2 ACTIVITIES TAKEN BY THE PARTICIPATION OF SECTOR DIALOGUE

Since the commencement of the RUWASA-CAD Project, which is September 2007, the Project member have been participating the sector dialogue meetings, mainly the Institutional Development and Capacity Building (ID&CB) Thematic Working Group (TWG). The summary of the participated meetings for ID&CB TWG, WSWG (Water Sector Working Group) and JWSR (Joint Water Sector Review) shows ***Table 7.1***, ***Table 7.2*** and ***Table 7.3*** respectively.

Table 7.1 Participated Meeting on ID&CB TWG

Date (year/month/date)	Topics and Agreements and/or Discussions (mainly the subjects related to the Project)
2007/09/19	【2007/2008FY 1st TWG】 **Topics** • Contents of the water sector performance report 2007, related ID&CB • Introduction of RUWASA-CAD Project **Agreements** • The meeting agreed that RUWASA-CAD Project to be a member of ID&CB TWG
2007/11/28	【2007/2008FY 2nd TWG】 **Topics** • Review and confirmation of 2007 undertakings of ID&CB TWG • Finalization of conceptual study for Capacity Building **Agreements** • The results of conceptual study for Capacity Building shall be presented by the workshop (2008/12/14)
2008/01/14	【2007/2008FY 3rd TWG】 **Topics** • Proposed capacity development framework for the water sector reform • Presentation of RUWASA-CAD Project **Discussions** • The progress of activities and proposed training plan were presented by the RUWASA-CAD Project team.
2008/06/05	【2007/2008FY 4th TWG】 **Topics** • Implementation of 2007/2008 undertakings of ID&CB TWG • Status of formulation of capacity development strategy **Agreements** • It is agreed that the ID&CB TWG shall formulate the capacity development guideline • The meeting agreed that the GTZ and RUWASA-CAD Project team will provide the TOR for the consultant to formulate the capacity development guideline.
2009/01/26	【2008/2009FY 2th TWG】 **Topics** • Implementation of 2007/2008 undertakings • Implementation of 2008/2009 undertakings **Discussions** • Tasks to be accomplished were discussed regarding 2008/2009 undertakings • Status of the proposal for RWSSP project cycle and procedure made by RUWASA-CAD was explained that the proposal will circulate after the acceptance of the management of CWSD.
2009/05/14	【【2008/2009FY 3rd ID&CB TWG】 **Topics** • Progress of implementation of 2007/2008 undertakings • Completion of TOR for water sector capacity development committee • Development of monitoring mechanism for the assessment of the impact of training programme • Short term training plan **Discussions** • It was agreed that JICA and GTZ will support DAHR to development of monitoring mechanism for the assessment of the impact of training programme
2009/09/02	【【2008/2009FY 4th ID&CB TWG】 **Topics** • Progress of implementation of 2007/2008 undertakings • Status of formulation of CD plan for the each implementing institution • Examination of consistency of CD plan and the monitoring mechanism • Concept paper on Innovation Window **Discussions**

Date (year/month/date)	**Topics and Agreements and/or Discussions** (mainly the subjects related to the Project)
	• Delay of preparation of CD plan • Suspension of preparation of Short term training plan
2009/10/21	【2009/2010FY 1st ID&CB TWG】 **Topics** • Confirmation of 2009/2010 undertakings items as the ID&CD TWG • Confirmation of sector dialogue calendar of FY 2009/2010. **Discussions** • Confirmation of JICA and GTZ as the member of water sector
2010/01/20	【2009/2010FY 2nd ID&CB TWG】 **Topics** • Progress of implementation of 2009/2010 undertakings • Development of monitoring mechanism for the training progrmmme • Status of formulation of CD plan for the LGAs **Discussions** • It was agreed that monitoring mechanism sub-committee composed by DAHR, GTZ, JICA shall be lunched, and sub-committee shall develop the mechanism.
2010/03/12	【2009/2010FY 3rd ID&CB TWG】 **Topics** • Progress of implementation of 2009/2010 undertakings • Progress of activities agreed by joint supervision of WSDP • 2nd quarter status report for component-4 of WSDP **Discussions** • Since the CD plan of LGAs are almost submitted, RUWASA-CAD project team recommend to TWG to examine the utilization of RUWASA-CAD Training Modular Guide for the CD Plans. The meeting accepted to the project to make presentation of the Training Modular Guide at next meeting.
2010/05/14	【2009/2010FY 4th ID&CB TWG】 **Topics** • Progress of implementation of 2009/2010 undertakings • Progress of activities agreed by joint supervision of WSDP • RUWASA-CAD Training Modular Guide **Discussions** • The meeting express the objection regarding the abolishment plan for the CD committee by the joint supervision mission. • The relevant division of the ministry should check the quality of CD plan submitted by the each institutions. • The meeting express considerable interest in the training modular guide. Accordingly, the chairman suggested to the member to organize extraordinary TWG meeting regarding the training modular guide.
2010/05/27	【Extraordinary ID&CB TWG】 **Topics** • RUWASA-CAD Training Modular Guide **Discussions** • The training initiative should not be top-down approach. • It was acknowledged that the linkage between LGAs, RS, Basin Water Office is weak. Based on such perception, RUWASA-CAD Project has considered thoroughly the roles and responsibilities of BWO and RS, and reflected it into proposed RWSS project cycle and task allocation. • MoWI expressed their intention to introduce this training modular guide to the responsible person of the restructuring of WSDP activities for mainstreaming into WSDP materials.

Table 7.2 Participated Meeting on WSWG

Date (year/month/date)	Topics and Agreements and/or Discussions (mainly the subjects related to the Project)
2008/09/24	【4th WSWG】 **Topics** • Presentation of the activities of each TWG (Planning and Financing, Performance Monitoring, ID&CB and Sanitation & Hygiene) • Schedule and contents of 2nd JWSR • Presentation of RUWASA-CAD Project activities **Agreements** • The purpose and activities of the RUWASA-CAD Project were sensitized
2008/11/21	【Extraordinary WSWG】 **Topics** • Approval of additional funds for WSDP FY2008/2009 **Agreements** • The additional funds for WSDP FY2008/2009 was approved
2009/09/25	【4th WSWG meeting of FY 2008/2009】 **Topics** • WSDP budget for 2009/2010 • Progress of provision of MOU among MoWI, MoHSW and MoEVT regarding sanitation and hygiene activities • Progress of formulation of CD plan by each institution. • MUKUKUTA review scheduled on FY of 2009/2010. **Agreements** • Delay of the provision of CD plan, and weakness of the linkage between CD plan and other WSDP components were pointed out by DPs. It was therefore, acknowledged that further effort by the ID&CB TWG to improve these situation are necessary. • Regarding MOU on Sanitation and Hygiene, the Ministry are requested to provide the contents in accordance with their role and responsibility.
2009/11/12	【1st WSWG meeting of FY 2009/2010】 **Topics** • Status of FY 2009/2010 WSDP undertakings • WSDP sector dialogue calender • Report on water sector performance assessment framework • Input from the water sector to the general budget support report of 2009 • Water sector performance monitoring indicators for the review of general budget support report of 2010 • TOR for technical audit of 2007/2008 and 2008/2009 • Approval of quarterly report of FY 2008/2009 **Agreements** • Related to the Capacity Development activities, it was agreed that all the institution should provide their CD plan in accordance with water sector CD flame work by March 2010, and incorporate the budget by July 2010.

Table 7.3 Participated Meeting on JWSR

Date (year/month/date)	Topics and Agreements and/or Discussions (mainly the subjects related to the Project)
2008/10/16-17	【3rd JWSR】 **Topics** • Presentation of water sector performance report of 2007/2008 • Review of the status of undertakings of JWSR2007 • Equity monitoring system in the water and sanitation sectorPrivate sector participation in the implementation of water sector developmentUndertakings to be performed under implementation of WSDP in the fiscal year of 2008/2009**Agreements**18 subjects of the undertakings of 2008/2009 were agreed • Activities and proposal of the RUWASA-CAD project was reported as a part of water sector

Date (year/month/date)	Topics and Agreements and/or Discussions (mainly the subjects related to the Project)
	performance report
2009/10/01-02	【4th JWSR】 **Topics** • Water sector status report 2009 • Sector equity report • Tanzania water sector public expenditure • Comprehensive review of sector performance monitoring flamework and system • Road map of WSDP implementation for 2009/2010 **Agreements** • General agreement on FY 2009/2010undertakings • Execution of joint supervision of WSDP • Review of member and activities on TWG、WSWG

The main activities taken through the participation of sector dialogue are as follows.

- Reporting the RUWASA-CAD Project activities taken and outcomes of the training
- Proposal of the RWSS project cycle and procedure, provided through the provision of RUWASA-CAD training plan
- Proposal on training modular guide
- Technical support for the formulation of capacity development guideline for the water sector

7.2.3 GUIDELINES TO FACILITATE IMPLEMENTATION OF THE CAPACITY DEVELOPMENT FRAMEWORK

In order to accelerate sector reforms and strengthen WSDP coordination and management, it was agreed to develop the guidelines for capacity building for all stakeholders of water sector by 2nd JWSR (2007), as for one of the undertakings of ID&CB TWG for the 2007/2008. On this account, prior to develop the guideline, capacity development strategy was formulated by the ID&CB TWG. A member of RUWASA-CAD project team supported to formulate the "Strategic Framework for Capacity Development in the Water Sector in Tanzania (August 2008)", as the task force of the formulation of the strategy.

After formulation of the strategy, the project team member prepared the TOR for the consultants to formulate the guideline. Accordingly the guideline was formulated as the "Guidelines to Facilitate Implementation of the Capacity Development Framework" and circulated on September 2008. The RUWASA-CAD project team member also contributed finalization of the guideline, through the participation of following workshops.

Date	Workshops
2008 Oct. 28-29	Workshop CD Guideline for "Operationalizing in strategic framework for capacity development in the water sector in Tanzania"
2008 Dec. 19-20	Training of Trainers Workshop for "Operationalizing in strategic framework for capacity development in the water sector in Tanzania"

7.3 PROVISION OF PROPOSAL OF PWSS PROJECT CYCLE AND PROCEDURE

7.3.1 EXAMINATION OF PROJECT CYCLE AND THE ACTORS RESPONSIBILITIES

Programme Implementation Manual (PIM) package, which consists of 1 master report, 7 volumes and 18 annexes, as a reference material for WSDP was extensively examined by the project in order

to formulate the training plan of the project. Simultaneously, baseline survey was carried out in order to discuss the capacity and roles and responsibilities of the each institution that will be a main actor of the RWSSP implementation.

Based on the results of these examination and survey, the task matrix on actor's responsibilities and project cycle are formulated. The process for the formulation is explained below.

(1) Review of Existing Manuals on RWSSP Project Cycle

As a breakthrough, the Project studied the entire process of RWSS project, which were explained mainly in Annex 5; "NRWSSP Programme Cycle", Project Operation Manuals, P71～73 and Annex 6; "District Project Cycle", District Operation Manual, P-4-1～4-2.

The Project focused firstly on understanding indispensable activities in four phases, namely promotion phase, planning phase, implementation and construction phase and O&M/ follow-up phase. After that components under each activity are identified thoroughly. This approach is well-known as Critical Point Analysis[1].

Major findings from this analysis are summarized as shown below.

- The consistency between NRWSSP and DWST project cycles is lack in some components.
- The confusion is observed in both cycles in regard to the time frame and the relevance of components.
- In general, the project cycle give priority to promotion process, but these are deficient in consideration of planning process.
- The involvement of BWO and Regional Secretariat is totally absent

Based on the assessment of these major finding, the Project realized the necessity of comprehensive revision on NRWSS programme cycle in respect to the following aspects.

- Harmonization of demand responsive approach and water resources potential in planning
- Strengthening of responsibilities and roles of regional secretariats and basin water offices in the cycle in accordance with local government reform programme and integrated water resources management

(2) Analysis on Roles and Responsibilities of the Actors

1) Stakeholder Analysis

Based on NRWSSP programme cycle, basin water office and regional secretariats were adopted in stakeholders of RWSS. Besides, members of DWST were detailed to avoid the confusion of their responsibilities in DWST. The function of a ward was recognized as the extension of district councils. Therefore, it is included in a part of DWSTs' function in this analysis.

2) Identification of Actors Responsible for Critical Points

Each responsible actor was identified for specific component of activities. In case that specific component required a support from other stakeholder, a collaborating partner was identified simultaneously. Revised RWSS Project cycle is presented as a proposal in the following chapter.

[1] Critical Point Analysis; an approach to identify critical points, which are area, field and/or competence indispensable in a particular process/cycle

3) Required Capacities of the Actors

Based on the baseline survey, required capacities of each actor are analyzes as shown in ***Table 7.4***. These capacities shall accord with the task matrix.

Table 7.4 Required Capacities of Each Actor

Actor	Required Capacity
DWST	• Formulation of DWSP (District Water and Sanitation Plan) • Implementation of DWSP • Monitoring of water supply service conditions by water user association • Hygiene promotion • Sensitization of compliance of regulation related to the water and sanitation
BWO	• Groundwater management within the Basin in terms of both quantity and quality • Surface water management within the Basin in terms of both quantity and quality • Registration and management of the water rights • Technical support for the LGAs regarding water resources development
RWST	• Approve the District Water and Sanitation Plan • Technical support for the LGAs regarding water supply and sanitation project implementation • Supervise and monitor the implementation water supply and sanitation project by LGAs • Support on formulation of capacity development programme for the LGAs

7.3.2 DISCUSSIONS ON THE RWSSP PROJECT CYCLE IN WSDP

The basic concept of the RWSSP, under the WSDP is to sustain the operation and maintenance of the water supply schemes by means of authorise the ownership of facilities to the communities. For this purpose, the Demand Responsive Approach (DRA) was adopted in order to the communities participate from the planning stage of the project. The District Water and Sanitation Plan (DWSP), therefore, can be treated as referable to the aggregate of the Sub-Project based on the demand of the communities. The plan will be formulated by demand of each village without extensive studies and/or considerations such as Master Plan.

Through the review of project manuals of RWSSP, and implementation of the training courses following discussions were made by the Project team members and other stakeholders.

(1) Assessment of Water Resources Potential

The importance of incorporation of the water resources assessment into the project planning was confirmed from the result of review of good practices of the previous rural water supply project in Tanzania, and discussions made with District, Region and Basin Water Office through previous training phase. In the previous project, through means of formulation of master plan based on the comprehensive water resources potential evaluation, efficient and appropriate water supply schemes were constructed. Harmonization of the water resources potential with the demand is essential for the sustainable water supply services.

However, in general, formulation of master plan takes extended period of time, and it is uneconomical for the planning of district level. ***Figure 7.6*** shows difference of the project cycle in promotion and planning phase between RWSSP and previous project. In the previous project, the project lays weight on planning process to formulate the master plan, whereas the RWSSP lays weight on promotion to the community to identify the demand. Actually, for the sustainable water supply services, the project need both approach of water resources potential and community demand.

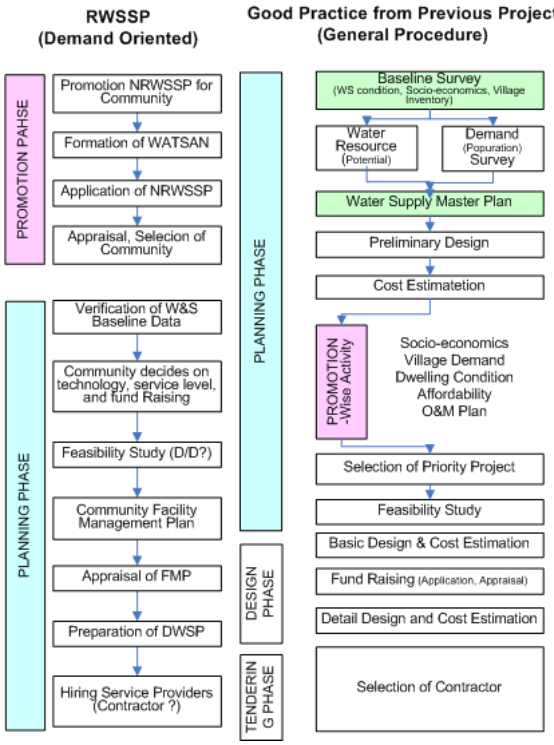

Figure 7.6 Comparison of Project Cycle

(2) Regional Assessment of Planning and Design

Another discussion was made regarding to the way of assessment of planning and design of the sub-projects. In general, in the project scale of district, the planner and/or designer are susceptible to get down into specifics of the individuals of sub-project. However, the previous good practice suggested that the planning of the water supply scheme by wider area is more efficient and economical than the planning of administrative unit such as village and district.

As the results of such discussion, RUWASA-CAD project has examined the effective function of the Region for the project cycle of RWSSP, although the Districts are the main body for the implementation of RWSSP.

(3) Integration of Water and Sanitation, and Support Service System

Promoting sanitation and hygiene has always proven as difficult in rural programme. Investments in water supply facility are more easily accepted by the community. In the previous practice, the benefits of sanitation are far more difficult to demonstrate. As the results, community people typically fall back latrines on traditional practice. It is therefore, integrated approach and activities of "water" and "sanitation" with encouraging community participation shall be required.

For a long time, the government has been the owner and operator of the water supply facilities. This has lead to lack of commitment by communities to sustain their facilities. The lesson learned from previous investment during 70s, 80s and 90s is that to achieve sustainability, water supply facilities should be owned and managed by the user community. It is therefore, extend support services system to the communities should be enhanced.

7.3.3 Proposal for Matrix of RWSS Project Cycle and Task Allocation

Proposes Matrix of RWSSP Project Cycle and Task Allocation are shown in ***Annex 4***.

The super goal of the RUWASA-CAD project is to "RWSS services in the mainland of Tanzania are improved by developing nationwide the training system to be established by the Project".

In order to contribute the project outputs to the achievement of the super goal, the RUWASA-CAD project would like to recommend CWSD to internalize the revised Matrix of Project Cycle and Task Allocation for the implementation of RWSSP.

CHAPTER 8 STATUS OF ACHIEVEMENT

8.1 ACHIEVEMENT OF OUTPUT

This chapter discusses about the achievement of output and project purpose by the activities taken through the entire project period (September 2007 to July 2010). The activities taken during these project period are described in Chapter 3 to 7 of this report.

During the entire project period, there is no delay in the progress of planned inputs. However, there are changes in the condition of the important assumption. A total of 39 trained staffs were transferred or retired from the total number of 301 trained staffs of DWST and RWST. In order to deal with this situation, the Project has been guiding the training participants to share and keep the information and materials in their organization through the training courses and monitoring visit. The other change in the important assumption is the schedule of the RWSSP. The 1st cycle of RWSSP is behind the schedule. In the original plan, the completion of design of the facilities was scheduled on October 2008, and the construction of facilities was supposed to complete on July 2010 at some of favourable villages. In an average progress of the 22 target LGAs, as of July 2010, however, it is still planning or design stage of the project. Thus, it is estimated that the 1st cycle of RWSS project is one year and nine months behind from the original schedule. The project however, has been encouraging the training participants in order to apply their previous and or ongoing projects.

The status of achievement for each output is described in the following section, and summarized as ***Table 8.1***.

8.1.1 FOR THE OUTPUT 1: ENHANCEMENT OF CWSD'S CAPACITY

The expected goal of 【Output 1】is that "Capacity of CWSD (Community Water Supply Division) / MoWI for managing capacity development programme on RWSS is enhanced". A total of three indicators was set for this output as described below. Considering the status of achievement for each indicator, condition of important assumption and other factors related to these indicators, it could be concluded that the target expected in this【Output 1】was basically achieved. However, more active participation of the counterpart personnel to the Project is required in order to MoWI to expand RUWASA-CAD project activities in future

(1) Indicator 1-1

Capacity development strategy for district, region and basin levels in implementation of RWSS projects is formulated within 6 months from the /commencement of the Project in coordination with PMO-RALG and other actors.

RUWASA-CAD capacity development strategy for the district, region and basin in implementation of RWSS project was formulated during the preparatory phase of the Project, and agreed among the project team and members of JCC by 2nd JCC meeting in March 2008. As requested in the JCC meeting, the project team prepared the report on "Formulation of Capacity Development Strategy, Capacity Development Programme, Training Plan and Training Curriculum" in order to define the difference of terminologies commonly used in the Project. This has enhanced the understanding of RUWASA-CAD objectives and approaches among stakeholders, eventually. All the training phases have been implemented with the adequate involvement of stakeholders in the process of decision-making.

Assessing the process of implementation related to this indicator, it could be concluded that the target of this indicator was sufficiently achieved as in the planned period.

(2) Indicator 1-2

Annual work plans of CB&T sub section are formulated every year

Since the Tanzanian fiscal year starts from July and ends in June, the annual work plans of CB&T sub section could not be formulated in the preparatory phase of the Project.

Synchronized with the general budgetary preparation in Tanzania, the project team encouraged CBT sub section to prepare the annual work plan for the Project. Eventually the annual work plan for 2008/2009 of the CB&T sub section was formulated and agreed in the counterpart meeting held on 5th June 2008. From the 2nd year of the Project period, the annual work plan for 2008/2009, 2009/2010 and 2010/2011 were prepared before the starting month (July) of each of next fiscal year, and agreed by the counterpart meetings.

Based on the results of the related activities with this indicator, it is assessed that the target in the Project has been obtained.

(3) Indicator 1-3

Activities are conducted by the counterpart personnel in accordance with the action plan attached to the annual work plan.

This indicator was added at the time when PDM_1 was updated to PDM_2 as a part of the indicator 1-2.

The action plan discussed in the previous section encompasses individual action plan for each counterpart personnel of CWSD, according to their responsibilities and tasks.

It, however, until 2nd project year, was observed that those counterparts have not been paying attention much on their action plan. As its results, the products from their activities were generated less than planned. As described in Section 2.4.7, during three years project period, the counterpart members have been reorganized by transfer to the other section of MoWI. The project has made their effort to encourage and monitor them over the activities of counterparts through entire project period. Furthermore, the Project had been communicating with superiors of counterparts more intensively in order to set the project activities and their general duties more coordinated In addition, at kick-off meeting held on starting month of each project year, fair task allocation among counterpart personnel was discussed.

As the results, from the 3rd year of project period, all of training courses on 4th training phase, and most of training course on 5th training phase have been successfully completed under the counterpart's supervision. Furthermore, in 3rd monitoring visit, all activities were carried out with the participation of counterpart. Thus, it is assessed that these situations prove the embodiment of the fair coordination by the project team and counterpart participation to the Project according to their individual action plans.

On the other hand, there are some constrains to limit the counterpart's participation to the Project, which are their part time basis engagement to the Project and irregular shifts in routine work schedule. There is still a room to improve the working conditions of counterpart personnel for the Project.

Assessing the conditions mentioned above related to this indicator, it could be concluded that the target of this indicator was basically achieved. However, the Project highly expects the management of the counterpart organization to consider appropriate work environment for better participation of counterpart personnel to the Project.

8.1.2 FOR THE OUTPUT 2: ESTABLISHMENT OF TRAINING SYSTEM MODEL FOR DWST

The expected goal of【Output 2】is that "A training system model for District Water and Sanitation Teams (DWST) in managing RWSS projects is established". There are three indicators for this output. The status of achievement of each indicator is summarized as follows. Considering the status of achievement of the for each indicator, condition of important assumption and other factor related to these indicators, it could be concluded that the target expected in this【Output 2】was sufficiently achieved.

(1) Indicator 2-1

Training plan is formulated within 9 months from the commencement of the Project.

As described in Section 3.5 of Chapter 3, the training plans for the district, region and basin were formulated during the preparatory phase of the Project. The project team subsequently prepared the report on "Formulation of Capacity Development Strategy, Capacity Development Programme, Training Plan and Training Curriculum", and it was accepted by MoWI in March 2008. All components under 1st to 5th training phases were implemented according to this capacity development plan.

It is, therefore, evaluated that this indicator was properly generated during the preparatory phase of the Project.

(2) Indicator 2-2

Monitoring plan is formulated within 9 months from the commencement of the Project to record and analyse satisfaction, attainment of skills and knowledge, and behaviour change of trainees as well as impact of the training programme.

The monitoring plan was formulated in February 2008 after the 1st training phase, and presented thoroughly in the Progress Report (1). Before the commencement of the 1st monitoring survey, the monitoring plan was discussed again within the project team, and the detail monitoring survey plan was finalized in the 15th counterpart meeting held on 18th September 2008. Accordingly, based on the agreed plan, a total of three monitoring visit were carried out through the project period.

The monitoring plan was formulated within nine months from the commencement of the Project. In consequence, impacts of the trainings were smoothly monitored, and the results of monitoring were practically utilized for the formulation of next training curriculum. Assessing these processes taken related to this indicator, it is concluded that the targets of activities were sufficiently obtained.

It is, therefore, evaluated that the target of this indicator was achieved with the satisfactory level.

(3) Indicator 2-3

Revision of existing training modular guides and establishment of course materials associated with training modular guide are finalized as the training package by July 2010.

In the process of formulation of the training plan, existing training modules were carefully examined and revised in accordance with major issues discussed in NAWAPO. The revised versions of the training modules were introduced to ID&CB TWG and PCT by May 2008 as the proposal on RWSS project cycle and procedure. In subsequent project phases, revision of the training modular guide was continued. Eventually, the training modular guide for DWST, RWST and BWO were completed on February 2010. Completed training modular guides are presented to ID&CB TWG meeting on May 2010, DPG-Water meeting on June and RUWASA-CAD Seminar on July 2010, in order to disseminate water sector stakeholders.

The training materials were prepared through the training phases of the Project by integrating training plan, curriculum and materials after the each training phase. In addition, at 4th Year of the Project, detailed review on both training modular guides and training materials was made. Accordingly, in July 2007, training modular guide and training materials were compiled as training package.

Consequently, it is concluded that the target progress of this indicator for this project term was achieved as planned.

8.1.3 FOR THE OUTPUT 3: ENHANCEMENT OF CAPACITY OF BWO

The expected goal of【Output 3】is that "Capacities of the target Basin Water Offices (BWOs) for supporting Districts in managing RWSS projects are enhanced". There are two indicators for this output. Considering the status of achievement of each indicator, condition of important assumption and other factor related to these indicators, it could be concluded that the target expected in this【Output 3】was achieved. The achievement of each indicator is described in the following sections.

(1) Indicator 3-1

The preliminary hydogeological maps are distributed to all the target districts by BWO by the second training phase.

In the preparatory phase of the Project, preliminary hydrogeological maps were prepared by hydrogeologists of both BWOs with support of the Project. The preparation of the preliminary hydrogeological maps was one of the important components in the trainings for BWO. The preliminary hydrogeological maps prepared are shown in Section 5.3 of Chapter 5. In the 1st training phase, the preliminary hydrogeological maps were distributed to DWEs and RWAs with the explanation of these maps. As a result, DWEs and RWAs recognized the significance of these maps. In 2nd year of the Project, preliminary hydrogeological maps were redistributed to DWST and RWST by BWO with technical instruction during the 2nd training phase, after modification of the legend of these maps.

Conclusively, the target of this indicator was adequately achieved.

(2) Indicator 3-2

The updated hydrogeological data is distributed to all the target districts by BWO annually.

The target in the final phase of the Project, for this indicator, is that "the preliminary hydogeological maps are updated based on the status of groundwater development in each district".

The status of 1st cycle of RWSSP is stagnant still in procurement stage for selection of the consultants. Therefore, the actual implementation of RWSSP has not yet started, resulting in no new hydrogeological data collected for updating these maps.

Regardless of this situation, the existing data related to water quality was thoroughly reviewed, updated and distributed to the target LGAs in February 2009 and May 2010 by a hydrogeiologist of Wami Ruve BWO. As the result, the water quality contour lines of the hydrogeological map came to show more realistic state than before.

As well, a hydrogeologist of Ruvuma & Southern Coast BWO visited existing wells where the hydrogeological survey was coducted, and measured coordinates. Eventually a database for hydrogeological maps was reinforced in February 2009. In 3rd year of the Project, the hydrogeological maps were updated on March 2010 after another existing well survey was conducted to collect yield data. Furthermore, the BWO plans to distribute the updated hydrogeological maps by the end of August 2010 to target LGAs, after incorporation of data of newly drilled five wells which will be set in June 2010.

Verifying the progress of activities, in which the Ruvuma & Southern Coast BWO did not distributed the updated hydrogeological maps to the target LGA, the achievement of this indicator could not be evaluated high. However, the distribution of hydrogeological maps was intentinally delayed because the Ruvuma & Southern Coast BWO knew that the new hydorogeological data would be obtained and the maps be updated shortly. Considering such a situation comprehesively, it could be concluded that the capacity of target BWOs on updating hydrogiological maps was appropriately improved and eventually the target of this indicator was achieved.

8.1.4 FOR THE OUTPUT 4: ENHANCEMENT OF CAPACITY OF RWST

The expected goal of 【Output 4】is that "Capacities of Regional Water and Sanitation Teams (RWSTs) in the target Regions for supporting Districts in managing RWSS projects are enhanced". There are two indicators for this output. The status of achievement of each indicator is summarized as follows. The target of indicator 4-1 is not achieved yet due to the negative impact from the delay of RWSSP implementation. However, the target of the other indicator was fully achieved without the negative impact of the delay.

Assessing the status of entire achievement of indicators, condition of important assumption and other factors related to these indicators, it could be presumed that 【Output 4】would be achieved if the delay of RWSSP is resolved.

(1) Indicator 4-1

RWSPs are formulated in all the target regions by July 2010.

As of July 2010, the formulation of the RWSPs is not completed yet in all four regions. This is because the submission of DWSPs from some LGA, which are necessary components of RWSP, delayed due to the delay of 1st cycle of RWSSP implementation. Even under such a circumstance, RWST has been assisting the activities in LGAs by providing comments and advice on submitted reports in order to improve the quality of DWSPs formulated in each LGA.

Though the level of the achievement did not reach the point where the statement described, it was confirmed that the necessary process to formulate the RWSP was clearly understood by RWST in the target regions and they complied it. Therefore, it could be presumed that target of this indicator was mostly achieved within the area where the negative impact of the important assumption does not affect.

(2) Indicator 4-2

Quarterly monitoring reports submitted by the districts are reviewed and responded to the districts by RWSTs in all the target regions within one month from receipt of the reports.

At the end of 2nd year of the Project, the planning and designing of RWSS subprojects under the 1st cycle of WSDP has not actually started yet, LGAs have been submitting quarterly reports to the regions on progress of other on-going RWSS projects such as the Quick-Wins and the ones funded by DPs and NGOs. It was confirmed through the first and second monitoring surveys that RWSTs in four regions at least checked the reports received from LGAs before consolidating and forwarding them to PMO-RALG.

Since then, the Project have made further facilitation to RWSTs in order to involve themselves more positively in encouraging submission of the quarterly reports from LGAs and reviewing them at the regional level. As the result, at the end of 3rd year of the Project, it was confirmed that a total of 13 LGAs received the comments and advises for their quarterly reports from the RWSTs. Furthermore, as the result of end line survey, the project team confirmed that all of 22 LGAs received feedback from the RWSTs regarding their quarterly reports with the improved communication between the LGAs and the regions.

This situation proves that activities represented by this indicator have been established in target RWSTs. It, therefore, could be evaluated that the target of this indicator was satisfied.

8.1.5 FOR THE OUTPUT 5: ADAPTATION OF REVISED PROJECT CYCLE AND PROCEDURE OF RWSS

The expected goal of 【Output 5】is that "The project cycle and procedures of the RWSS reviewed through the Project are applied to implementation of Rural Water Supply and Sanitation Programme

(RWSSP) in the target districts". There are two indicators for this output. The status of achievement of each indicator is summarized as follows. With regard to the indicator 5-1, technically, there are some aspects which were not satisfied perfectly. This is due to the negative impact of the delay of RWSSP implementation. In other aspects free from the influence of the delay, however, the target of the indicator was satisfied.

Considering carefully the status of achievement of each indicator, the condition of the important assumption and other factor related to these indicators, it could be evaluated that the target expected in this【Output 5】was achieved.

(1) Indicator 5-1

Community subprojects are formulated and designed in all the target districts based on advice and/or approval by RWST and BWO.

According to the facts confirmed by the end of 3rd year of the Project, 13 LGAs received advice on their community subproject plan from RWSTs, eight LGAs received the approval on their facility design from RWSTs, and 12 LGAs received advice on their plan and design from BWOs. At that point in time, therefore, it is estimated that approximately the half of target LGAs has achieved the indicator, and it is expected that the number of the achievement will be increased.

As the result of the end line survey, it was observed and confirmed that 21 LGAs received advice on their community subproject plan from RWSTs, all of 10 LGAs received approval on their facility design from RWSTs, and 19 LGAs received advice on their plan and design from BWOs.

The reason behind the decrease of the number of LGAs which did not receive the approval on their facility design from RWSTs than the expected number specified in the indicator is mainly due to the delay of the 1st cycle of the RWSSP implementation. In fact, one LGA which did not receive advice on their community subproject plan by RWST, and three LGAs which did not receive advice on their plan and design from BWOs explained the reasons of no receipt of advice and approval that the progress of implementation did not reach the stage of receiving the advice and approval.

Considering the fact discussed above, although the number of LGAs have not reached the target of the indicator, it could be evaluated that target expected in this indicator was achieved within the area which the impact of the important assumption dose not affected.

(2) Indicator 5-2

Proposals on the necessary revision for the existing RWSS project cycle and procedure are provided.

As stated in Section 7.5 of Chapter 7, the proposal on revised RWSS project cycle and procedure was prepared by the project team and proposed to the ID&CB TWG meeting, PCT, and CWSD of MoWI.

The RWSS project cycle and procedure is the core factor of the PIM (Project Implementation Manual) of the WSDP's sub component of RWSSP. The MoWI are planning to revise the PIM on 5th year of WSDP to be 2012. The ministry express their intention to reflect the proposal into the scheduled revision of PIM in 2012.

Conclusively, the target of this indicator was adequately achieved as planned.

Table 8.1 Achievement of Output (from September 2007 to July 2010)

Outputs	Indicators	Targets at final year of the project	Achievements In project term	Reasons if planned targets were not satisfied
1. Capacity of CWSD/ MoWI for managing capacity development programme on RWSS is enhanced.	1-1. Capacity development strategy for district, region and basin levels in implementation of RWSS projects is formulated within 6 months from the /commencement of the Project in coordination with PMO-RALG and other actors.	(to be achieved in 1st phase)	(Achieved in 1st phase)	The progress of the 1st cycle of RWSS.is getting behind from the planned schedule. The delay of the indicator of 4-1 and 5-1 is due to this situation.
	1-2. Annual work plans of CB&T sub section (former TCB unit) are formulated every year.	An Annual Work Plan for 20102011 of the CB&T sub-section is formulated	An Annual Work Plan for each project year was formulated.	
	1-3. Activities are conducted by the counterpart personnel in accordance with the action plans attached to the annual work plan.	Activities are conducted by the counterpart according to the contents, timing and output of the action plans.	Activities were mostly conducted by the counterpart according to the contents, timing and output of the action plans.	
2. A training system model for DWST in managing RWSS projects is established.	2-1. Training plan is formulated within 9 months from the commencement of the project.	(to be achieved in 3rd phase)	Training plan was formulated in 1st phase of the project. Accordingly, training was conducted in each phase.	**Necessary countermeasures**
	2-2. Monitoring plan is formulated within 9 months from the commencement of the project to record and analyse satisfaction, attainment of skills and knowledge, and behaviour change of trainees as well as impact of the training programme.	Outcome of the trainings are evaluated by the end line survey.	Monitoring visits were carried out as planned in 3 phases. In 4th phase, the end line survey was carried out and the outcome of trainings was evaluated.	N.A.
	2-3. Revision of existing training modular guides and establishment of course materials associated with training modular guides are finalized as the training package by July 2010.	The course materials necessary for a series of trainings are compiled as the training pakage.	The training package was completed based on the revised training modular guides by July 2010.	
3. Capacities of the target BWOs for supporting Districts in managing RWSS projects are enhanced.	3-1. The preliminary hydogeological maps are distributed to all the target districts by BWO by the second training phase.	Updated preliminary hydogeological maps are distributed to all the target districts.	The preliminary hydogeological maps were updated and distributed or in preparation of distribution.	**Impact (expected/unexpected)**
	3-2. The updated hydrogeological data is distributed to all the target districts by BWO annually.	Based on the status of groundwater development in the each district, the preliminary hydogeological maps are updated.	The preliminary hydogeological maps were updated based on the progress of the groundwater development.	None
4. Capacities of RWSTs in the target Regions for supporting Districts in managing RWSS projects are enhanced.	4-1. RWSPs are formulated in all the target regions by July 2010	RWSP are prepared by all RWSTs.	RWSPs are in preparation due to the delay of formulation of DWSP caused by the delay of RWSSP implementation.	
	4.2. Quarterly monitoring reports submitted by the districts are reviewed and responded to the districts by RWSTs in all the target regions within one month from receipt of the reports.	The feedback of the quarterly monitoring report of 09/10 are given to 22 LGAs	The feedback of the quarterly monitoring report of 09/10 was given to 22 LGAs	
5. The project cycle and procedures of the RWSS reviewed through the Project are applied to implementation of RWSSP in the target districts.	5-1. Community subprojects are formulated and designed in all the target districts based on advice and approval by RWST and BWO.	(to be achieved in 3rd phase)	21 LGAs received advices and 10 LGAs received approval from RWSTs. 19 LGAs received advice from BOWs.	
	5-2. Proposals on the necessary revision for the existing RWSS project cycle and procedure are provided	Proposal of the revision of project cycle and procedures of the RWSS are prepared based on the practice at target LGAs.	Revision of the project cycle and procedures of RWSS was proposed to the MoWI, and will be incorporated into PIM in 2012.	

[Abbreviations] **RWSS**: Rural Water Supply and Sanitation, **WSDP**: Water Sector Development Programme, **CWSD**: Community Water Supply Division, **MoW**: Ministry of Water, **DWST**: District Water and Sanitation Team, **BWO**: Basin Water Office, **RWST**: Regional Water and Sanitation Team, **WUE**: Water User Entity, **DWSP**: District Water and Sanitation Plan, **PMO-RALG**: Prime Minister's Office – Regional Administration and Local Government, **CB&T**: Capacity Building & Training sub section, **RWSP**: Regional Water and Sanitation Plan

8.2 PROJECT PURPOSE

The project purpose is set as "capacities of the target Districts providing RWSS (Rural Water Supply and Sanitation) services for rural community are enhanced". This section discusses about the current status and perspective of the achievement of the project purpose.

The following 4 indicators are provided by PDM, in order to evaluate the achievement of project purpose. The indicators shall be evaluated with the condition that the "DWSTs which practices the following actions in implementation of RWSSP reaches to 80% (18 districts) by July 2010".

1. To adopt selection procedures of candidate communities for the scoping survey based on the demand-responsive approach in the promotion phase.
2. To examine and make comments to progress reports and other output reports to be submitted by the Technical and Facilitation Service Providers within the period agreed.
3. To update information on water supply and sanitation conditions as well as operation and maintenance of existing water supply facilities in the district every year.
4. To integrate the strategies and activity plans on water supply, sanitation and hygiene promotion for households and schools into DWSP and annual plan.

8.2.1 STATUS AND PERSPECTIVE OF ACHIEVEMENT OF INDICATORS

The current status and perspective of achievement of each indicator are summarized as follows.

(1) Indicator 1

DWSTs adopt selection procedures of candidate communities for the scoping survey based on the demand-responsive approach (DRA) in the promotion phase

In PIM, the manual of WSDP defines that six steps of the process could ensure the realization of DRA in selecting the candidate communities. The end line survey revealed the level of realization of each of six steps practically in the target LGAs.

The project has promoted regularly the trainees on the utilization of DRA, and MoWI on assisting and monitoring for the utilization of DRA in the each of LGA'S sub-project.

As the result from the end line survey, it was confirmed that 16 LGAs among 22 LGAs utilize all of six steps of DRA. Although this number of LGAs are not reaching the target number of LGAs, considerable improvement can be observed in comparison with 9 LGAs confirmed with the result of the last monitoring visit in June 2009. In addition, the result of the end line survey indicated that four LGAs had utilized four steps of the DRA process. Including these four LGAs, it is evaluated that a total of 20 LGAs had utilized most steps of the DRA in their stage of selecting the candidate communities.

Considering these fact, although there is the qualitative difference in utilization of DRA, it could be evaluated that the target of this indicator was mostly achieved.

(2) Indicator 2

DWSTs examine and make comments to progress reports and other output reports to be submitted by the Technical and Facilitation Service Providers within the period agreed.

The several facts related to this indicator were identified through monitoring visits by the end of 2nd year of the Project. Regarding the progress in the 1st cycle of RWSSP, no particular communication started simply because TSP and FSP have not been selected in the 1st cycle of RWSSP and activities needing reports have not even started by that time.

On the other hands, various activities under completed and ongoing projects have generated the progress report by contractors and suppliers. The project examined the status of the indicator on

these ongoing projects. As a result, it was confirmed that 20 LGAs had examined and given comments to the reports submitted in the on-going projects in 2008/2009.

Contrary, the end line survey revealed that 21 LGAs among 22 target LGAs had reviewed and commented to the progress reports and other output reports submitted by the TSP and FST within the agreed period.

It is therefore, concluded that the target of this indicator was successfully achieved. High achievement of this indicator would be partly attributed to the fact that MoWI gives instructions to LGAs to ensure examination of the output as a part of the contract management by LGAs in RWSSSP. Even in this case, it is remarkable that the Project has contributed to improve practices of LGAs in examination of the project output with joint efforts of DWST members.

(3) Indicator 3

DWSTs update information on water supply and sanitation conditions as well as operation and maintenance of existing water supply facilities in the district every year.

The discussion organized during the trainings widened the comprehension on current quality of available information and information management system among trainees. Practically assessing the statistical figures expressed in the regular assignment, the coverage of required statistics on water supply and sanitation condition as well as operation and maintenance of existing water supply facilities has reliably improved more than the beginning of this exercise.

From the result of the end line survey, it was confirmed that all target 22 LGAs had updated the information on water supply and sanitation conditions as well as operation and maintenance of existing water supply facilities in the district every year.

It therefore, could be concluded that the target of this indicator was achieved adequately.

(4) Indicator 4

DWSTs integrate the strategies and activity plans on water supply, sanitation and hygiene promotion for households and schools into DWSP and annual plan.

The project had successfully involved not only water department of DWST, but also different sector departments into the trainings, which strengthened the team work and linkage among DWST members resulting in the improvement of awareness on the integration of water supply, sanitation and hygiene.

At the end of 2nd year of the Project, it was observed that DWST of Masasi D.C. had practiced the integration of water supply with hygiene and sanitation in the form of DWSP by following the project intervention. The project have made effort to spread this positive change in Masasi D.C. to other target LGAs through the project activities of training, monitoring, assignment, etc.

The result of the end line survey indicates that the number of LGAs which had practiced the integration of water supply with hygiene and sanitation in the form of DWSP is 17, meaning slightly not reaching the target number of 18. However, it was also confirmed that other five LGAs, which have no practice in integration of water supply and hygiene and sanitation, could not formulate their DWSPs due to the delay of the RWSSP implementation. This means that all 17 LGAs with DWSPs have successfully realized the integration of water supply with hygiene and sanitation in their DWSPs.

Considering these facts, although the number of LGAs is not reaching the target number of the indicator, it could be evaluated that target expected in this indicator was achieved within the area which the impact of the important assumption does not affect.

8.2.2 STATUS OF ACHIEVEMENT OF PROJECT PURPOSE

The progress on all indicators has been identified as discussed in the last section. By the end of 2nd year of the Project, the indicators were not reaching the satisfactory level fully contributing to the

realization of the project purpose due that the delay of the 1st cycle of RWSSP had negatively affected the progress of indicators as fully discussed in the interim report. By the end line survey, however, considerable improvement was confirmed in the subsequent project activities.

Assessing the level of the achievement of the project purpose comprehensively with the situation described above, it is quite fair that the project purpose was adequately achieved though there was the qualitative difference in achievement of the target of indicators caused by the constrain of the change in important assumption that is delay of RWSSP implementation.

CHAPTER 9 RESULT AND RECOMMENDATION

9.1 RESULT OF THE PROJECT

As it was discussed fully in the previous chapters, indicators for expected outputs illustrate the generation of positive impacts by the Project in various aspects except areas which have been negatively affected by the delay of RWSSP implementation. Besides, the achievement of the project purpose could be considered high enough from the assessment on the overall improvement contributed by each indicator and other external positive factors, even though some of its indicators did not reach the expected level due to the delay of RWSSP implementation again.

In DWST, RWST and BWO of the target areas, the behaviour changes at the levels of individual and organization has been clearly observed through the end line survey, which was largely generated by the project intervention. And also, the some of organizations out of the target areas were surveyed as for the comparison purpose. The result of this comparison points out that the organizations in the target areas implement the activities of RWSSP more effectively with correct understanding of their roles and responsibilities than those in the non target areas. For instance, RWST and BWO have a significant role as the technical backstop for DWST and actually it has been enhanced in the target areas by improved communication and collaboration between DWST, RWST and BWO.

In addition to the evaluation above, the following external factors are identified to contribute positively to the achievement of the project purpose.

- Based on the correct understanding of roles and responsibility in DWST, RWST and BWO, the activities under RWSSP/WSDP were appropriately carried out in timing, methodology, field, etc.
- DWST, RWST, BWO in the target areas understood the importance and benefit of collaboration and involvement of stakeholders in RWSSP/WSDP, which resulted in effective implementation of activities by integration of wider sectors.
- Non water sectors came to be involved in water sector activities and understand their significance among the team as DWST, RWST and BWO, which totally inspired their activities in RWSSP with better team work.
- The communication has been stimulated effectively not only among public organizations as DWST, RWST and BWO, but also between those organizations and private sectors, communities, etc.

The Project team understand that those all outputs synthetically contributed to the improvement of the capacity on managing RWSSP comprehensively in their jurisdiction.

9.2 MEASURES TAKEN BASED ON RECOMMENDATION FROM TERMINAL EVALUATION

The terminal evaluation team formed jointly with Japanese side and Tanzanian side included their recommendation in their evaluation report submitted on March 2010. The Project team has taken various measures as for the responses to their recommendation since then. In the following sections, the measures taken and their consequences, and he prospects of the post project are summarized separately.

9.2.1 MEASURES TO BE IMPLEMENTED BEFORE THE TERMINATION

(1) Utilization of strengthened counterpart personnel

Project counterpart personnel who had the training in Japan may work more effectively not only in a field of capacity development, but also other fields. In fact, two of project counterpart personnel were transferred to other division/section after the training in Japan and have been working with an important role and responsibility. One of them presently is committed in PCT which is the section to coordinate the overall activities of WSDP and notably participates in

ID&CB thematic working group as a secretariat. Another one who was transferred to the technical support section of CWSD conducted the joint training of CWSD/MoWI as one of the main facilitators.

The Project team has introduced the idea of utilization of strengthened counterpart personnel repeatedly to CWSD/MoWI. With the fact mentioned above, it is optimistically understood that CWSD/MoWI acknowledges our idea and manages their human resources accordingly.

(2) Securing financial sustainability

CWSD/MoWI conducted the joint training massively targeting DWSTs of all 132 LGAs, RWSTs of all 21 regions and BWO of 9 basins in almost a month from 10/May/2010 to 11/June/2010. This kind of training, which intends to advocate and/or convey the message and instruction to participants has been conducted traditionally by CWSD/MoWI. However, this time, outputs from RUWASA-CAD such as training materials were utilized in the joint training. The budget for this training was spared fully from the WSDP fund.

This may indicate the possibility and availability of fund for conducting various training in the future.

(3) Preparation for Nationwide replication

The Project timely takes necessary actions to let the training system model, the Project is proposing, be the national model, consequently to be widely practiced in Tanzania. For this purpose, all RWAs and BWOs from non target areas were invited to the RUWASA-CAD seminar in 15th July and facilitated to understand training system model including

9.2.2 MEASURES TO BE TAKEN FOR THE POST PROJECT

(1) Strategic deployment and upbringing the human resources

The Project has been recommending CWSD/MoWI to deploy counterpart personnel in the Project more strategically. As its result, the number of counterpart personnel increased from two at the beginning of the Project to five at September/2009. However, number of counterpart personnel from CBT sub section stayed two through the project period.

Capacity development among all levels of stakeholders under RWSSP/WSDP will become more important critically contributing the achievement of milestones up to the overall goals by 2025. Therefore, the function of CBT sub section needs to be strengthened more strategically based on the business plan to be prepared with appropriate deployment and upbringing of the human resources.

(2) Verification towards nationwide operation

Due to the delay of implementation of RWSSP/WSDP, some of training contents could not been practiced in the actual field of implementation by trainees. Therefore, the practicability and effectiveness of those contents were not assessed with the reflection of field practice. In order to maximize the practicability and effectiveness of training contents, it is quite important that the outputs from RUWASA-CAD training are adopted as the basic training tools in RWSSP/WSDP and the same time their practicability and effectiveness are thoroughly examined based on the actual progress of implementation by CWSD/MoWI.

In addition to this, the replicability of RUWASA-CAD training system should be verified in other areas of Tanzania, where natural situations of water resources, water usage pattern, etc, are largely diversified.

During the project period, the RWSS project cycle and task allocation, and training modular guide, as the main components of RUWASA-CAD training system, were introduced to stakeholders through WSDP dialogue. Only supportive comments were replied upon proposed

items for time being. Consequently it is highly expected that CWSD/MoWI would accept the proposals and incorporate them into PIM of WSDP when they are revised in 2012.

(3) Further collaboration among the related organizations to RWSSP

Since activities in RWSSP/WSDP need strong collaboration with other sectors like hygiene and sanitation, education, community development, etc, it is fundamental for smooth programme implementation that MoWI hold hands to hands with other line ministries. Recently MoWI has signed MoU with MoHSW, MoEVT and PMO-RALG, which resulted in the better understanding and demarcation of their roles and responsibilities under WSDP. Therefore, in the coming timeframe, it is expected that the relevant activities will be intervened by respective ministries according to the agreement made.

Besides, signing of MoU pushed the standardization of definitions in terms, which previously designated their focus differently. As its effect, the accuracy of monitoring on the progress of WSDP should be improved expectedly.

9.3 RECOMMENDATION

(1) Preparation of the business plan for CBT sub section

All stakeholders under RWSSP/WSDP came to possess their own CD plan by early 2010. It is expected that many activities of CD will be implemented according to their CD plans from the fiscal year 2010/11 and later. Under such a circumstance, it is highly recommended that CBT sub section should prepare the business plan to coordinate and assist the implementation of CD intervention by stakeholders in order for the quality assurance and backstop.

(2) Participation in ID&CB TWG

If CWSD/MoWI keeps providing a series of training to LGAs, RS, BWO, etc, it is highly recommended that these training should be coordinated and/or co-implemented jointly with ID&CB TWG. Thus, the member of CBT sub section should participate in ID&CB TWG representatively from CWSD.

(3) Promotion of RUWASA-CAD training package

The campaign programme for RUWASA-CAD training system and package by targeting all in nationwide should be prepared and implemented timely and resourcefully.

(4) Development of CD consulting manual

With the prospect of increase of CD activities including training, CBT sub section should be equipped with the supporting documents for better coordination and assistance to stakeholders. From this point, it is recommended that such supporting documents, most likely consultation manual, should be developed shortly.

(5) Development of training sub package

Training sub package, which corresponds to technical issues localized in particular areas, should be developed based on the result of verification described in section 9.2.2 (2)

(6) Adoption of results and lessons learned from RUWASA-CAD

It is our expectation that various concepts, documents, lessons learned, etc developed from RUWASA-CAD and RWSSP/WSDP would be fully incorporated into PIM to be revised in 2012.

9.4 LESSONS LEARNED

(1) Frequent communication with trainees

The Project kept the mutual communication with trainees during the whole project period by providing training assignments and tutorial feedback. Besides, the monitoring visit to LGAs, RSs, and BWOs was conducted three times between training courses to confirm the practicability of a particular training session, and evaluation of training impact. Consequently this monitoring visit bridged the communication between the project and trainees during the intervals of training and assisted the Project to accumulate the training know-how by understanding specific limitations and problems of trainees.

Conclusively, it can be noted that one way communication by just providing training to a target group would limit the level of the capacity improvement.

(2) Application of training obtainment in other projects

A series of RUWASA-CAD training was conducted based on the training plan timely synchronized with the progress of RWSSP/WSDP. Presently the progress of RWSSP delays about one year and nine months in comparison with the original schedule of completion of facility design and selection of contractors. Therefore, it was observed that the knowledge and skills of management and evaluation during the construction and O&M were not fully practiced by trainees. However, since the contents of training consisted mainly of theoretical parts of management and evaluation for the project, the application of the obtainment from RUWASA-CAD training realized in the other projects such as Quickwins and donor funded projects.

(3) Approach to both central and local government authorities

The Project set the principle approach to target key organizations of LGAs in RWSSP under the project outline and also emphasized the collaboration between them and Regions and Basin Water Offices as the system. This approach is now commonly known as a good practice in the organizational capacity development. In fact, the outputs from the project activities contributed considerably to the enhancement of the organizational capacity in the target areas.

On the other hands, some areas of capacity, which may not be improved only by training and/or institutional arrangement, were identified through lesson learned explained in section 9.4 (1) and the report from W-SAT/JOCV dispatched to Lindi district.

For more comprehensive capacity development of water sector, it could be rather effective if the technical cooperation is directly rolled out to the central level simultaneously with the LGA level

(4) Coordination and utilization of resources from external organization

The RUWASA-CAD training plan targets not only DWST, but also RWST and BWO. Besides, trainees from DWST and RWST, and DWST and BWO received the sessions together in some training components if the contents required discussion or elaboration from both parties. Furthermore, appropriate lecturers and resource persons were selected carefully to each session from various organizations such as PMO-RALG, MoHSW, NOGs, private sectors, etc.

This arrangement finally gave the significant presence as if trainees worked in the actual situation so that those involved came to have strong feeling of team work and relation at the end of training.

(5) Collaboration between the Project and policy advisor

During the project period, project experts have regularly participated in the meetings under the sector dialogue of WSDP, respectively ID&CB TWG, WSWG, JWSR and DPG-W in order to share the information of WSDP and introduce the project progress and lesson learned among

stakeholders of WSDP. This could enhance conclusively the smooth implementation of the project activities and generation of expected outputs.

However, this approach to engage the project experts for internal activities in MoWI and those in donor partner could be applicable in MoWI because MoWI officially accepted both the basket fund and bilateral assistance. However, it is advisable to consider the possibility to apply this approach in the new project since the modality of the assistance might be diversified in the policy of SWAp being popularized over African countries.