

# **Chapter 4**

## **Effect of the Training on Irrigation Scheme Formulation for DADP**

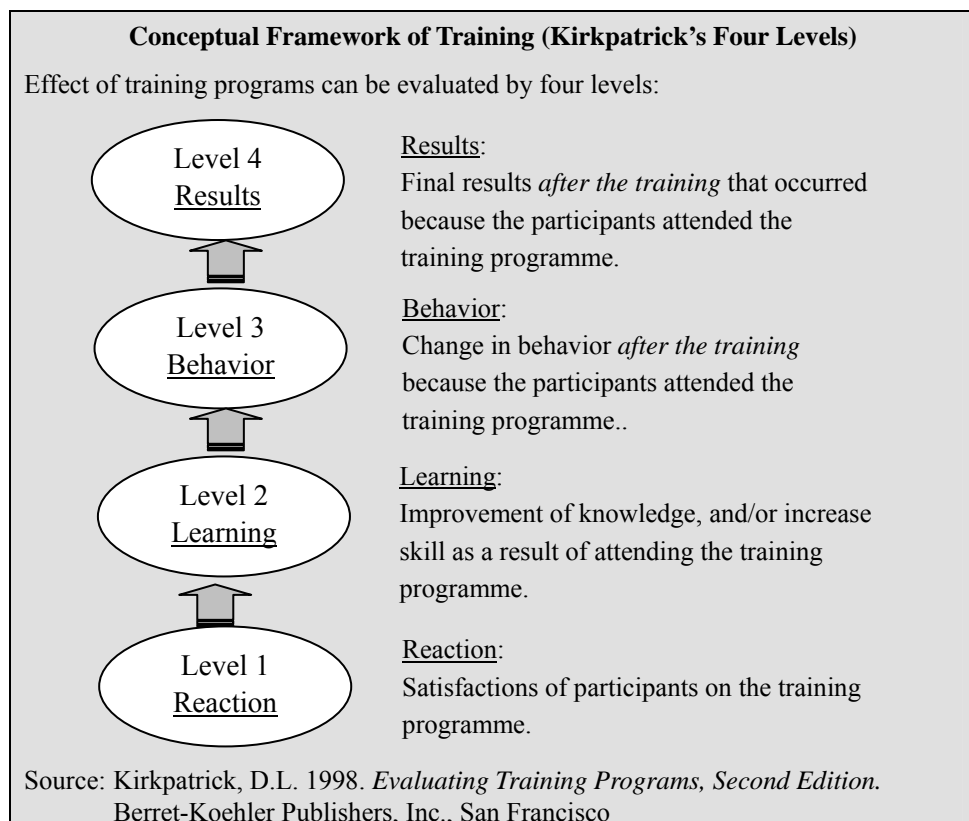
## CHAPTER 4 EFFECT OF THE TRAINING ON IRRIGATION SCHEME FORMULATION FOR DADP

### 4.1 General

Training is one of the important components in this Verification Study. As for the Verification Study-2 (VS-2): Support for irrigation scheme formulation for DADP, skillful DPDTs and ZRC are essential for the successful irrigation scheme formulation for DADP. This chapter presents the effect of the training on VS-2 conducted by the JICA Study Team and proves that those organizations achieved the required skill.

#### 4.1.1 Target of the Training

To conduct the training, “Kirkpatrick’s Four-Level Model” (see figure below) was referred as a conceptual framework. It is obvious that the goal of this training is “Level 2: Learning” in the model, since Level 3 and 4 can be achieved only some time after the training programmes. However, the training programmes were designed to encourage participants toward Level 3.



To explain the target, Level 2 in Kirkpatrick Model, concretely for each target organization, it can be described as follows.

<b>Target of the Training</b>	
<b>Target Organization</b>	<b>Target</b>
DPDT in Mvomero/Mkurang Districts	To acquire skill for irrigation scheme formulation for DADPs
Morogoro ZRC	To understand endorsement and validation procedures.

#### 4.1.2 Methodology of the Assessment

Achievements of those targets were assessed by comparing the situation before and after the training. Assessment was done by the following two parties:

- The DPDTs/ZRC (self-assessment), and
- The JICA Study Team

For the self-assessment, questionnaire surveys were conducted during the kickoff seminar and after all the programmes (the results are shown in pages B-4-16 to 35). On the other hand, the JICA Study Team evaluated their skills through the questionnaire survey at the end of each session and the observations during each training session.

## 4.2 Effect of the Training on DPDT

### 4.2.1 Status of DPDT members before the Training

Status of the DPDT members before the execution of training programme was confirmed by the questionnaires distributed during the kickoff seminar. The results are summarized as follows.

#### (1) Professional Experience

According to their answers, professional experience of DPDT members varies from 0 to 33 years. All the members have at least diploma in some agricultural course, and began to work as a district staff, NGO staff or government staff such as a regional officer. Mvomero DPDT was composed of officers with four years, 14 years, and 18 years of experience, while Mkuranga DPDT was composed of officers with less than one year to 33 years of experience. Number of DPDT members grouped by experience is shown in the following table.

**Professional Experience of DPDT Members (No. of people)**

Professional Experience	Mvomero	Mkuranga
More than 20years	0 (0)	2 (2)
11-20 years	2 (1)	0 (0)
6-10 years	0 (0)	2 (0)
Below 5 years	1 (0)	1 (0)

( ) Number of people who had other professional experience than district staff

**(2) Specialty of DPDT Members**

Each DPDT includes, at least, one Subject Matter Specialist (SMS) for irrigation, one SMS for crop, and one SMS for extension. Number of people by specialty is shown below.

**Specialty of DPDT Members (No. of people)**

Specialty	Mvomero	Mkuranga	Total
Irrigation	1	1	2
Others	2	4	6
-crop	(1)	(1)	(2)
-extension	(1)	(1)	(2)
-nutrition/information	(0)	(2)	(2)

**(3) Experience in Irrigation Scheme Formulation for DADPs**

In case of Mvomero District, SMS for irrigation was the only one that had experience of irrigation scheme formulation. According to the result of the interview survey, the SMS for irrigation realized that the process of irrigation scheme formulation taken in the last year was not satisfactory. In Mkuranga district, no one had experience in irrigation scheme formulation.

**(4) Experience in Planning Procedure**

Since planning was the main part in irrigation scheme formulation, experience of DPDT members in planning procedure was surveyed through the questionnaire survey. The result is shown in Clause 4.2.3.

**(5) Status of DPDT before the Training**

As a result, it was confirmed that DPDTs didn't have enough experience in irrigation scheme formulation before the training.

**4.2.2 Attendance Percentage at the Training Programme**

Attendance percentage of the training programme is shown in the table in the next page. Six members achieved 100%, while one member achieved 71%

and the other one member achieved only less than 50%. The latter two members couldn't participate the training fully because they had other duties.

**Attendance to the Training Programme (No. of people)**

	Mvomero	Mkuranga	Total
75-100%	3	3	6
50-75%	0	1	1
Less than 50%	0	1	1

#### 4.2.3 Status of DPDT members after the Training

Status of the DPDT members after the training programme was assessed by (i) DPDT members (self-assessment) and (ii) the JICA Study Team. The results are summarized as follows.

##### (1) Self-assessment by DPDT members

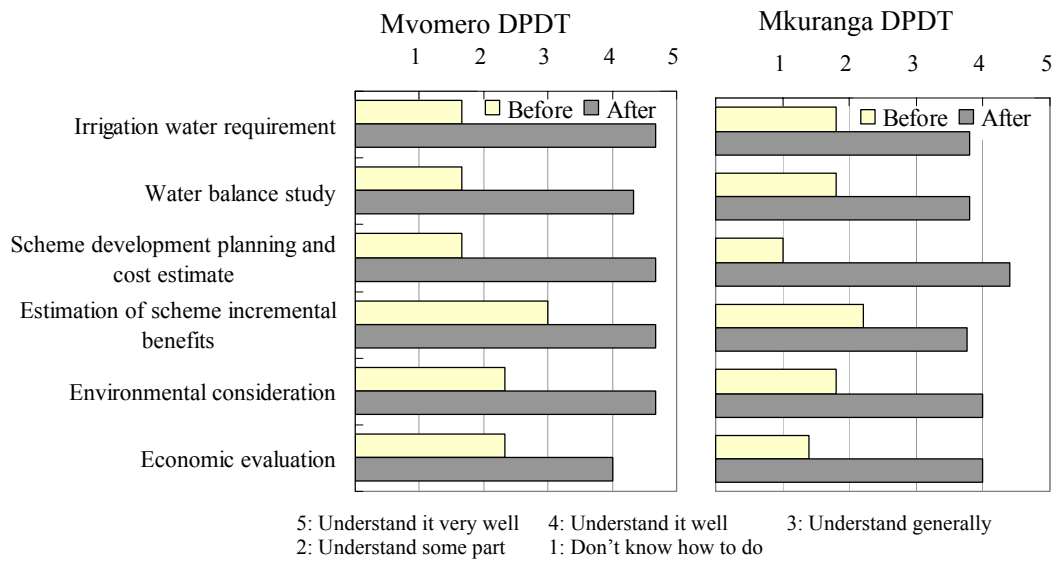
Questionnaires for the self-assessment were composed of questions about satisfaction to the training, skills in planning procedures, self confidence in irrigation scheme formulation next year, and future intention for the task. The result is shown below.

##### (a) Satisfaction to the Training Programme

Satisfaction to the overall training programmes was surveyed by a question asking how far the training programmes satisfied the expectation of each DPDT member. The result was 92% as a whole, 95% in Mvomero and 91% in Mkuranga. Looking into detail, most of the members showed more than 90% of satisfaction while a member with unfavorable attendance showed 75%. The member with low attendance could not be fully satisfied because it might be difficult for him to catch up on the work conducted during his absence. As a result, it can be said that the programme met their satisfaction as far as they attended most of the programmes.

##### (b) Learning of planning procedures

DPDT members assessed their skills in planning procedures before and after the programme through the questionnaires. The result is shown in page B-4-7 and as summarized in the next page.

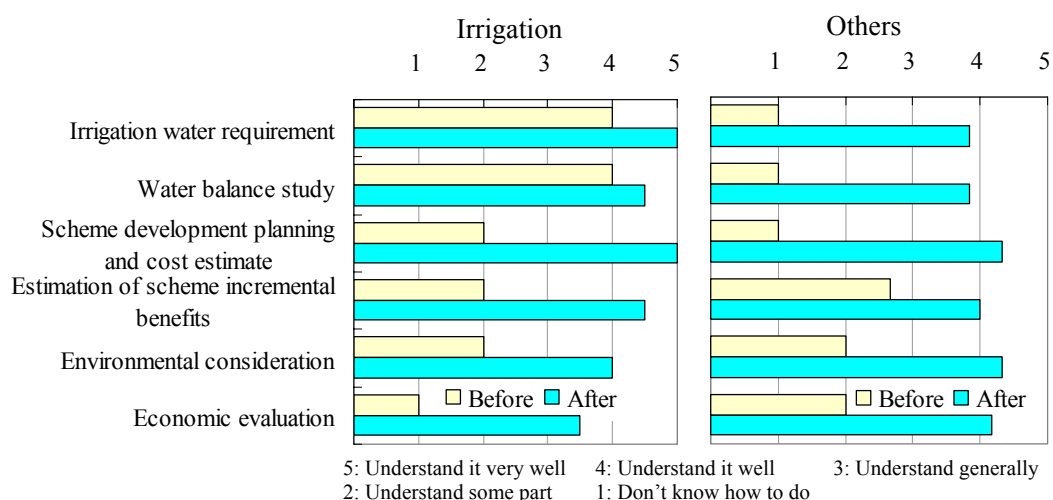


**Effect of Training on Planning Procedure**

Generally speaking, their skills in planning procedure were “Don’t know how to do” or “Understand generally” in Mvomero, and “Don’t know how to do” in Mkuranga. It means that they did not have enough experience and it was difficult for them to execute appropriate irrigation scheme formulation. After the training, most of them reached “Understand it well” or “Understand it very well”. By this comparison, it can be said that the training highly contributed to enhancement of their capability in irrigation scheme formulation.

**Influence of the Specialty on the Effect of the Training**

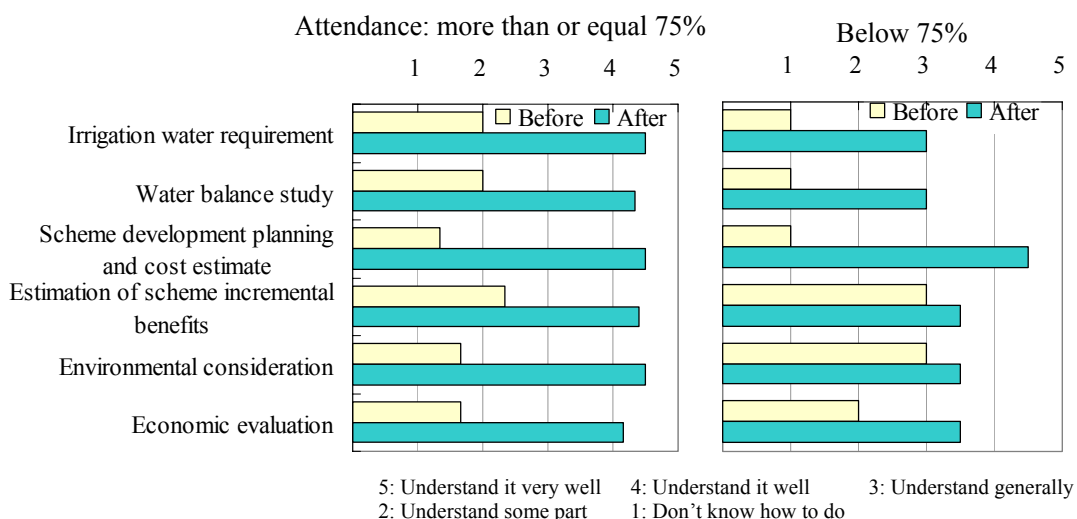
To analyze the influence of the specialty, the members were divided into two groups: SMS for irrigation and SMS for others. The result is shown in page B-4-8 and summarized in the next page. Before the training, SMSs for irrigation were relatively good at “Irrigation water requirement” and “Water balance study”, while SMSs for others were good at “Estimation of scheme incremental benefit”. After the training, their weak areas were largely improved and some progress was found in their special fields.



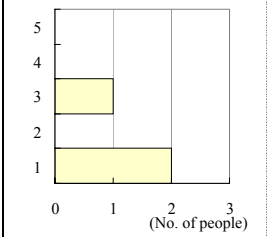
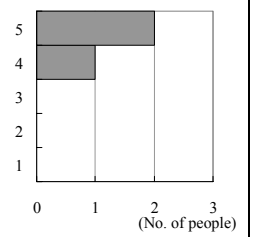
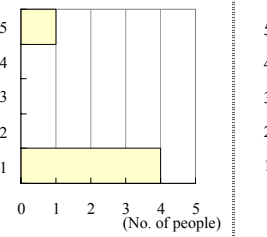
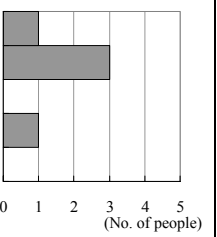
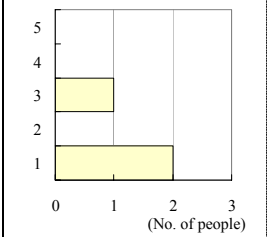
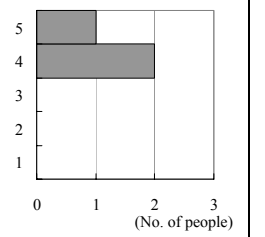
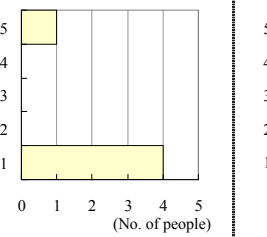
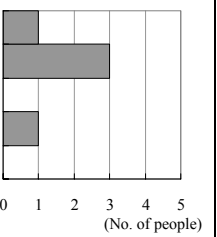
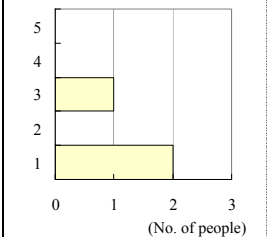
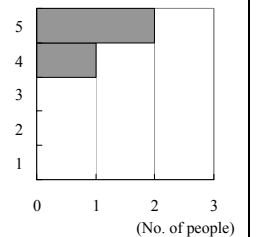
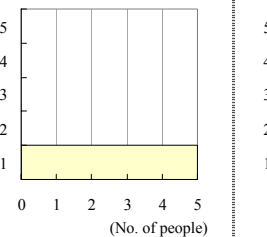
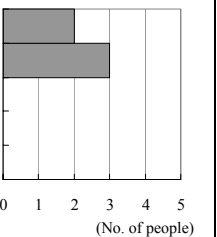
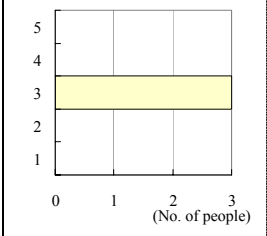
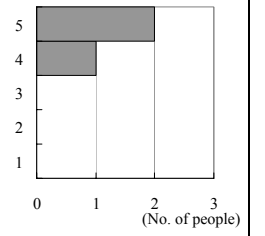
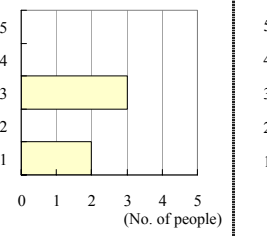
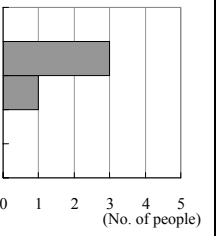
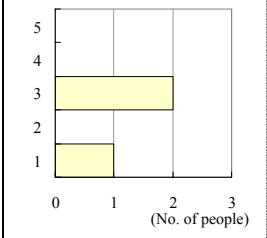
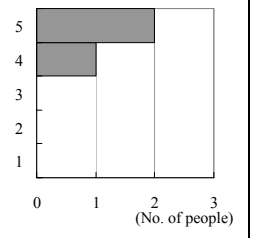
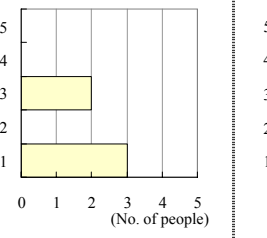
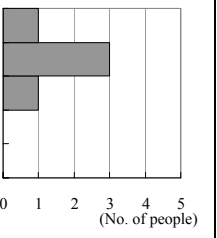
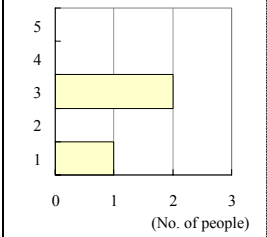
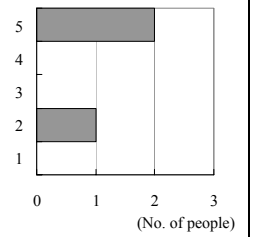
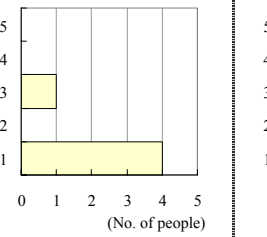
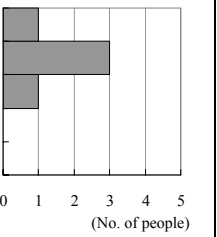
**Influence of the Specialty on the Effect of the Training**

Influence of the Attendance Percentage on the Effect of the Training

To analyze the influence of the attendance percentage, they were divided into two groups: members who attended more than or equal to 75% of the programme and below 75%. The result is shown in page B-4-9 and as summarized below. The former group achieved at least “Understand it well” for all the items, while the latter group remained “Understand generally”. As a result, it was confirmed that the DPDT members could obtained required skill as far as they attended the training programmes frequently.



**Influence of the Attendance Percentage on the Effect of the Training**

	Mvomero DPDT		Mkuranga DPDT	
	Before	After	Before	After
Irrigation water requirement				
Water balance study				
Scheme development planning and cost estimate				
Estimation of scheme incremental benefits				
Environmental consideration				
Economic evaluation				
Indicator for Vertical Axis:	5: Understand it very well 2: Understand some part		4: Understand it well 1: Don't know how to do	
<b>Effect of Training for Planning Procedure</b>				



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	Irrigation		Others	
	Before	After	Before	After
Irrigation water requirement				
Water balance study				
Scheme development planning and cost estimate				
Estimation of scheme incremental benefits				
Environmental consideration				
Economic evaluation				
Indicator for Vertical Axis:	5: Understand it very well 2: Understand some part		4: Understand it well 1: Don't know how to do	
<b>Influence of the Specialty on the Effect of the Training</b>				

	Attendance: more than or equal 75%		Below 75%	
	Before	After	Before	After
Irrigation water requirement				
Water balance study				
Scheme development planning and cost estimate				
Estimation of scheme incremental benefits				
Environmental consideration				
Economic evaluation				
Indicator for Vertical Axis:	5: Understand it very well 4: Understand it well 3: Understand generally 2: Understand some part 1: Don't know how to do		3: Understand generally 2: Understand some part 1: Don't know how to do	
<b>Influence of the Attendance Percentage on the Effect of the Training</b>				

(c) Self-confidence in Irrigation Scheme Formulation

The result of the questionnaire to DPDTs indicated that both DPDTs thought that they can carry out proper irrigation scheme formulation without further training.

Individually speaking, all the members in DPDTs replied that they are confident in the procedure related to their specialties. Among them, 60% of Mkuranga DPDT members and 66% of Mvomero DPDT members said that they are confident enough to complete all the scheme formulation procedures by himself/herself (see the table below). It was concluded from these results that both DPDTs acquired adequate skills in irrigation scheme formulation.

**Self-confidence for the same task next year (No. of people)**

Confidence in irrigation scheme formulation next year	District		Specialty		TOTAL
	Mvomero	Mkuranga	SMS for irrigation	SMS for others	
“Confident”	2	3	1	4	5
“Confident in the part of own specialty”	1	2	1	2	3
“Not confident”	0	0	0	0	0
Total	3	5	2	6	8

(d) Further Intention for Irrigation Scheme Formulation

According to the result of the questionnaire survey, seven members out of eight members were eager to be engaged in the same task in the next year. Among them, six members showed their intention to be trainers to other district staff. It can be said that they have positive intention for future activities.

(2) Assessment by the JICA Study Team

(a) Understanding of Each Session

The JICA Study Team monitored their understanding using questionnaires in each session, in which DPDT members wrote down the most important topic “keyword” of the session (see Chapters 2 and 3 for typical answers). Their answers were assessed from the viewpoint of (i) appropriateness in selecting topics representing the session, and (ii) accuracy of the meaning of the words they explained. As a result, most of the members reached the satisfactory level (“Excellent” and “Good”), while a member with unsatisfactory attendance needed improvement in some sessions. The result is summarized in the following table:

**DPDTs Understanding Assessed by the JICA Study Team (No. of people)**

Step	Excel- lent	Good	Need improvement	Othe- rs**
Step-2: Quick Site Inspection of All Irrigation Schemes	4	4	0	0
Step-3: Screening of All Irrigation Schemes	8	0	0	0
Step-5: Field Survey for Selected Irrigation Schemes*	5	2	1	0
Step-6: Preliminary Planning for Selected Irrigation Schemes*	5	2	1	0
Step-7&8: Preparation of District Supporting Programme	4	2	0	2
Step-11: Feedback Workshop	5	2	0	1

\*Step-5 and Step-6 was assessed synthetically from the understanding of each component

\*\*"Others" means those whose answer could not be judged or who didn't give answer.

After all the training sessions, DPDT members were allowed to review the keywords which they had answered just after each session and some of them reviewed their answers. It was found that their reviewed answers were improved and reached "Excellent" level. It means that they understood the irrigation scheme formulation procedures more deeply after completion of the work. The followings are the answers which were improved.

**Improvements in Answers ("keyword and why?") after All the Sessions**

Member	Step	Just after the session	After completion
Momero-1	Step-5: Field Survey -present situation map-	<u>"Plotting a map on a section paper"</u> It enables one to be able to plot the readings taken during field survey.	And it determines the actual area of the field and will be compared to the one given by the farmers. The area will be used in planning.
	Step-6: Preliminary Planning -scheme evaluation-	<u>"Efficiency of the project"</u> Because this is related with the economic point of view of the project.	It shows the performance of the project whether it can be executed or not.
Mvomero-2	Step-5: Field Survey -present situation map-	<u>"Plotting the coordinates"</u> Distance from one point to the next can be estimated and it enables cost estimate in future.	This will enable to decide on the area to be developed and all irrigation structures available/needed.
Mkuranga-1	Step-5: Field Survey -confirmation of site condition-	<u>"Clarify and quantify availability of water"</u> Measurement of depth of water is important since the depth is used to calculate the discharge of river.	Availability of water through the cropping season should be known for any irrigation scheme.

Mkuranga-2	Step-6: Preliminary Planning -water balance study-	<u>“River discharge”</u> River discharge can be obtained by determine the depth of water at critical month in dry and rainy season.	Availability of water and land is the most crucial factor for irrigation development
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Considering those results, the JICA Study Team concluded that the most of the members acquired adequate knowledge for irrigation scheme formulation.

(b) Observation in Each Session

During the training, the JICA Study Team observed the following improvement of the DPDTs.

- As the programme proceeded, DPDTs came to understand not only individual irrigation scheme formulation procedures but also the relationships between respective procedures.
- After the training, DPDTs showed further interest in learning some skills, such as GPS mapping, economic evaluation and setting criteria for scheme selection.
- Some of DPDT members realized that some planning methods used in the irrigation scheme formulation are applicable to prepare development planning in other sub-sectors.
- Through the activities, some DPDT members realized that logical way of planning and explanation of such results to the villagers raised the villagers’ trust in the district staff.

**4.2.4 Results of Assessment on DPDT**

Their achievement was assessed under the concept of “Kirkpatrick’s Four-Level Model”, that is, reaction, learning, behavior in this training. The results in monitoring each level are as follows:

Level 1: Reaction

As shown above, majority of DPDT members were satisfied with the training programme.

Level 2: Learning

It was confirmed by the DPDTs themselves and the JICA Study Team that DPDT members gained enough skills needed for irrigation scheme

formulation.

### Level 3: Behavior

Judging from the results shown above, most of DPDT members reached initial point of Level 3. Their positive intentions would facilitate their active irrigation development works in future.

Based on the above-mentioned assessment results, it was concluded that the DPDTs acquired skills in irrigation scheme formulation for DADP as the results of the training.

## **4.3 Effect of the Training on ZRC**

### **4.3.1 Status of ZRC Members before the Training**

Before starting the training, Morogoro ZIU did not do systematic support for irrigation scheme formulation for DADPs.

Morogoro ZRC consisted of three experts and individual background of the members are as follows.

#### (1) Experience as an officer of ZIU

Morogoro ZRC consisted of members who had experience of 20 years, 19 years, and four years at ZIU. One member has experience as ZIU staff only for four years. However, he/she had been engaged in other irrigation projects for long time. Considering this situation, it can be said that ZRC staff had enough experience and knowledge in irrigation development.

#### (2) Specialty of ZRC staff

Morogoro ZRC was composed of following experts: a senior agricultural officer and two senior executive engineers.

#### (3) Experience in supporting District offices in irrigation scheme formulation

According to the result of the questionnaire, one of Morogoro ZRC staff answered that he had experience in supporting irrigation scheme formulation of the district even it was not systematically done. Others had no experience in it.

#### (4) Experience in Planning Procedure

Concerning ZRC staff's experience in planning procedure, each ZRC staff

marked at least average level (“generally understand”) on his/her special field.

(5) Status of ZRC before the Training

In conclusion, Morogoro ZRC staff had enough experience in irrigation development. Nevertheless, systematic way of supporting districts in irrigation scheme formulation for DADPs was not established.

4.3.2 Status of ZRC Members after the Training

Status of the ZRC staff after the completion of training programme was assessed by themselves and also by the JICA Study Team. The results are summarized as follows.

(1) Self-assessment by ZRC

(a) Satisfaction to the Training Programme

The results of the questionnaires showed that their satisfaction to the programmes was 98% on average. It can be said that the programmes met their satisfaction enough.

(b) Understanding of the Procedure

According to the results of the questionnaires, it can be said that the ZRC properly understood their tasks on supporting districts.

Individually speaking, two of the ZRC staff answered that they understood the procedure well and the other one member answered that he/she understood it partly.

(c) Further Intention for Technical Guidance

In their answers, all of them showed their intention to propose training plan for DPDTs and disseminating the knowledge to other Zones. It can be said that they have positive intention for their future task.

(2) Assessment by the JICA Study Team

The JICA Study Team judged that the understanding of ZRC was satisfactory based on the following observations:

- ZRC staff understood their tasks and provided proper supports to the DPDTs for two model districts during the training programmes.
- They gave practical suggestions for future training programmes.
- They gave positive suggestions to MAFS and other related organizations to facilitate the procedure for irrigation scheme formulation.

#### 4.3.3 Results of Assessment on ZRC

Effect of the training on ZRC was monitored at three levels: reaction, learning, and behavior. The results at each level of monitoring indicated that ZRC reached “Level 2” and even the initial point of “Level 3: Behavior”.



**Results of the Questionnaire Surveys  
for the Assessment of the Effect  
of the Training**

## Result of the Questionnaire in Kickoff Seminar - Mvomero DPDT -

<b>1. Personal information</b>		
Position and major work	DALDO	1 person
	District irrigation officer	1 person
	District plant protection officer	1 person
	District extension officer	1 person
Last educational background	University (Master)	1 person (DALDO)
	University	3 person
Experience as a district staff	More than 15 years	2 persons (including DALDO)
	10-15 years	1 person
	Less than 5 years	1 person
Experience in other organization	Sokoine University (SUA): 1983-85	1 person (DALDO)
	UMADP (NGO): 2 years	1 person
<b>2. Experience in irrigation scheme formulation for DADPs</b>		
Experience in planning irrigation schemes for DADP	“Yes”	2 person (including DALDO)
	“No”	2 persons
-Specialty in charge	-Selection of irrigation team for the district, Mobilization of community, Logistic preparation (DALDO)	
	-Irrigation	
-Constraints in irrigation scheme formulation	“Shortage of staff, Site verification (transportation)” (DALDO)	
	“No enough time for collecting data”	
-Impression about the current plan	“Satisfactory”	2 persons
<b>3. Experience in planning procedure for irrigation scheme formulation</b>		
-Irrigation water requirement and water balance study	“much experience”	0 person
	“some experience”	1 person
	“no or little experience”	3 persons
-Irrigation and drainage system planning	“much experience”	0 person
	“some experience”	1 person
	“no or little experience”	3 persons
-Farming system planning	“much experience”	1 person
	“some experience”	2 persons
	“no or little experience”	1 person
-Crop budget analysis	“much experience”	0 person
	“some experience”	3 persons
	“no or little experience”	1 person
-Environment assessment	“much experience”	0 person
	“some experience”	3 persons
	“no or little experience”	1 person
-Project evaluation	“much experience”	0 person
	“some experience”	2 persons
	“no or little experience”	2 persons

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Irrigation scheme formulation procedure eager to learn	<p>“How to identify (select &amp; verify) the potential irrigation scheme (DALDO)”</p> <p>“Project evaluation”</p> <p>“Irrigation and drainage system planning”</p> <p>“All procedures”</p>
Expectation to the training program	<p>“The training will help us to select potential areas for irrigation without bias (DALDO).”</p> <p>“After completion, I will be able to select high potential irrigation schemes considering various aspects such as social economic, and technical.”</p> <p>“The training will help me to improve my efficiency in dealing with irrigation farming.”</p> <p>“The training will facilitate me to obtain knowledge and skills for developing irrigation schemes”</p>
Suggestions and comments	<p>“I suggest that the programme should be sensitive to time, so that we finish it on time.”</p> <p>“Following questions should be discussed in the training. How to mobilize community members to undertake irrigation work? How to build a strong team to undertake irrigation work? (DALDO)”</p> <p>“To spare longer time on practical issues is important.” (2 persons)</p>

## Result of the Questionnaire in Kickoff Seminar - Mkuranga DPDT -

<b>1. Personal information</b>		
Position and major work	DALDO	1 person
	DSMS Information	1 person
	Village extension officer	1 person
	DSMS irrigation	1 person
	DSMS food and nutrition	1 person
	DSMS crop officer	1 person
Last educational background	University (Master)	1 person (DALDO)
	University	4 person
Experience as a district staff	5-10 years	4 person (including DALDO)
	Less than 5 years	1 person
Experience in other organization	Region: 1994-97, Farm Manager	
		1 person (DALDO)
	Region: 20 years	1 person
	Region: 30 years	1 person
<b>2. Experience in irrigation scheme formulation for DADPs</b>		
Experience in planning irrigation schemes for DADP	“No”	6 persons
<b>3. Experience in planning procedure for irrigation scheme formulation</b>		
-irrigation water requirement and water balance study	“much experience”	1 person
	“some experience”	0 person
	“no or little experience”	5 persons
-irrigation and drainage system planning	“much experience”	0 person
	“some experience”	0 person
	“no or little experience”	6 persons
-farming system planning	“much experience”	0 person
	“some experience”	4 persons
	“no or little experience”	2 person
-crop budget analysis	“much experience”	0 person
	“some experience”	5 persons
	“no or little experience”	1 person
-environment assessment	“much experience”	0 persons
	“some experience”	2 persons
	“no or little experience”	4 person
-project evaluation	“much experience”	0 persons
	“some experience”	2 persons
	“no or little experience”	4 person
Irrigation scheme formulation procedure eager to learn	“Environmental assessment, irrigation water requirement estimation and water balance study” “Project evaluation” (2 persons) “Planning of irrigation & drainage system” “Farming system planning, crop budget analysis and environmental assessment” “All procedures”	

Chapter 4  
*Effect of Training on  
 Irrigation Scheme Formulation for DADP*

Expectation to the training program	<p>“To know more about irrigation technology.” (2 persons)</p> <p>“To be familiar with irrigation skills or knowledge.” (2 persons)</p> <p>“To obtain knowledge so that I can assist farmers.”</p> <p>“Be empowered in planning from grassroots level.”</p>
Suggestions and comments	<p>“The knowledge of irrigation in the district is little. Therefore, large effort should be made in order to make the programme successful.”</p> <p>“Enough time should be allocated for the training, so the participants can understand all the procedures.”</p> <p>“Training should be practical.” (2 persons)</p> <p>“Arrangement should be made for the participants to concentrate on learning irrigation techniques.”</p> <p>“The emphasis should be put upon how farmers can apply rain water harvesting to produce more products.”</p>

### Result of the Questionnaire in Kickoff Seminar - Morogoro ZRC -

<b>1. Personal information</b>	
Position and major work	Senior Agriculture Officer      1 person Senior Executive Engineer      2 persons
Experience as a Zonal officer	More than 15 years      2 persons Less than 5 years      1 person
<b>2. Experience in irrigation scheme formulation for DADPs</b>	
Experience in supporting planning irrigation schemes for DADP	“Yes”      1 person “No”      2 persons
-How did you support district offices?	Identifying the schemes with farmers, Budget preparation, Action plan preparation
-What was difficult in supporting district offices?	Visiting the proposed sites due to insufficient transportation, Allocated budget does not cover actual requirement, Lack of irrigation specialist
Support related to irrigation project	Screening/Ranking Construction of irrigation schemes
-What was difficult in supporting irrigation project	To get adequate cooperation Transportation
<b>3. Experience in planning procedure for irrigation scheme formulation</b>	
-irrigation water requirement and water balance study	“much experience”      1 person “some experience”      2 person “no or little experience”      0 persons
-irrigation and drainage system planning	“much experience”      1 person “some experience”      1 person “no or little experience”      1 persons
-farming system planning	“much experience”      1 person “some experience”      2 persons “no or little experience”      0 person
-crop budget analysis	“much experience”      1 person “some experience”      1 persons “no or little experience”      1 person
-environment assessment	“much experience”      1 person “some experience”      1 persons “no or little experience”      1 person
-project evaluation	“much experience”      1 person “some experience”      2 persons “no or little experience”      0 persons
Expectation and Suggestions	“Most of the districts in the country are lacking irrigation staff that has knowledge in irrigation issues necessary for project planning. It is expected that during this programme, the planning procedures for irrigation system will be introduced.” “I expect that the district and ZIU teams will be very conversant with scheme formation process under DADP at the end of the training. Both of the teams should participate in all the programmes.” “Subjects of the programmes such as crop budget analysis, project evaluation, system planning and project evaluation would be useful.”

**Result of the Questionnaire after All the Programme (Team) – Mvomero DPDT -**

<b>Part I Process of Irrigation scheme formulation for DADPs before starting the training programme</b>	
<b>(1) Process of irrigation scheme formulation for DADPs before starting the training programme</b>	
Please tell us the process of irrigation scheme formulation for DADPs before starting the training program. e.g. think about the plan prepared this year before starting training program.	
	Previous condition
Name of the scheme selected for DADP this year	Kiroka irrigation scheme
Work carried out for planning e.g. “1) identifying the irrigation schemes, 2) visit the scheme sites, 3) cost estimation.”	- Identify the area and find the presence of irrigation potential e.g. land, water and the presence of farming activities. In case for Kiroka scheme, paddy was under produced. - Cost estimates were done in the office without any detailed survey.
How did you choose the scheme out of other candidates?	There was no opportunity to visit other scheme and make comparison. In fact, Kiroka scheme was the only scheme that district team visited.
How did you estimate the cost of the scheme?	Estimation was done based on the experience in the former years in the district.
Time spent for planning	The district team spent longer time for cost estimate rather than planning.
People engaged in planning (number and his/her position)	One person.
Equipment used for planning	Calculator.
Guidelines/reference utilized in planning	No.
Support from other organizations such as zonal irrigation unit	Calling for the amount of money to be spent (came from MAFS) < 50,000,000 Tsh.
<b>(2) What were the major constraints in irrigation scheme formulation? Please write down three items in descending order from the severest one.</b>	
(1) Time. In fact, only few days (two) were provided for the planning.	
(2)	
(3)	
<b>Part II Irrigation scheme formulation and the procedure of scheme selection after the programme</b>	
Compare the irrigation scheme formulation plan last year and its selection procedure with the ones implemented in this programme, and answer the following questions.	
<b>(1) Comparing the one taken last year, what do you think about <u>the procedure of scheme selection taken in this programme?</u></b>	
<input checked="" type="checkbox"/> much better <input type="checkbox"/> better <input type="checkbox"/> neutral <input type="checkbox"/> worse <input type="checkbox"/> much worse	

<p><b>(2) Please tell us what was improved and what was not improved for the selection procedure during the training program? Quick site inspection.</b></p> <p><b>(Improved)</b></p> <p>-Criteria for selection were set. -Field survey was conducted. -Prioritization was done.</p> <p><b>(Not improved)</b></p> <p>Farmers were not much involved in some stages i.e. only few farmers were involved in the survey due to the time constrains.</p>
<p><b>(3) Comparing the plan last year, what do you think about <u>the plan</u> prepared during this programme?</b></p> <p><input checked="" type="checkbox"/>much better      <input type="checkbox"/>better      <input type="checkbox"/>neutral      <input type="checkbox"/>worse      <input type="checkbox"/>much worse</p>
<p><b>(4) Please tell us what was improved and what was not improved?</b></p> <p><b>(Improved)</b></p> <p>Improved method was applied to obtain scheme development cost and net incremental benefit.</p> <p><b>(Not improved)</b></p>
<p><b>Part III Guidelines and training in preparing irrigation development plans for DADPs</b></p> <p>Please answer the following questions as a District Project Development Team.</p>
<p><b>(1) Do you think the guidelines are essential for irrigation scheme formulation?</b></p> <p><input checked="" type="checkbox"/> Yes,      <input type="checkbox"/>No. →(1)-1</p>
<p><b>If you choose “No.” in (1), please answer the following question.</b></p> <p><b>(1)-1 If you don’t have the guidelines, how will you prepare irrigation development plans for DADPs?</b></p> <p><input type="checkbox"/> We can do without the guidelines      <input type="checkbox"/>We will do it without guidelines      <input type="checkbox"/>We will give up because we experienced enough training.      and give up the accuracy.      planning.</p>
<p><b>(2) Please think about the following two cases and answer the questions.</b></p> <p><b>(i) Do you think other districts can prepare proper irrigation development plans if <u>the guidelines are provided and some training are given</u> by zonal irrigation unit?</b></p> <p><input checked="" type="checkbox"/> I think they can prepare proper plan.      <input type="checkbox"/>I think it is difficult for them to prepare proper plan.</p>
<p><b>(ii) Then, what do you think if <u>the guidelines are provided but no training is given</u> to them?</b></p> <p><input type="checkbox"/> I think they can prepare proper plan.      <input checked="" type="checkbox"/>I think it is difficult for them to prepare proper plan.</p>
<p><b>(3) Please think about the future of your district and answer the questions.</b></p> <p><b>Do you think you can carry out irrigation scheme formulation next year <u>without any training</u>?</b> (In the process of “Step-4: Assessment and Endorsement by Zonal Irrigation Unit” &amp; “Step-10: Validation and Agreement by Zonal Irrigation Unit”, technical guidance will be done by zonal irrigation unit.)</p> <p><input checked="" type="checkbox"/> Yes,      <input type="checkbox"/>No.</p>
<p><b>Comments and suggestions, if any</b></p>



**Result of the Questionnaire after All the Programme (Team) – Mkuranga DPDT -**

<p><b>Part I Process of Irrigation Scheme Formulation for DADPs before starting the training programme</b></p>
<p>(1) <b>What was the reason that the irrigation scheme was not proposed in DADPs last year? Please write down three items in descending order from the most important one.</b></p> <p>(1) Budget ceiling could not accommodate irrigation project.                  (2) Most water sources are seasonal.                  (3) Farmers are inexperienced in irrigation.</p>
<p>(2) <b>Was there any difficulty in proposing irrigation scheme last year? If there was any problem, please write down the reasons.</b></p> <p>(1) Budget limitation.                  (2) Irrigation was not prioritized in quick-win prioritization procedure.                  (3) Insufficient knowledge in planning irrigation development.</p>
<p><b>Part II Irrigation development plans and selection procedure after the programme</b>                  Consider the plan and procedure conducted in this programme, and answer the following questions.</p>
<p>(1) <b>What do you think about the <u>selection procedure</u> carried out in this programme?</b></p> <p><input checked="" type="checkbox"/>very proper      <input type="checkbox"/>proper      <input type="checkbox"/>neutral      <input type="checkbox"/>not proper      <input type="checkbox"/>improper</p>
<p>(2) <b>Please tell us what was improved and what was not improved for the selection procedure during the training program?</b></p> <p><b>(Improved)</b>                  The knowledge on current situation of the basins was improved during site visit and farmers interview.</p> <p><b>(Not improved)</b>                  None.</p>
<p>(3) <b>What do you think about the <u>plan</u> prepared during this programme?</b></p> <p><input checked="" type="checkbox"/>very proper      <input type="checkbox"/>proper      <input type="checkbox"/>neutral      <input type="checkbox"/>not proper      <input type="checkbox"/>improper</p>
<p>(4) <b>Please tell us what was improved and what was not improved for the plan during the training program?</b></p> <p><b>(Improved)</b>                  The knowledge of preparing irrigation scheme formulation plans.</p> <p><b>(Not improved)</b>                  None</p>

<p><b>Part III Application of the guidelines in preparing irrigation development plans for DADPs</b></p> <p>Please answer the following questions as a District Project Development Team.</p>
<p><b>(1) Do you think the guidelines are essential for irrigation development planning?</b></p> <p><input checked="" type="checkbox"/> Yes, <input type="checkbox"/> No. →(1)-1</p>
<p><b>If you choose “No.” in (1), please answer the following question.</b></p> <p><b>(1)-1 If you don’t have the guidelines, how will you prepare irrigation development plans for DADPs?</b></p> <p><input type="checkbox"/> We can do without the guidelines because we experienced enough training. <input type="checkbox"/> We will do it without guidelines and give up the accuracy. <input type="checkbox"/> We will give up planning.</p>
<p><b>(2) Do you think other districts can prepare proper irrigation development plans if the guidelines and some training are given by zonal irrigation unit?</b></p> <p><input checked="" type="checkbox"/> I think they can do it. <input type="checkbox"/> I think it is difficult.</p>
<p><b>Your opinion or suggestion on the question above:</b></p> <p>Since the draft Guidelines were modified by the DPDT of Mkuranga &amp; Mvomero, the modified Guidelines can be used effectively for the irrigation scheme formulation.</p>
<p><b>Part IV Possibility of preparing irrigation development plans for DADPs</b></p> <p>Please answer the following questions as a District Project Development Team.</p>
<p><b>(1) Do you think you can prepare irrigation development plans for next DADPs <u>without any training</u>?</b> (In the process of “Step-4: Assessment and Endorsement by Zonal Irrigation Unit” &amp; “Step-10: Validation and Agreement by Zonal Irrigation Unit”, technical guidance will be done by zonal irrigation unit.)</p> <p><input checked="" type="checkbox"/> Yes, <input type="checkbox"/> No.</p>
<p><b>Comments and suggestions, if any</b></p> <p>Before the accomplishment of the training programmes, it is necessary for the DPDT to have the study tour to the existing irrigation scheme to have/attain experience of irrigation practices.</p>

**Result of the Questionnaire after All the Programme (Team) – Morogoro ZRC -**

<b>Part I Support in Irrigation scheme formulation for DADPs before starting training programme</b>	
<b>(1) Support in planning irrigation development for DADPs before starting training programme</b>	
Please tell us activity/work which was done by Zonal Irrigation Unit before starting the training program. e.g. think about the one last year or this year before starting training program. If no activity was done, write down “Nothing.”	
	Previous condition
What kind of support was provided for districts <u>concerning irrigation scheme formulation for DADPs</u> ?	Nothing was done in planning.
What kind of support was provided for districts <u>concerning other works</u> (except for irrigation development for DADPs) ?	1. Project preparation for other donors, e.g. FAFW. 2. Technical backstopping in all fields, e.g. survey, construction, design, and supervision, and O&M.
What kind of communication did you have with district offices? And how often?	(1) Letters, (2) Phone calls, (3) Actual visits Several times depending on on-going activities.
<b>(2) Do you think districts need some support concerning irrigation scheme formulation for DADPs?</b>	
<input checked="" type="checkbox"/> Yes. <span style="margin-left: 200px;"><input type="checkbox"/>No.</span>	
<b>(3) Were there any requests for technical support from district offices?</b>	
<input checked="" type="checkbox"/> Yes. → How often? ( Several times ) <span style="margin-left: 50px;"><input type="checkbox"/>No.</span> What about? ( Project preparation, Tendering, Construction supervision )	
<b>If you chose “No” in (3), please answer the following question ((3)-1).</b>	
<b>(3)-1 Why do you think they didn’t make any request to Zonal Irrigation Unit?</b>	
<input type="checkbox"/> Because there was little communication between district offices and Zonal Irrigation Unit. <input type="checkbox"/> Others ( )	
<b>Part II Guidelines and training in preparing irrigation development plans for DADPs</b>	
Please answer the following questions as <u>Zonal Review Committee</u> .	
<b>(1) What do you think about <u>the procedure of scheme selection</u> taken in Mvomero and Mkuranga district in this programme?</b>	
<input type="checkbox"/> very proper <input checked="" type="checkbox"/> proper <input type="checkbox"/> neutral <input type="checkbox"/> not proper <input type="checkbox"/> improper	
<b>(2) What do you think about <u>the irrigation development plan</u> prepared for Mvomero and Mkuranga district during this programme?</b>	
<input type="checkbox"/> very proper <input checked="" type="checkbox"/> proper <input type="checkbox"/> neutral <input type="checkbox"/> not proper <input type="checkbox"/> improper	
<b>(3) Do you think the guidelines are essential for Zonal Irrigation Unit to provide support for district offices in irrigation scheme formulation?</b>	
<input checked="" type="checkbox"/> Yes, <span style="margin-left: 200px;"><input type="checkbox"/>No.</span>	

**(4) Did you understand how to proceed the work which Zonal Irrigation Unit is responsible for? (Technical guidance through assessment, endorsement, and validation of plans prepared by DPDT.)**

We understood well.

We partly understood.

We didn't understand.

**Comments or suggestions, if any**

- (1) In irrigation scheme formulation, the district should recognize the responsibilities of the ZIU specified in the guidelines.
- (2) During the scheme formulation, reports from the DPDT should be timely submitted to ZRC and vice versa.
- (3) There should be regular communication on irrigation development between districts and ZIU.
- (4) For irrigation works which demands more technical aspects, the district should contact with ZIU.

**Result of the Questionnaire after All the Programme (Individuals) - Mvomero DPDT -**

<b>Part I Satisfaction to the training program</b>		
Overall satisfaction to the training program	95% on an average	
<b>Part II Basic knowledge in irrigation scheme formulation</b>		
(1) Skills for irrigation scheme formulation before and after the programme		
Irrigation water requirement estimation (before)	“Understand it very well.”	0 person
	“Understand it well.”	0 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	2 persons
Irrigation water requirement estimation (after)	“Understand it very well.”	2 persons
	“Understand it well.”	1 person
	“Understand generally.”	0 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Water balance study (before)	“Understand it very well.”	0 person
	“Understand it well.”	0 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	2 persons
Water balance study (after)	“Understand it very well.”	1 person
	“Understand it well.”	2 persons
	“Understand generally.”	0 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Scheme development planning (before)	“Understand it very well.”	0 person
	“Understand it well.”	0 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	2 persons
Scheme development planning (after)	“Understand it very well.”	2 persons
	“Understand it well.”	1 person
	“Understand generally.”	0 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Estimation of scheme incremental benefits (before)	“Understand it very well.”	0 person
	“Understand it well.”	0 person
	“Understand generally.”	3 persons
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Estimation of scheme incremental benefits (after)	“Understand it very well.”	2 persons
	“Understand it well.”	1 person
	“Understand generally.”	0 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person

Environmental consideration (before)	<p>“Understand it very well.” 0 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 2 persons</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 1 person</p>
Environmental consideration (after)	<p>“Understand it very well.” 2 persons</p> <p>“Understand it well.” 1 person</p> <p>“Understand generally.” 0 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 persons</p>
Economic evaluation (before)	<p>“Understand it very well.” 0 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 2 persons</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 1 person</p>
Economic evaluation (after)	<p>“Understand it very well.” 2 persons</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 0 person</p> <p>“Understand some part.” 1 person</p> <p>“Don’t know how to do.” 0 person</p>
(2)Are there items which you got more interested in during the exercise?	<p>“<u>Preparing present situation map using GPS</u>” (2 persons)</p> <p>-I had no experience of such work actually I came to realize that is simple and interesting also time saving.</p> <p>-It was my first time to use that instrument.</p> <p>“<u>Setting the criteria for selection of qualified.</u>”</p> <p>-The procedure do not provide the room for biasness.</p> <p>“<u>Water balance study.</u>”</p> <p>-I had not known how one could estimate irrigable area, then through this exercise I came to understand and found it very interesting.</p> <p>“<u>Incremental benefit.</u>”</p> <p>-Because it shows whether it is motive to undertake their project or not.</p>
<b>Part III Attitude to irrigation scheme formulation</b>	
(1)Do you think you can carry out irrigation scheme formulation without any training next year?	<p>“I think I can.” 2 persons</p> <p>“I can do well about the part related to my specialty. For other part, I can manage with some help of other district team members.” 1 person</p>
(2)Do you think your supervisor knows that you are involved in irrigation scheme formulation?	<p>“Yes, I do.” 3 persons</p>
(3)Do you think you want to be engaged in irrigation planning for DADPs next year?	<p>“Yes, I want to.” 3 persons</p>
(4)Do you think you want to be a trainer for other district staff?	<p>“Yes, I’m eager to.” 3 persons</p>

<b>Part IV Further understanding for irrigation scheme formulation</b>	
(1) If you want to make a useful survey sheet, what do you think it is important?	“Data collection is important i.e the data which are realized to what you want to survey is equally important.”
(2) Why do you think you could succeed in persuading them? (feedback workshop)	<p>“Data collection is important I.e the data which are realized to what you want to survey is equally important.”</p> <p>“To explain is important because you make them aware of why they were not proposed so that they can pull their efforts for the next time.”</p> <p>“We told that they had succeeded and came the 2nd in ranking. When it happen to have donors they will be considered for implementation, meanwhile they have to initiate irrigation association etc.”</p>
(3) Do you think there is some method in irrigation scheme formulation that can be applied to other sub-sectors? What kind of method is applicable to other sub-sectors?	<p>“In most cases extension staffs are involved rather than other, stake holders such as farmers. Also there is no screening, procedure like what we did in DADP formulation.”</p> <p>“PRA, RRA D-OD methods are used in extension services.”</p>
Comments and suggestions:	“Time table for data collection should be prolonged so as to get more accurate information.”

**Result of the Questionnaire after All the Programme (Individuals) - Mkuranga DPDT -**

<b>Part I Satisfaction to the training program</b>		
Overall satisfaction to the training program	91% on an average	
<b>Part II Basic knowledge in irrigation scheme formulation</b>		
(1) Skills for irrigation scheme formulation before and after the programme		
Irrigation water requirement estimation (before)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	1 person 0 person 0 person 0 person 4 persons
Irrigation water requirement estimation (after)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	1 person 3 persons 0 person 1 person 0 person
Water balance study (before)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	1 person 0 person 0 person 0 person 4 persons
Water balance study (after)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	1 person 3 persons 0 person 1 person 0 person
Scheme development planning (before)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	0 person 0 person 0 person 0 person 5 persons
Scheme development planning (after)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	2 persons 3 persons 0 person 0 person 0 person
Estimation of scheme incremental benefits (before)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	0 person 0 person 3 persons 0 person 2 persons
Estimation of scheme incremental benefits (after)	"Understand it very well." "Understand it well." "Understand generally." "Understand some part." "Don't know how to do."	0 person 3 persons 1 person 0 person 0 person



Chapter 4  
Effect of Training on  
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Environmental consideration (before)	<p>“Understand it very well.” 0 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 2 persons</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 3 persons</p>
Environmental consideration (after)	<p>“Understand it very well.” 1 person</p> <p>“Understand it well.” 3 persons</p> <p>“Understand generally.” 1 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 person</p>
Economic evaluation (before)	<p>“Understand it very well.” 0 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 1 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 4 persons</p>
Economic evaluation (after)	<p>“Understand it very well.” 1 person</p> <p>“Understand it well.” 3 persons</p> <p>“Understand generally.” 1 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 person</p>
(2)Are there items which you got more interested in during the exercise?	<p>“<u>Economic Evaluation</u>” (2 persons)</p> <p>- By calculating IRR, we can decide to implement the scheme development or not.</p> <p>“<u>Scheme development plan and cost estimate.</u>” (3 persons)</p> <p>- In the bottom-up and grassroots planning procedures, district staff will be a key in assisting the community. Therefore the knowledge of such kind of procedures is required.</p> <p>- It is a good determinant for project implementation regarding the financial capacity.</p> <p>“<u>Resource mapping.</u>” (2 persons)</p> <p>- Drawing the resource map by villagers was very interesting since it was the key for preparing scheme development plan map.</p>
<b>Part III Attitude to irrigation scheme formulation</b>	
(1)Do you think you can carry out irrigation scheme formulation without any training next year?	<p>“I think I can.” 3 persons</p> <p>“I can do well about the part related to my specialty. For other part, I can manage to obtain some help from the other district team members.” 2 persons</p>
(2)Do you think your supervisor knows that you are involved in irrigation scheme formulation?	<p>“Yes, I do.” 5 persons</p>
(3)Do you think you want to be engaged in irrigation planning for DADPs next year?	<p>“Yes, I want to.” 4 persons</p> <p>“I will, if supervisor asks me.” 1 person</p>
(4)Do you think you want to be a trainer for other district staff?	<p>“Yes, I’m eager to.” 3 persons</p> <p>“I will, if supervisor asks me.” 2 persons</p>

#### Part IV Further understanding for irrigation scheme formulation

<p>(1) What did you realize after the experience of a series of procedure in irrigation planning such as survey, planning and evaluation?</p>	<p>“Survey, planning and evaluation exercises are very important for experts to prepare successful irrigation schemes formulation plan. I also realized that the accuracy of the planning depends on the quality of survey. Use of handheld GPS was much interesting and applicable in DADP.”</p> <p>“I realized that there were many things to be considered before deciding to implement irrigation development.”</p>
<p>(2) Why do you think we have to go through such a long process to make a plan of irrigation development?</p>	<p>“It is necessary because irrigation development is expensive to be established. Therefore, those processes are necessary in order to obtain the maximum profit from the irrigation scheme.”</p> <p>“Detailed information is required to carry out irrigation development planning. Therefore, long time is required to obtain detailed information from the interview survey and field visit.”</p>
<p>(3) What kind of procedure do you think we have to take in preparing plans for other (sub-)sectors?</p>	<p>“To understand types of skills required in each stage of development in such sector and then training should be given to the staff dealing with such skills.”</p> <p>“Through participatory methods eg. O&amp;OD, PRA etc.”</p>
<p>Comments and suggestions:</p>	<p>“The whole process of the training was very much interesting and satisfactory to have the skill for preparing the irrigation scheme formulation plan in DADP stage.”</p> <p>“The whole training (up to this stage) on irrigation scheme formulation under DADP was well organized and well conducted.”</p> <p>“If possible, training should be given for other sub-sectors, to integrate effects of those.”</p>

**Result of the Questionnaire after All the Programme (Individuals) – Morogoro ZRC -**

<b>Part I Satisfaction to the training program</b>		
Overall satisfaction to the training program	98% on an average	
<b>Part II Basic knowledge in irrigation scheme formulation</b>		
(1) Skills for irrigation scheme formulation before and after the programme		
Irrigation water requirement estimation (before)	“Understand it very well.”	1 person
	“Understand it well.”	0 person
	“Understand generally.”	2 persons
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Irrigation water requirement estimation (after)	“Understand it very well.”	1 person
	“Understand it well.”	1 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Water balance study (before)	“Understand it very well.”	1 person
	“Understand it well.”	0 person
	“Understand generally.”	2 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 persons
Water balance study (after)	“Understand it very well.”	1 person
	“Understand it well.”	1 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 person
Scheme development planning (before)	“Understand it very well.”	1 person
	“Understand it well.”	0 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	1 person
Scheme development planning (after)	“Understand it very well.”	1 person
	“Understand it well.”	1 person
	“Understand generally.”	0 person
	“Understand some part.”	1 person
	“Don’t know how to do.”	0 person
Estimation of scheme incremental benefits (before)	“Understand it very well.”	1 person
	“Understand it well.”	0 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	1 person
Estimation of scheme incremental benefits (after)	“Understand it very well.”	1 person
	“Understand it well.”	1 person
	“Understand generally.”	1 person
	“Understand some part.”	0 person
	“Don’t know how to do.”	0 persons

Environmental consideration (before)	<p>“Understand it very well.” 0 person</p> <p>“Understand it well.” 1 person</p> <p>“Understand generally.” 1 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 1 person</p>
Environmental consideration (after)	<p>“Understand it very well.” 1 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 2 persons</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 person</p>
Economic evaluation (before)	<p>“Understand it very well.” 1 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 2 persons</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 person</p>
Economic evaluation (after)	<p>“Understand it very well.” 1 person</p> <p>“Understand it well.” 0 person</p> <p>“Understand generally.” 1 person</p> <p>“Understand some part.” 0 person</p> <p>“Don’t know how to do.” 0 person</p>
(2) Are there items which you got more interested in during the exercise?	<p>“<u>Scheme development planning and cost estimate.</u>” (3 persons)</p> <p>- This procedure gave an idea to the DPDT how to plan the irrigation development and how to estimate the required cost. The procedure had not been familiar to most of them.</p> <p>- Before the training programme, I thought that it was impossible for me to do this kind of things. But I found that I am able to do it after the training programme.</p> <p>“<u>District Supporting Programme.</u>”</p> <p>- I feel that this is very important for sustainable irrigation (scheme) development.</p> <p>“<u>Interview survey with stakeholders.</u>”</p> <p>- This procedure gave us the real information in the surveyed area and the expectation of the farmers. The obtained information can be a basic of the planning.</p>
(3) Did you understand how to proceed the work which Zonal Irrigation Unit is responsible for?	<p>“I understood.” 2 persons</p> <p>“I partly understood.” 1 person</p>
(4) Do you think you learned the skill necessary for a trainer who will teach district staff the procedure for irrigation scheme formulation for DADPs?	<p>“Yes, I want to.” 3 persons</p>
<b>Part III Attitude to irrigation scheme formulation</b>	
(1) What will you do if some district submits a plan which isn't examined enough in technical aspect next year?	<p>“The only solution is to ask the district to use the Guidelines for DADP to prepare better planning of the scheme, since the Guidelines cover all the aspects needed for planning.”</p> <p>“1) I will re-examine it carefully, 2) Hold discussion on unclear parts with the DPDT, 3) Visit site to verify some data, if</p>

	necessary.” “I will sit with them and we shall evaluate or examine the technical aspects of the plan.”
(2) Do you think you want to propose some training plan for district staff for irrigation scheme formulation for DADPs and request some budget allocation to DITS?	“Yes, I want to” 3 persons
(3) Do you think you want to disseminate the procedure necessary for assisting district in irrigation scheme formulation for DADPs to other zonal irrigation unit?	“Yes, I want to” 2 persons “I will if supervisor asks me.” 1 persons
<b>Part IV Further understanding for irrigation scheme formulation</b>	
In the feedback workshop for non-selected scheme, what were the key points to make villagers agree with the DPDP decision?	“By visiting the village again, we could make the villagers understand why their scheme was not selected by giving reasons. All the reasons were explained from the technical point of view and social point of view. We also explained what they should do in the future to achieve future irrigation development.” “1)By telling the truth, 2)Telling them that another chance will be there, and 3)Even the chosen scheme will be subjected to further studies before being implemented.” “We told them that they had succeeded and came to be the second in the ranking. We also told them that when the donors consider implementing the second priority scheme, the village should initiate some institution such as irrigation association etc.”
Comments and suggestions:	“As far as DADP is concern, I feel that most of the information necessary for planning purposes was well covered. However, to adopt the planning process to other districts, more involvement of trained districts or ZIU in the training is important in order to make them understand the whole process. It is important to formulate a training programme for other districts and ZIUs.” “The programme was very interesting. I feel that all those who participated in the programme should be given chance to share with other in irrigation sub-sector they have learnt and experience gained.” “By visiting the farmers, inspecting the types of crops, and extension services they receive, the cost - benefit analysis could be made.”

***Appendix C***  
***Support for Irrigation Development***  
***in Zanzibar***

**THE STUDY  
ON  
THE NATIONAL IRRIGATION MASTER PLAN  
IN  
THE UNITED REPUBLIC OF TANZANIA**

**VERIFICATION STUDY REPORT**

**APPENDIX C**

**SUPPORT FOR IRRIGATION DEVELOPMENT IN ZANZIBAR**

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## CHAPTER 1 ACTIVITIES AND OUTCOME OF THE SUPPORT FOR IRRIGATION DEVELOPMENT IN ZANZIBAR

### 1.1 General

The Verification Study was conducted in the Mainland only. As for Zanzibar, support for irrigation development was conducted by establishing the database system in MANREC and making the selected Zanzibar staff participate in the training performed in the Mainland for irrigation scheme formulation.

### 1.2 Activities for the Study

#### 1.2.1 Activities of the Study Team

The following supports for irrigation scheme formulation in Zanzibar were provided for Zanzibar by the JICA Study Team:

- (1) Establishment of simple data and information management system for Zanzibar
- (2) Training on irrigation scheme formulation for DADP

#### 1.2.2 Activities of the Counterparts

- (1) Assigned Counterparts

The assigned counterparts from MANREC were (i) Mr. S. Abudulmalik, (ii) Mr. M. A. Mchenga, (iii) Mr. A. S. Mbinga, (iv) Mr. S. M. Shaame and (v) Mr. R. H. Rashid.

- (2) Activities of the Counterparts

- (a) Establishment of Simple Database and Information System for Zanzibar

The counterparts took part in the activities on establishment of the database system for Zanzibar, especially for topographic map function.

- (b) Training on irrigation scheme formulation in DADPs

The counterparts joined in the irrigation scheme formulation



*Soil texture test by Zanzibar counterparts at Komtonga scheme, Mvomero District*



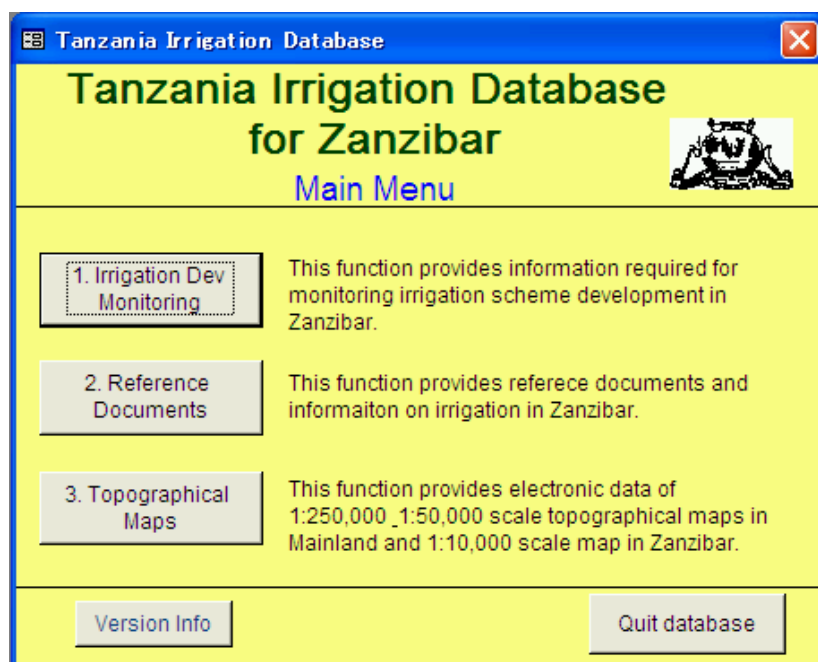
training for Mvomero District, Morogoro Region to share knowledge on planning and guidelines preparation for two weeks. In the two weeks, field survey and preliminary planning for Komtonga and Digoma scheme were made together with Mvomero District staff.

### 1.3 Outcome of the Study

#### 1.3.1 Simple Database and Information System for Zanzibar

##### (1) Irrigation Database for Zanzibar

The Irrigation Database for Zanzibar was established. Functions of the database are the same with that for the Mainland but the dataset was specific for Zanzibar.



**Main Menu of the Irrigation Database for Zanzibar**

##### (2) Irrigation GIS for Zanzibar

The Irrigation GIS for Zanzibar was also established. Functions of the GIS were the same as those for the Mainland but the dataset was specific for Zanzibar.

#### 1.3.2 Understanding of Irrigation Scheme Formulation Procedure for DADP

Since the counterparts joined in major parts of the training on irrigation scheme formulation in Mvomero District, Morogoro Region, they fully understood the planning procedure for DADP at present. This experience should be reflected upon further irrigation development in Zanzibar.

## CHAPTER 2 VOICES OF THE COUNTERPARTS IN ZANZIBAR

### 2.1 Products and Training of JICA Study Team

#### **Topic 1 Guidelines**

##### Question

*Do you feel the guidelines are useful for districts in the mainland?*

##### Answer

Yes.

##### Question

*Do you feel the guidelines are useful also in Zanzibar?*

##### Answer

As for Zanzibar, they are useful although some minor changes and/or additions are required. Since they were specifically prepared for the DADP, they could not consider groundwater source, which was the major water source for Zanzibar.

#### **Topic 2 Training by JICA Study Team**

##### Question

*What did you feel about the training?*

##### Answer

In our opinion, the training was conducted in a very proper participative way, which gave everybody chance to fully participate very friendly and constructively. It was also a very useful training as it has provided us with an additional planning tool which was applicable and provided a wide room for farmers/villagers participation.

### 2.2 Findings in Process of Irrigation Scheme Formulation

#### **Topic 3 First Experienced Planning Method**

##### Question

*Did you experience any new method of planning through the training (circle methods below)?*

##### Answer

- Scheme development planning
- Calculation of scheme incremental benefits

- Economic evaluation
- Scheme evaluation

**Question**

*How did you feel about the new method?*

**Answer**

Even though the methods were very simplified, they provided a quicker preliminary appraisal of the schemes. It also involved data which were easily available at scheme and district level.

**2.3 Irrigation Scheme Formulation in Zanzibar in Future**

**Topic 4 Proposal on Next Action of MANREC about Irrigation Scheme Formulation**

**Question**

*Did you get any new idea about your future action on irrigation scheme formulation after the training?*

**Answer**

The MANREC is planning first to train the district staff in the use and application of the guidelines. Then, using the guidelines, we are also planning to verify some of the data obtained in the model schemes planning, and also prepare planning of other potential areas district wise.

**Topic 5 Other Opinions**

1. We feel that we need some materials that can enable us to plan for the groundwater schemes using the guidelines.
2. We request that the hydro-geological map of Zanzibar be included in the Irrigation Database and GIS (if possibly digitized), to make it possible to be used for planning.
3. As we are planning to train the district staff in the use and application of guidelines, we would if possibly request some more copies of the guidelines for our ten districts and some few for the Department of Irrigation of MANREC, Zanzibar.
4. We would also remind that the issue of farm road construction planning in the guidelines was kept pending for clarifications in the training. We are still in need of the clarifications.
5. We would like to thank our fellow participants from Mvomero, who were in a

way our hosts, for their hospitality and friendly workmanship during our stay.

6. We would also kindly thank the JICA Study Team for NIMP for considering the Zanzibar team to benefit from the training, which we believe its fruits can be realized. We also thank for the nice arrangements from the JICA Study Team for NIMP that enabled us to participate without any difficulties.