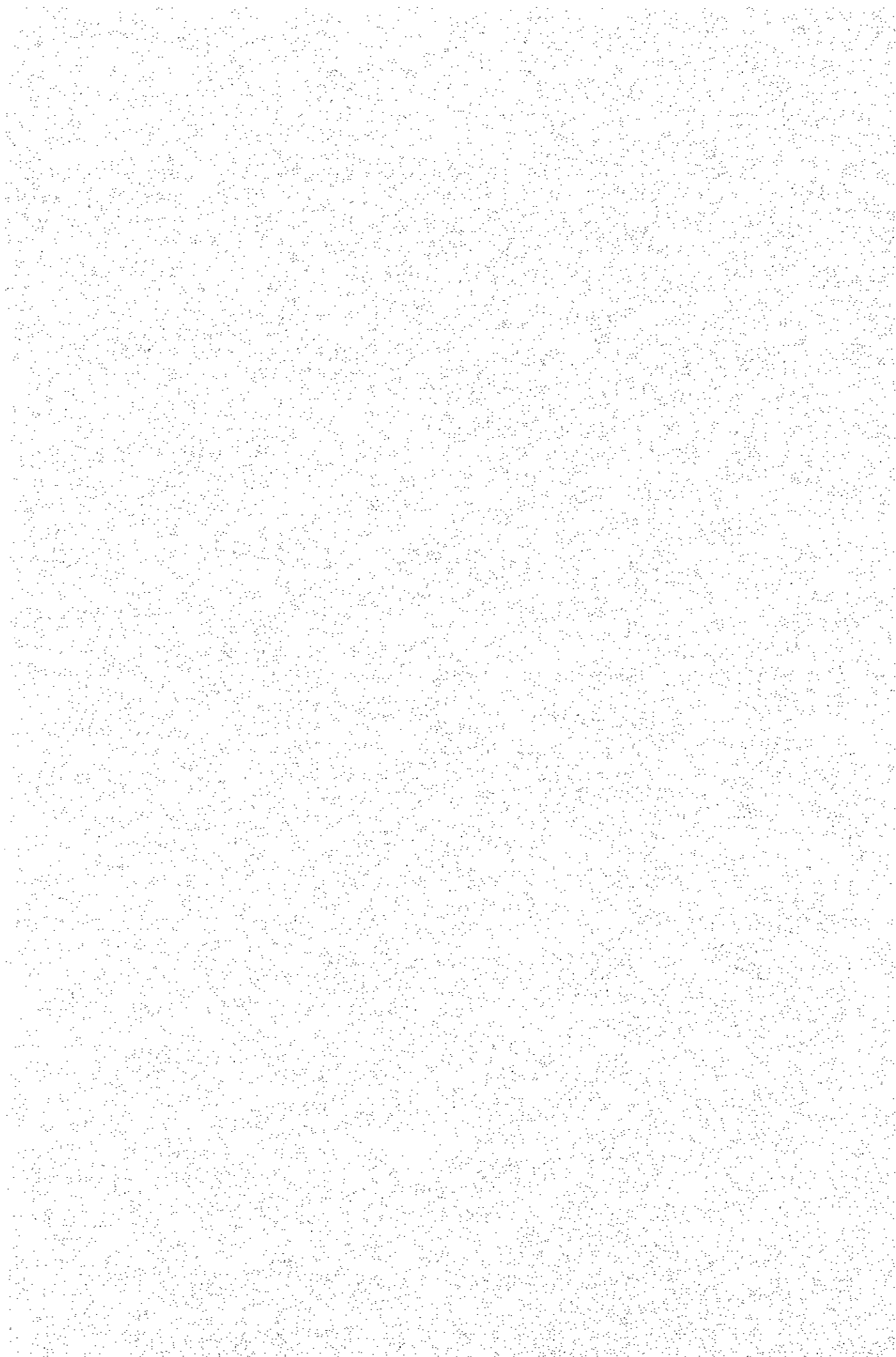


ANNEX-D

*FARM INTERVIEW SURVEY
AND
PUBLIC MEETING*



ANNEX-D
FARM INTERVIEW SURVEY AND PUBLIC MEETING

TABLE OF CONTENTS

	<u>Page</u>
1. GENERAL	D-1
2. SURVEY ON FARMERS'SOCIO-ECONOMY AND INTENTION FOR THE PROJECT.....	D-2
3. SURVEY ON FARMERS'INTENTION TO PROPOSED PLANS	D-3
3.1 Objectives and Outline of Survey	D-3
3.2 Result and Findings of Survey.....	D-3
4. PUBLIC MEETING	D-5
4.1 Objectives and Outline of Public Meeting.....	D-5
4.1.1 Objectives of Public Meeting.....	D-5
4.1.2 Outline of Public Meeting.....	D-5
4.2 Result of Meeting and Findings.....	D-7

LIST OF TABLES

	<u>Page</u>
Table D-1 Result of Farm Interview Survey on Farmers' Socio-economy and Intention for the Rehabilitation Projects.....	D-11
Table D-2 Result of Farm Interview Survey on Farmers' Intention to Proposed Rehabilitation Plans.....	D-24
Table D-3 Result of Public Meeting.....	D-27

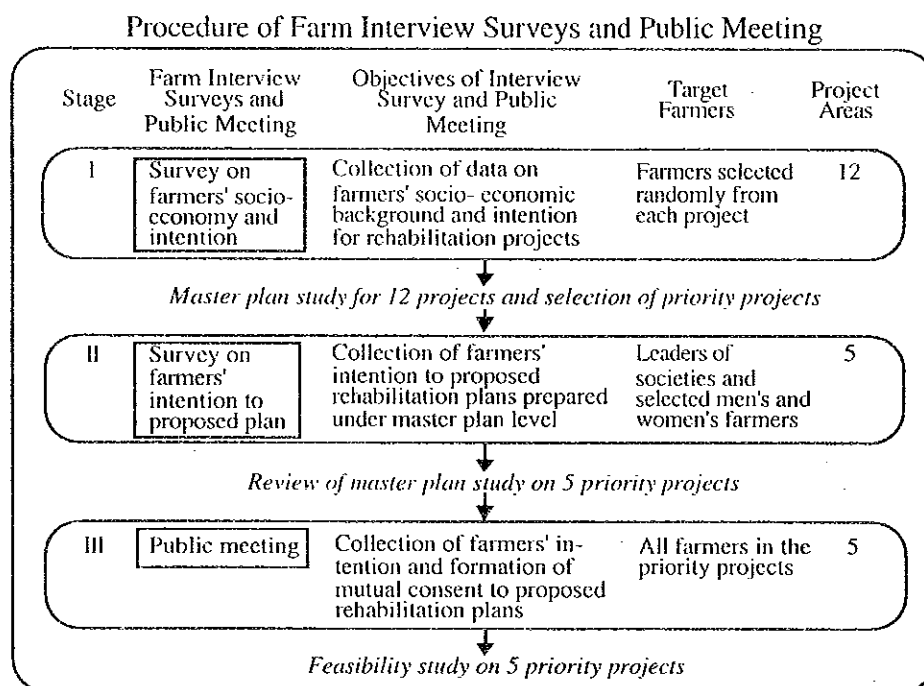
ATTACHMENT

Briefing Note and Agendas for Public Meeting

ANNEX-D FARM INTERVIEW SURVEY AND PUBLIC MEETING

1. GENERAL

The purpose and components of the Project should satisfy not only the policies and programmes of the government for agricultural development but also the needs of farmers, in order to expect the successful performance of the projects after rehabilitation. Particularly, it will be necessary to formulate the plan for O&M of the reactivated projects and for establishment of the farmers organisations in consideration of farmers' intention, customs of the people, social and economic background in the project areas. In this context, farmers interview survey and public meeting were carried out through the following procedures:



At the initial stage of the Study, a survey on socio-economy and intention for the rehabilitation project was carried out by the Study Team in co-operation with GIDA. The objectives of this survey is to collect data and information on farmers' socio-economic and agricultural background and their intention for rehabilitation of irrigation facilities and improvement of farming. Samples were selected randomly from the farmers in 12 project areas. Based on the result of the survey, the proposed rehabilitation plans to 12 project areas were made by the Study Team. Then, five (5) priority project areas were selected. These plans includes not only the rehabilitation of irrigation facilities but also agricultural and institutional improvements such as proposed cropping pattern and strengthening of farmers' societies.

At the second stage, an interview survey was implemented to the 5 priority projects in order to grasp farmers' intention to proposed plans prepared at the first stage mentioned above. The farmers interviewed in this survey were leaders of the existing farmers' societies, men's farmers and women's farmers. Through this survey, various intentions and opinions for rehabilitation of irrigation facilities and improvement of farming were obtained from the selected farmers with their requests for implementation of the projects. All of proposed plans to five priority areas were reviewed based on the result of interview survey.

At the final stage a public meeting with all farmers were held at each priority area. At this meeting, all proposed plans were discussed with the farmers, and their consent on the plans were obtained. After the meeting, the feasibility study was made based on the result of the meeting. The details of these interview surveys and public meeting are described hereinafter.

2. SURVEY ON FARMERS' SOCIO-ECONOMY AND INTENTION FOR THE PROJECT

At the initial stage (October to December 1995), the farm interview survey was carried out by the Team in co-operation with GIDA, in order to grasp farmers' socio-economic background and their intention to the Project. A questionnaire used in this survey includes the following items:

- 1) Size of household, educational level and agricultural experience of householders
- 2) Land holding size and land tenure
- 3) Social infrastructure and living situation
- 4) Crop production, cropping schedule, production cost and crop damage
- 5) Livestock raising
- 6) Farm machinery, equipment and processing facilities
- 7) Marketing of products and seeds
- 8) Off-farm income, living expenses, credits and loan repayment
- 9) Irrigation water supply, operation and maintenance (O&M) of irrigation facilities and irrigation service fees
- 10) Problems for farming and living
- 11) Farmers' intention for improvement of farming and farmer's society
- 12) Farmers' intention for O&M and its handing over to the beneficiaries, etc.

The interview to farmers was carried out by the Agricultural Extension Officers (MOFA), school teachers in the villages, etc. under the supervision by the Team. Prior to the survey, all interviewers were trained by the Study Team in order to standardise their interviews and to collect accurate information from the farmers. Total number of samples was 180, and these were selected randomly from 12 project areas. The number of samples and general background in each project are shown below:

Projects	No. of Samples	Developed Area (ha)	General Background of the Projects		
			Main Crops*1	No. of Farmers*2	Tribes of Farmers
(1) Ashaiman	20	130	Paddy, Okra	120	Ga, Ewe, etc.
(2) Wcija	15	220	Tomatoes, Okra, Eggplant, Paddy	115	Ga, Dangbe, Akan, etc.
(3) Amate	10	101	Onions, Tomatoes	63	Kwahu
(4) Afife	25	880	Paddy, Okra	533	Ewe
(5) Aveyime	15	63	Paddy*3	62	Ewe
(6) Kpando-Torkor	15	40	Okra	118	Ewe
(7) Mankessim	20	17	Eggplant, Water melon, Okra	89	Fanti
(8) Akumadan	10	65	Tomatoes	101	Ashanti
(9) Tanoso	10	64	Tomatoes	188	Ashanti
(10) Bontanga	20	450	Paddy, Onions, Okra, Tomatoes	450-600	Dagomba
(11) Subinja	10	60	Chillies, Okra	25	Brong (63%), Ewe (13%), etc.
(12) Okyereko	10	40	Paddy	68	Fanti
Total	180	2,130		1,932-2,082	

*1 Under irrigated condition

*2 As of December 1995.

*3 1994-1995 Not cultivated

The result of interview survey is presented in Table D-1. The Team reviewed all these data obtained through this survey and used fully for the study on the rehabilitation plans under the master plan level.

3. SURVEY ON FARMERS' INTENTION TO THE PROPOSED REHABILITATION PLANS

3.1 Objectives and Outline of Survey

The proposed rehabilitation plans under the master plan level were prepared to twelve (12) project areas based on the farm interview survey carried out to 180 samples at the initial stage and five (5) priority project areas were selected as a result of this study. These plans include not only for rehabilitation of the irrigation facilities but also for improvement of farming and strengthening of the farmers' societies. Following this interview survey, a survey on farmers' intention to the proposed plans formulated at the mater plan stage was conducted to 5 priority areas.

The objectives of the survey are (i) to grasp farmers' intention to the proposed plan formulated at the master plan stage, (ii) to obtain farmers' opinions/suggestions and requests to the projects, and (iii) to collect additional data in order to make study on suitable rehabilitation plans from the stand point of farmers' capability. The outline of the survey is as follows:

- 1) Survey period: 25th June to 12th July 1996
- 2) Procedure of survey

The survey was made by the following procedure. The interview to farmers was carried out directly by the expert and counterpart of the Study Team, in order to take farmers' well understanding on the proposed plans to be explained to them.

- Selection of farmers
- Explanation of proposed plan to the farmers
- Discussion with the farmers in order to take farmers' deep understanding for proposed plan
- Interview to the farmers used by questionnaire

- 3) Number of samples

The number of farmers selected for interview is 50 persons including 10 leaders of the societies, 28 men's farmers and 12 women's farmers, as shown below. These farmers were selected randomly from each project area, except for leaders.

	Leaders of Farmers' Society	Farmers		Total
		(Men)	(Women)	
Ashaiman	2	8	-	10
Aveyime	2	5	3	10
Kpando-Torkor	2	4	4	10
Mankessim	2	5	3	10
Okyereko	2	6	2	10
Total	10	28	12	50

3.2 Result and Findings of Survey

A result of the survey is summarised as follows, and the details are shown in Table D-2.

- 1) Agricultural Development Plan

- (a) In the proposed plans various crops are proposed to be introduced in each project area after rehabilitation. Almost all farmers have agreed such proposed crops, though high income crops such as tomatoes and onions have been requested by the farmers in Ashaiman.

- (b) The farmers have desired to have the following farm size after the rehabilitation. Major reason for these required holding area is to improve their living standard. It seems that the farmers in Aveyime, Kpando-Torkor and Mankessim have required larger size over their farm management capability.

Size of Holding Area after Rehabilitation (ha/farmer)			
	Present	After Rehabilitation	
		Main Crops Proposed	Farm Size
Ashaiman	0.59	Paddy	0.94
Aveyime	0.57	Paddy	1.68
Kpando-Torkor	0.10	Vegetables	0.82
Mankessim	0.25	Vegetables	1.18
Okyercko	0.40	Paddy	1.12
Average	0.38		1.15

- (c) In addition to the proposed plans, the farmers have a lot of requests to improve and develop the present farming situation. Of these, major request is to introduce mechanical power (power tiller for land preparation and 4-wheel tractor for transportation of products), and followed by the credit facility.

2) Rehabilitation Plan for Irrigation Facilities

With the exception of Ashaiman, all farmers in the project areas have satisfied the proposed rehabilitation plan of irrigation facilities, and they have desired to implement such rehabilitation projects as quickly as possible.

About 30% of sample farmers in Ashaiman have requested to develop more large area than 44 ha, because they have almost no farm land outside the project area. If it is very difficult to develop large area due to limited water resource, they have requested more intensive cropping with introduction of higher income crops.

3) Proposed Farmers' Society and Handing over of O&M

- (a) All farmers have well understood and agreed on the handing over of O&M of the rehabilitated project facilities, when GIDA has rehabilitated all irrigation facilities. As the conditions for handing over, farmers have requested GIDA the implementation of training programmes on O&M with financial support.
- (b) In the proposed plans, it is recommended to establish women's group under the new society, which aims to improve their living and encourage more active participation of women in public affair. All sample farmers have agreed to establish such a group, and the leaders have stated that the society can support to promote their activities. Such a good understanding by the farmers is due to the Government's efforts. Recently, the Government has promoted the women's group, and many groups were established in each village in the whole country since December 1995. In each priority area, a women's group has also been established, though such groups have no relation with the PM Office of GIDA.
- (c) All farmers are willing to participate in the new farmers' society proposed in the Interim Report. They have desired to have such a new society which has various activities such as marketing and credit services as well as the rehabilitation of the irrigation facilities. All proposed articles to be added to the present by-laws are accepted by all farmers without any other comment.

Overall, almost all the sample farmers in the five (5) priority areas have agreed basically all proposed plans formulated by the master plan study, and much appreciated to implement the rehabilitation projects according to these plans. The feasibility study will then be made in line with these proposed plans.

4. PUBLIC MEETING

At the second stage, the survey of farmers' intention to the proposed plans formulated under master plan level was carried out at each priority project. This was the interview survey of the sample farmers who were selected from the existing farmers. Following this survey, public meetings with all farmers and the government officers to be involved in the project rehabilitation were held at each priority area.

4.1 Objectives and Outline of Public Meeting

4.1.1 Objectives of Public Meeting

The plans for O&M system of the projects and for establishment of the farmers' societies should be formulated, taking into consideration the farmers' intention, customs, social and economic background, etc. In order to meet the above requirements, the public meetings were held to discuss with the government staff concerned, farmers, leaders of the farmers' societies, village chiefs and women's groups on the plans and components of the Project. The results of the meetings were fully used for formulation of the optimum rehabilitation plans.

4.1.2 Outline of Public Meeting

(1) Proposed Rehabilitation Plan to be Discussed

All plans formulated in the Master Plan were reviewed, based on the results of the first stage field works of Phase II including the survey of farmers' intention and the topographic mapping. The main points of the plans thus modified are the irrigable area and proposed cropping patterns, and other project components are almost the same as formulated in the Interim Report. The agenda of the public meeting are for the proposed rehabilitation plan including these review results. The contents of the plan to be discussed at the meeting are outlined below, and the details are presented in "Briefing Note" in Attachment.

- 1) Farmers' Intention to the Rehabilitation Plan for Irrigation Facilities
 - Total irrigable area after rehabilitation
 - Rehabilitation plans of the irrigation facilities and farmers' requests and suggestions to those plans
 - Irrigation plan (method)
 - Plan of O&M equipment and buildings and their requests and suggestions about them
- 2) Farmers' Intention to Farming Plan
 - Proposed crops and cropping patterns to be introduced at each project
 - Land allocation method
 - Farmers' intention to the holding size after rehabilitation
 - Farmers' opinions or suggestions about the proposed farming plan
- 3) Farmers' Intention to the Strengthening Plan for Farmers' Society
 - Proposed organisational structure
 - Farmers' intention to the society's activities including O&M, women's group, marketing of farm inputs, agricultural credit (group loan system), and agricultural extension
 - Handing-over of O&M and condition on its handing-over
 - Irrigation service charge
 - Articles and by-laws necessary for O&M
- 4) Improvement of Agricultural Credits (Group Loan System)
 - Possibility of managing proposed loan system by the society
 - Farmers' interest and participation in this loan system

- 5) Improvement of Marketing
 - Possibility of management of proposed marketing system by the society
 - Farmers' interest and participation in this marketing system
- 6) Farmers' Requests and/or Suggestions to the Rehabilitation Project
- 7) Specific Items to be Confirmed with Farmers
 - Farmers' participation in the rehabilitation works
 - Promotion of women's activities by the farmers' societies
 - Land ownership of the lands to be developed and those land acquisition

(2) Implementing Schedule, Programme and Procedure

The public meetings were held at each PM office according to the following implementation schedule and programmes:

Implementing Schedule and Programmes of the Meeting		
SCHEDULE		
Kpando Torkor	PM Office - AM 10:00	19 & 20 Nov. 1996
Aveyime	PM Office - AM 10:30	21 & 23 Nov. 1996
Ashaiman	PM Office - AM 10:00	25 & 26 Nov. 1996
Mankessim	PM Office - AM 11:00	27 & 28 Nov. 1996
Okyereko	PM Office - AM 10:00	29 & 30 Nov. 1996
PROGRAMME		
<u>1st Day</u>		
1) Explanation of Public Meeting		
2) Outline of Rehabilitation Project		
(a) Objectives of the Project		
(b) Component of the Project		
(c) Outline of the Rehabilitation of Irrigation Facilities		
3) Field Investigation with Farmers		
<u>2nd Day</u>		
1) Explanation of Proposed Rehabilitation Plan		
(a) Rehabilitation Plan for Irrigation Facilities		
(b) Farming Plan		
(c) Strengthening Plan for Farmers' Society		
(d) Improvement of Agricultural Credit (Group Loan System)		
(e) Improvement of Marketing		
2) Discussion with farmers for proposed rehabilitation plan		
3) Collection of farmers' request to the rehabilitation project		
4) Confirmation of the plans by both parties (farmers and IDA/Study Team)		

A public meeting was held for two days for each project. The first day was used for the explanation of the proposed plans and the second day for discussion about the plans. Farmers' internal meetings by presidency of the existing societies were held between the first and the second days.

At the opening address, the objectives of the meeting were explained to the attendants. Then, the study team made the detailed explanation of the proposed plans and project component to them according to the Briefing Note prepared by the team (see Attachment). To take full understanding of the attendants, a leaflet showing outline of the plans was distributed to all of them, and the development areas and location of the main facilities were presented by the use of the project layout maps. In addition, field investigations in the project areas were carried out by the attendants, and the boundary of the development areas and location of the facilities were confirmed by them at the field. The languages used at the meeting were (i) English for Ashaiman project, (ii) Ewe for Kpando-Torkor and Aveyime projects, and (iii) Fanti and Ashanti for Mankessim and Okyereko projects.

After the explanation, discussions were made by the attendants according to the agenda, and then agenda were proceeded to the vote (see "Agenda" in Attachment). In parallel with these votes, farmers' requests and suggestions were collected. No agreement was made finally

between the both parties, because the implementation of the project itself is not yet decided at this study stage.

(3) Attendance

The total attendants to all the meetings were 300 farmers which were equivalent to 73% of the total existing farmers of all priority projects. These attendants consist of the farmers, leaders of the societies, village chiefs, and women's farmers. In addition, 74 farmers who came from outside the project area attended to the meeting. They had an opportunity of joining the projects. The details of the attendance are as follows:

Attendance of the Public Meetings

	Ashaiman			Aveyime			K. Torkor			Mankessim			Okyereko			Whole		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Farmers																		
Leaders of Society																		
- Chairman	1	-	1	1	-	1	1	-	1	1	-	1	1	-	1	5	-	5
- Vice Chairman	1	-	1	-	-	-	-	-	-	1	-	1	1	-	1	3	-	3
- Secretary	1	-	1	1	-	1	1	-	1	1	-	1	1	-	1	5	-	5
- C. Members *1	5	-	5	2	-	2	2	-	2	5	-	5	2	-	2	16	-	16
Village Chief *2	-	-	-	1	-	1	-	-	-	1	-	1	(1) *6	(1)	-	2	-	2
Farmers	54	4	58	29	7	36	39	21	60	31	21	52	29	34	63	182	87	269
Sub-total	62	4	66	34	7	41	43	21	64	40	21	61	34	34	68	213	87	300
Existing Farmers *3		5	74			62			118			89			68			411
% of attendance			89%			66%			54%			69%			100%			73%
Others farmers *4	-	-	-	-	-	-	30	7	37	-	-	-	18	19	37	48	26	74
Total Attendants	62	4	66	34	7	41	73	28	101	40	21	61	52	53	105	261	113	374
GIDA & Study Team			5			4			3			4			4			

*1 Members of the society's executive committee

*2 Village chief who is farmer in the existing area.

*3 Total farmers in the existing area (as of Nov. 1996).

*4 Farmers who are not included in the existing area.

M = Male F = Female

Note: Figures indicate the total attendants of 2nd day's meeting.

*5 In December 1995, the number of farmers in the Ashaiman area was 120. But total farmers as of November 1996 were estimated to be 74, and the remaining 46 farmers left from the area.

*6 Chairman of society

4.2 Result of Meeting and Findings

Basically all proposed plans for projects rehabilitation were accepted among the farmers, and useful suggestions with their well understandings of the projects were obtained through the meetings. The details of the results are presented in Table D-3, and the main highlights at each project are summarised as follows:

(1) Ashaiman Project

The main problem at Ashaiman project is the limited water resource, and it is impossible to irrigate the whole of 130 ha of land. At the meeting, the study team explained to the attendants that only the left bank area (56 ha) could be rehabilitated, and all farmers will have to be transferred to the left bank. In this case, a holding size of the farmer will become small from the present 1.23 acres to 1.0 acre. After the discussion, all farmers understood that water resource is physically limited, even though all irrigation facilities are rehabilitated in order to reduce water losses from the facilities and the embankment of dam is heighten to reserve more water. Then the proposed plans including the reduction of the holding size and the transfer of farmers were accepted by all the farmers.

The proposed cropping pattern explained at the meeting consists of (i) the cultivation of rice, maize, cowpea and groundnut in the wet season, and (ii) the cultivation of vegetables and rice in the dry season. This is the modified one of cropping pattern formulated in the Interim Report, based on the result of the interview survey of farmers' intention carried out at the first

stage of Phase II. This pattern is basically accepted by all farmers.

Following the above discussion on the cropping pattern, an alternative cropping pattern was presented by the study team. Since the water resource of Ashaiman project is severely limited and a holding size of a farmer is reduced after the rehabilitation, it is necessary to introduce water saving and more profitable cropping pattern. In this context, the following alternative cropping pattern was discussed at the meeting.

Wet Season

50% - Maize, Cowpea, Groundnut
50% - Paddy rice

Dry Season

100% - Vegetables including
Okra, Tomato, Onion, etc.

For the introduction of this alternative pattern, the farmers pointed out the following problems: (i) vegetable cultivation in the whole land may be difficult, because part of the land located along the main drain has a poor drainage problem; and (ii) the lands in the upper area have some levelling problem. After the discussion among the attendants, the following understandings were obtained: (i) in the lands having levelling problem, vegetable cultivation is better than rice cultivation ; (ii) the vegetable cultivation in all lands may be possible, if the poor drainage problem is improved by project rehabilitation.

The farmers in Ashaiman area have almost no farm land outside the project area, and they are earning their farm income from farming only in the project area. After the rehabilitation, however, their holding size will be reduced. In this context, it is recommended to introduce such high profitable cropping pattern mentioned above, in order to improve their living standard as much as possible. To make introduction of this pattern possible, the drainage improvement is essential.

The boundary of the rehabilitation area was confirmed by both parties, the study team and the farmers, at the project site. The project boundary confirmed by both parties are presented in Topographic Maps (1/5000) prepared by the Study Team in 1996.

(2) Aveyime Project

At Aveyime project, there are two alternative development blocks; one is the existing irrigation area and the other is an expansion area to be developed newly. The irrigation area of the former block is 63 ha and the latter is about 32 ha. The development of all blocks was requested by all farmers attended to this meeting.

Out of new area (32 ha), a private family holds about 20 ha, and the remaining 12 ha belong to GIDA. The farmers' society of Aveyime project requested to the family for the use of their land, and the head of family agreed on it, under the condition that a high priority in land allocation is given to his family. The study team clearly stated that the study team never touch this matter, and it should be settled by the farmers themselves or the Government of Ghana.

(3) Kpando-Torkor Project

In the proposed development plan, there are four (4) irrigation blocks (387 ha in total). At the meeting, there was a request for the development of at least 2 blocks or 140 ha in total, keeping sufficient lands for cultivation of staple food crops (maize, cassava, etc.) under the rainfed condition in the areas adjacent to the project. The team explained them that the surrounding lands of the development blocks will be left as it is for the cultivation of such food crops.

All lands in the project area belong to Dzigbe village and have been managed by the village chief. The leaders of the society and the village chief had meeting to talk about land acquisition. Then they had an understanding that Dzigbe village provides the lands necessary for

the development project.

(4) Mankessim Project

Out of total irrigable area (176 ha), a private company holds 67 ha of land, and the remaining 109 ha belong to Beefikrom village. The study team explained the farmers that the company's lands are not included in the project. In addition, hill lands with steep slope of more than 10 % (23 ha) in the remaining 109 ha will also be excluded from the project, because these lands have serious soil erosion problem. All farmers accepted to exclude these lands. Accordingly, the total area to be studied for this rehabilitation project is estimated at 86 ha.

The lands of the new area belong to Beefikrom village, and the existing area is under GIDA. The village chief of Mankessim has a power to use the lands of this village, and he agreed the irrigation development in these lands by GIDA.

The Mankessim project consists of two development blocks: (i) existing area (29 ha) and (ii) new area located in a valley (56 ha) on the right bank of the reservoir. The team explained that it is better to exclude the existing area from the project, because the soils of this area are not suitable for vegetable cultivation. However, all farmers already know about the soil problem; nevertheless, they strongly requested the rehabilitation of this existing area.

Many of farmers pointed out that the cultivation area of watermelon is rather wide in view of marketability. But all products are marketed, if it is possible to cultivate it in the best season between November to February. Several farmers want to cultivate onion and vegetables (cabbage) instead of watermelon.

(5) Okyereko Project

There are two development blocks: existing area (40 ha) and the surrounding new area (40 ha). All farmers had a request for the development of all lands (81 ha). All lands to be developed by the project belong to Okyereko village. The village chief stated that these lands could be released from the village for the project under the condition that all lands be allocated only to the farmers in Okyereko village. In this case, it is not necessary to pay land compensation.

The holding size requested by the farmers largely varied from 1.0 to 2.5 acres. After the discussion, all farmers agreed on the size of 1.5 acres/farmer.

The farmers have a lot of upland fields located at the northern part of the project area, and they asked for the access from village to their fields through the project area. The barriers for crossing project area are the main drainage canal and the spillway of the dam. In addition, the farmers asked the study team for improvement of salinity problem in the fields (20 acres) located along the main drain. The team explained them that access to their upland fields may be considered in the rehabilitation plan. As for the salinity problem, it will be settled by the improvement of drainage system which is planned in this project.

(6) Whole Projects

1) Farmers' Participation in Rehabilitation Works

All farmers in the projects agreed to participate the rehabilitation works. They have fully understood that no labour charge will be paid to such works. In the Kpando-Torkor project, the farmers said that if contractor can provide transportation services for the farmers who are living in Kpando, they can join these works.

In addition, almost all farmers accepted to make final levelling of the fields to be expanded newly in the project areas. Namely, the Project creates some new farm lands around the existing fields. In the land reclamation works to these new lands, the Project provides only rough levelling and those final levelling is entrusted to the farmers. For this final levelling, the farmers have agreed.

2) Irrigation Service Fee

All farmers in the five projects show understanding of the increase in the amount of irrigation service fees after the projects rehabilitation. Their allowable amount is as follows:

Allowable Amount of Irrigation Service Charge
after Rehabilitation of Facilities

	Present Amount (CD/acre/season)	Allowable Amount (CD/acre/season)	%
Ashaiman	20,000	40,000	100%
Aveyime	62,000	105,400	70%
Kpando-Torkor	100,000	150,000	50%
Mankessim	40,000	100,000	150%
Okyereko	20,000	40,000	100%

3) Improvement of Agricultural Credits

Most of farmers have pointed out the importance of the improvement of present agricultural credits, and they have requested the introduction of group loan system which is recommended by the study team.

4) Holding Size Accepted by the Farmers and Number of Candidate Farmers

The land holding size which was accepted by the farmers is summarised as follows:

	Project Area to be studied *1 (ha)	Holding Size Accepted *2 (ha/farmer)	No. of Farmers		
			Existing Farmers	Candidate Farmers	Total
Ashaiman	44-50	0.4	120	-	120
Aveyime	63-90	1.0	62	200	260
Kpando-Torkor	70-280	0.4	118	670 +	790 +
Dzigbe Village			(30)	(470)	(500)
Outside (Kpando)			(88)	(200) + *3	(290) +
Mankessim	50-100	0.4	89	1,310	1,400
Okyereko	40-80	0.6	68	80	150

*1 Figures used in the public meeting

*2 Land holding size accepted by the farmers in the public meeting.

*3 Farmers on the waiting list. Kpando is a big town, and over 290 farmers will join in the project, if its development area is more wide.

In Aveyime project area, a size of 2.5 acres/farmer was requested by all farmers. It seems that this size is too large in view of labour balance, because the proposed cropping pattern in the dry season consists of 50% of rice and 50% of vegetables, and vegetable cultivation requires a lot of labourers. But the farmers said that a farm household forms a big family including relatives, and all of them could join the farm works. Other project areas have reasonable holding size from the standpoint of labour balance.

The number of existing member farmers and candidate farmers who could join the projects were obtained from the leaders of the farmers' societies and village chiefs. As seen in the above table, all projects have enough number of the candidate farmers, even when the existing project areas are expanded in connection with the rehabilitation.

TABLES

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (1/13)

Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
Q-1 General Information													
1.3 Educational Level of Householder													
(1) Primary School	20%	13%	30%	13%	27%	-	10%	40%	-	15%	20%	25%	16%
(2) Junior Secondary	50%	53%	50%	46%	33%	87%	65%	20%	90%	10%	30%	50%	48%
(3) Senior Secondary	15%	13%	10%	21%	-	7%	5%	-	-	10%	10%	25%	10%
(4) Higher School	5%	7%	-	8%	-	7%	-	-	-	-	-	-	3%
(5) University	-	-	-	-	-	-	-	-	-	-	20%	-	1%
(6) Non	10%	13%	10%	13%	40%	-	20%	40%	10%	65%	20%	-	21%
1.4 Agricultural Experience of Householder (Years)													
	19	13	17	17	17	14	15	20	12	22	18	17	17
Q-2 Size of Household													
Total (Persons)	7.05	6.80	7.90	8.44	7.47	6.47	6.45	7.80	6.10	7.85	5.90	6.60	7.2
Population by Age Group													
Male													
60 <	51.1%	49.0%	49.4%	51.7%	50.9%	46.4%	52.7%	48.7%	47.5%	50.3%	50.8%	42.4%	49.8%
45 - 59	2.8%	1.0%	1.3%	1.4%	4.5%	1.0%	1.6%	1.3%	1.6%	1.9%	1.7%	-	1.7%
30 - 44	10.6%	3.9%	5.1%	2.8%	2.7%	4.1%	4.7%	2.6%	3.3%	4.5%	5.1%	1.5%	4.4%
15 - 29	2.8%	10.8%	2.5%	9.0%	7.1%	10.3%	4.7%	5.1%	11.5%	10.2%	10.2%	12.1%	7.8%
0 - 14	19.9%	9.8%	15.2%	16.6%	17.0%	13.4%	14.0%	23.1%	14.8%	16.6%	15.3%	9.1%	15.7%
	14.9%	24.5%	25.3%	21.8%	19.6%	17.5%	27.9%	16.7%	16.4%	17.2%	18.6%	19.7%	20.2%
Female													
60 <	48.9%	51.0%	50.6%	48.3%	49.1%	53.6%	47.3%	51.3%	52.5%	49.7%	49.2%	57.6%	50.2%
45 - 59	1.0%	1.0%	1.3%	0.9%	0.9%	3.1%	2.3%	2.6%	2.6%	5.7%	1.7%	6.1%	2.1%
30 - 44	5.7%	2.0%	6.3%	2.4%	5.4%	4.1%	3.9%	6.4%	6.6%	3.8%	3.4%	3.0%	4.2%
15 - 29	9.9%	6.9%	6.3%	12.3%	11.6%	6.2%	9.3%	9.0%	11.5%	10.8%	13.6%	6.1%	9.8%
0 - 14	21.3%	17.6%	7.6%	13.3%	7.1%	18.6%	13.2%	19.2%	16.4%	9.6%	18.6%	19.7%	14.6%
	12.1%	23.5%	29.1%	19.4%	24.1%	21.6%	18.6%	14.1%	18.0%	19.7%	11.9%	22.7%	19.5%
Total													
60 <	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
45 - 59	2.8%	1.0%	2.5%	2.4%	5.4%	4.1%	3.9%	3.8%	1.6%	7.6%	3.4%	6.1%	3.8%
30 - 44	16.3%	5.9%	11.4%	5.2%	8.0%	8.2%	8.5%	9.0%	9.8%	8.3%	8.5%	4.5%	8.6%
15 - 29	12.8%	17.6%	8.9%	21.3%	18.8%	16.5%	14.0%	14.1%	23.0%	21.0%	23.7%	18.2%	17.6%
0 - 14	41.1%	27.5%	22.8%	29.9%	24.1%	32.0%	27.1%	42.3%	31.1%	26.1%	33.9%	28.8%	30.3%
	27.0%	48.0%	54.4%	41.2%	43.8%	39.2%	46.5%	30.8%	34.4%	36.9%	30.5%	42.4%	39.7%
Q-3 Land Holding and Land Tenure													
(1) Total holding area (ha)													
Farm Land	2.65	3.24	2.31	4.63	2.66	2.15	1.35	6.43	5.80	3.97	4.80	1.66	3.34
Paddy Field	1.37	3.09	2.16	3.85	2.21	1.34	0.95	5.44	4.36	3.43	3.49	1.42	2.66
Upland Field	(0.74)	(0.48)	(2.16)	(2.36)	(0.82)	(1.34)	(0.95)	(5.44)	(4.36)	(1.72)	(3.49)	(1.00)	(1.93)
Grass Land	(0.63)	(2.61)	0.04	0.31	0.27	0.03	0.38	0.64	1.40	0.12	1.24	-	0.30
Homestead	0.02	0.04	0.11	0.15	0.10	0.03	0.02	0.35	0.04	0.34	0.07	0.04	0.10
Others	1.26	0.11	-	0.32	0.08	0.75	-	-	-	0.08	-	0.20	0.28
(2) Land Tenure													
(a) Paddy-Irrigated (ha)													
Total Holding Area	0.74	0.43	-	2.12	0.14	-	-	-	-	1.13	-	0.42	0.57
Own Land	-	-	-	0.02	0.11	-	-	-	-	-	-	0.02	0.01
Leased to Others	-	-	-	-	-	-	-	-	-	-	-	-	-
Borrowed from:	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	0.74	0.43	-	2.14	-	-	-	-	-	1.13	-	0.40	0.56
Village Community	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Farmers	-	-	-	-	0.03	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(b) Paddy-Non irrigated (ha)													
Total Holding Area	-	0.05	-	0.24	0.68	-	-	-	-	0.58	-	-	0.16
Own Land	-	0.05	-	0.14	0.03	-	-	-	-	0.58	-	-	0.09
Leased to Others	-	-	-	0.02	-	-	-	-	-	-	-	-	-
Borrowed from:	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	0.02	0.65	-	-	-	-	-	-	-	0.06
Village Community	-	-	-	0.10	-	-	-	-	-	-	-	-	0.01
Other Farmers	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(c) Upland-Irrigated (ha)													
Total Holding Area	0.19	0.89	0.43	-	-	0.10	0.21	0.40	0.44	0.40	0.93	0.04	0.29
Own Land	-	-	-	-	-	-	-	-	-	-	-	-	-
Leased to Others	-	-	-	-	-	-	-	-	-	-	-	-	-
Borrowed from:	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	0.19	0.89	0.43	-	-	0.10	0.21	0.40	0.44	0.40	0.93	-	0.29
Village Community	-	-	-	-	-	-	-	-	-	-	-	0.04	-
Other Farmers	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(d) Upland-Non irrigated (ha)													
Total Holding Area	0.44	1.72	1.73	1.49	1.39	1.24	0.74	5.04	3.92	1.32	2.56	0.96	1.64
Own Land	0.10	0.35	1.63	0.53	0.69	0.83	0.23	5.04	2.68	1.02	0.68	-	0.94
Leased to Others	-	-	0.10	-	0.03	-	-	-	-	-	-	-	0.01
Borrowed from:	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	0.32	0.08	-	-	0.13	-	-	-	-	0.12	0.02	-	0.07
Village Community	-	1.01	-	0.50	0.35	0.38	0.20	-	1.24	-	1.86	0.96	0.46
Other Farmers	0.02	0.28	0.20	0.44	0.08	0.03	0.27	-	-	0.18	-	-	0.16
Others	-	-	-	0.02	0.17	-	0.04	-	-	-	-	-	0.02

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (2/13)

Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
(e) Grass Land (ha)													
Total Holding Area			0.04	0.31	0.27	0.03	0.38	0.64	1.40	0.12	1.24		0.30
Own Land			0.04	0.05	0.27		0.17	0.64	1.04	0.12	0.84		0.20
Leased to Others				0.06									0.01
Borrowed from:													
Government				0.13									0.02
Village Community				0.16		0.03	0.11		0.28		0.28		0.07
Other Farmers				0.03			0.10				0.12		0.02
Others									0.08				
(f) Homestead (ha)													
Total Holding Area	0.02	0.04	0.11	0.15	0.10	0.03	0.02	0.35	0.04	0.34	0.07	0.04	0.10
Own Land	0.01	0.01	0.11	0.11	0.06	0.02	0.02	0.29	0.04	0.34	0.02	0.02	0.09
Leased to Others													
Borrowed from:													
Government	0.01	0.03											
Village Community				0.02	0.03	0.01		0.06				0.02	0.01
Other Farmers					0.01						0.04		
Others				0.02							0.01		
(g) Others (ha)													
Total Holding Area	1.26	0.11		0.32	0.08	0.75				0.08		0.20	0.28
Own Land	1.26	0.11			0.08	0.75							0.22
Leased to Others				0.03									
Borrowed from:													
Government				0.03									
Village Community				0.32									0.04
Other Farmers										0.08		0.20	0.02
Others													
Q-4 Livestock Raising (head/farmer)													
(1) Buffalos													0.6
(2) Cattle				0.1	2.3						2.7	0.8	0.1
(3) Horses											1.3		0.1
(4) Goats	0.7	1.6	1.8	3.6	2.9	2.1	2.1	0.6	0.9	4.7	2.6	2.9	2.4
(5) Sheep	0.9	1.5		2.0	0.7	0.6	1.9	0.6	1.3	4.5	0.5	2.0	1.6
(6) Hogs (Pig)						1.5		1.0			1.9		0.3
(7) Chickens	4.7	7.7	11.0	17.6	14.0	6.3	9.2	9.6	8.8	24.1	21.3	17.3	12.8
(8) Ducks		1.5	3.1	2.2	4.5	0.7			1.0	2.0	2.0	0.7	1.5
(9) Rabbits						0.9	0.2						0.1
(10) Others			1.1	2.0	1.4	0.1		0.4		2.0	1.6	0.4	0.8
Q-5 Inventory of Farm Machinery and Equipment (No./farmer)													
(1) 4-Wheel tractor	0.05									0.05			0.02
(2) 2-Wheel tractor				0.24									0.03
(3) Plough for tractor	0.05									0.05			0.01
(4) Harrow for tractor	0.05									0.05			0.01
(5) Rotavator/filler for tractor				0.16						0.05			0.03
(6) Cultivator for tractor													
(7) Tractor trailer	0.05			0.12						0.05			0.03
(8) Truck/Pick-up													
(9) Water pump		0.07			0.07		0.05						0.02
(10) Plough for animal			0.30										0.02
(11) Harrow for animal													
(12) Animal cart													
(13) Drill Seeder													
(14) Rotary weeder													
(15) Knapsack type sprayer	0.35	0.47		0.44	0.13	0.40	0.30		0.10	0.30	0.50	0.20	0.29
(16) Power Sprayer	0.20	0.33	0.20	0.04		0.07		0.60	0.10	0.15	0.40		0.15
(17) Thresher with engine				0.36									0.05
(18) Rice mill				0.04						0.05			0.01
Q-6 Social Infrastructure and Home Facilities													
(1) Supply of electricity													
Yes (%)	80%	64%		20%		57%	53%	100%	100%	10%	89%		44%
No (%)	20%	36%	100%	80%	100%	43%	47%			90%	11%	100%	56%
(2) Domestic water supply													
Yes (%)	100%	80%		24%	13%	23%	100%			78%	22%		47%
No (%)		20%	100%	76%	87%	77%		100%	100%	22%	78%	100%	53%
If "No", what is water resources ?													
a) River (%)			100%	26%	100%	82%		100%	100%	17%	25%	100%	71%
b) Well (%)				16%		18%					50%		7%
c) Canal (%)		100%		32%									10%
d) Pond (%)				26%									11%
e) Others (%)										83%	25%		1%
(3) Oil Cooker (%)	25%	33%		12%	33%	13%	5%			5%			12%
(4) Electric cooker (%)		7%		4%		7%	5%	10%		10%			4%
(5) Refrigerator (%)	25%	7%		8%							10%		5%
(6) Electric Fan (%)	40%	47%		20%		47%	15%	40%	10%	15%	20%		22%
(7) Bicycle (%)	15%	73%	30%	96%	73%	40%	10%	30%	50%	95%	60%		52%
(8) Motorcycle (%)	5%			8%		7%		20%		5%	10%		4%
(9) Television (%)	40%	40%	10%	24%	27%	60%	15%	50%	10%	10%	20%	20%	27%
(10) Radio (%)	60%	60%	50%	84%	73%	73%	25%	60%	30%	70%	70%	80%	62%
(11) Radio Cassette (%)	40%	73%	50%	68%	27%	93%	30%	60%	30%	60%	70%	70%	56%
(12) Sewing Machine (%)	55%	27%	80%	40%	40%	53%	50%	40%	30%	30%	60%	40%	44%

**Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy
and Intention for the Rehabilitation Projects (3/13)**

Question Items	Projects/No. of Samples													
	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180	
Q-7 Marketing and Crop Damage														
Marketing of Products														
(1) Cassava														
a) Middlemen				63%	13%	64%			94%		70%	67%	61%	
b) Other farmer											21%		5%	
c) Sold at market				4%	7%	12%							2%	
d) For loan repayment														
e) Home consumption				34%	80%	24%	100%		6%		9%	33%	32%	
(2) Sweet Potato														
a) Middlemen		90%					23%						46%	
b) Other farmer														
c) Sold at market							72%						47%	
d) For loan repayment														
e) Home consumption		10%					5%						6%	
(3) Yam														
a) Middlemen						17%		64%					49%	
b) Other farmer														
c) Sold at market								18%					12%	
d) For loan repayment														
e) Home consumption						83%		18%					38%	
(4) Maize														
a) Middlemen	36%		89%	16%		47%	21%	93%	94%	46%	35%	52%	54%	
b) Other farmer											9%		1%	
c) Sold at market					31%	15%	50%			2%	11%	20%	8%	
d) For loan repayment											1%		0%	
e) Home consumption	64%		11%	84%	69%	38%	29%	7%	6%	52%	44%	28%	38%	
(5) Rice														
a) Middlemen	85%	92%		49%						81%		57%	61%	
b) Other farmer	1%			2%						2%			2%	
c) Sold at market	4%			9%						6%		21%	8%	
d) For loan repayment	1%			24%						0%		2%	15%	
e) Home consumption	9%	8%		16%						10%		20%	14%	
(6) Egg Plant (Garden Egg)														
a) Middlemen		91%					70%				88%		86%	
b) Other farmer														
c) Sold at market		7%					26%						7%	
d) For loan repayment														
e) Home consumption		2%					4%				12%		7%	
(7) Okra														
a) Middlemen	78%	97%		96%		95%	8%			93%			89%	
b) Other farmer														
c) Sold at market	19%							65%					5%	
d) For loan repayment														
e) Home consumption	3%	3%		4%		5%	27%			7%			6%	
(8) Onions														
a) Middlemen			95%							20%			95%	
b) Other farmer														
c) Sold at market										78%			0%	
d) For loan repayment														
e) Home consumption			5%							2%			5%	
(9) Hot Pepper														
a) Middlemen		95%	77%				29%				98%		77%	
b) Other farmer														
c) Sold at market			18%		75%		69%						19%	
d) For loan repayment														
e) Home consumption		5%	5%		25%		2%				2%		4%	
(10) Tomatoes														
a) Middlemen		31%	97%				9%	99%	98%	93%	82%	84%	81%	
b) Other farmer														
c) Sold at market		57%					87%						14%	
d) For loan repayment		9%											2%	
e) Home consumption		3%	3%				4%	1%	2%	7%	18%	16%	3%	
(11) Cowpea														
a) Middlemen		80%								38%	93%		77%	
b) Other farmer														
c) Sold at market										40%			10%	
d) For loan repayment														
e) Home consumption		20%								22%	7%		12%	
(12) Groundnuts														
a) Middlemen			61%							67%		49%	48%	
b) Other farmer														
c) Sold at market			33%	83%						6%		38%	39%	
d) For loan repayment														
e) Home consumption			6%	17%						27%		14%	14%	

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (4/13)

Question Items	Projects/No. of Samples	ASHI 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
Marketing of Seeds														
(1) Cassava														
a) Government agency										13%				3%
b) From extension worker														
c) Purchased at market						18%	25%							8%
d) From other farmers					17%	64%	75%					67%	33%	39%
e) Purchased from dealer												33%		3%
f) Own seed (from the last harvest)					67%	18%		100%		88%			67%	44%
g) Others					17%									3%
(2) Sweet Potato														
a) Government agency														
b) From extension worker														
c) Purchased at market														
d) From other farmers								33%						25%
e) Purchased from dealer														
f) Own seed (from the last harvest)			100%					67%						75%
g) Others														
(3) Yam														
a) Government agency														
b) From extension worker														
c) Purchased at market							50%							40%
d) From other farmers							25%		100%					40%
e) Purchased from dealer							25%							20%
f) Own seed (from the last harvest)														
g) Others														
(4) Maize														
a) Government agency				50%	19%	14%	43%		38%	70%	23%		20%	26%
b) From extension worker				17%	5%		21%		13%			14%		6%
c) Purchased at market	50%				33%	43%	29%	33%	13%		8%			20%
d) From other farmers			33%	14%	14%			22%	13%		15%	14%	60%	17%
e) Purchased from dealer	50%				5%	7%		33%		10%	8%	57%	10%	13%
f) Own seed (from the last harvest)					24%	21%	7%	11%		20%	46%	14%	10%	18%
g) Others														
(5) Rice														
a) Government agency											6%		80%	13%
b) From extension worker	6%													1%
c) Purchased at market	18%										6%			6%
d) From other farmers	24%	33%			25%						44%		10%	28%
e) Purchased from dealer	6%													1%
f) Own seed (from the last harvest)	47%		67%		71%						44%		10%	50%
g) Others					4%									1%
(6) Egg Plant (Garden Egg)														
a) Government agency														
b) From extension worker														
c) Purchased at market			13%					15%					17%	15%
d) From other farmers			38%					31%					17%	30%
e) Purchased from dealer													50%	11%
f) Own seed (from the last harvest)			50%					54%					17%	44%
g) Others														
(7) Okra														
a) Government agency											20%			2%
b) From extension worker														
c) Purchased at market	54%				7%		79%	43%						35%
d) From other farmers	46%	100%			71%		14%	14%			20%			48%
e) Purchased from dealer							7%				20%			3%
f) Own seed (from the last harvest)					21%			43%			40%			13%
g) Others														
(8) Onions														
a) Government agency														
b) From extension worker														
c) Purchased at market														
d) From other farmers				100%							100%			100%
e) Purchased from dealer														
f) Own seed (from the last harvest)														
g) Others														
(9) Hot Pepper														
a) Government agency														
b) From extension worker														
c) Purchased at market				20%		100%		33%				25%		27%
d) From other farmers			50%									75%		27%
e) Purchased from dealer			50%											7%
f) Own seed (from the last harvest)				80%				67%						40%
g) Others														

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (5/13)

Question Items	Projects/No. of Samples													Whole
	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	180	
(10) Tomatoes														
a) Government agency								11%	89%	80%			30%	
b) From extension worker										20%			2%	
c) Purchased at market			75%				33%					100%	14%	
d) From other farmers		56%	25%										21%	
e) Purchased from dealer								67%					14%	
f) Own seed (from the last harvest)		44%					67%	11%	11%				19%	
g) Others														
(11) Cowpea														
a) Government agency														
b) From extension worker														
c) Purchased at market														
d) From other farmers										50%			25%	
e) Purchased from dealer		100%								50%	100%		75%	
f) Own seed (from the last harvest)														
g) Others														
(12) Groundnuts														
a) Government agency											17%		6%	
b) From extension worker														
c) Purchased at market			50%	100%										
d) From other farmers			25%							17%		100%	59%	
e) Purchased from dealer										33%			18%	
f) Own seed (from the last harvest)			25%								33%		18%	
g) Others														
Crop Damage (Plural Answer)														
(1) Cassava														
a) Drought				80%	18%					25%		67%	28%	
b) Flood														
c) Poor drain							25%						3%	
d) Pests										13%			3%	
e) Diseases														
f) Bird				20%							25%		6%	
g) Rat				60%	9%	25%			75%		75%	33%	42%	
h) Wild animal														
(2) Sweet Potato														
a) Drought														
b) Flood														
c) Poor drain														
d) Pests								67%					50%	
e) Diseases														
f) Bird														
g) Rat		100%											25%	
h) Wild animal														
(3) Yam														
a) Drought														
b) Flood														
c) Poor drain														
d) Pests							25%						20%	
e) Diseases														
f) Bird														
g) Rat														
h) Wild animal														
(4) Maize														
a) Drought	100%		50%	57%	57%	7%	11%		60%	13%		50%	34%	
b) Flood					21%	7%							3%	
c) Poor drain				5%									3%	
d) Pests			67%	29%	29%	43%	11%	50%	10%	53%			29%	
e) Diseases				10%	14%	7%		13%	10%	20%	11%		9%	
f) Bird			50%	29%	7%	57%	22%	13%	50%	7%	44%	50%	31%	
g) Rat				52%		7%	22%	25%	60%		11%	10%	20%	
h) Wild animal										7%			1%	
(5) Rice														
a) Drought	35%			24%								50%	23%	
b) Flood		33%											1%	
c) Poor drain		33%		36%								30%	18%	
d) Pests	71%	67%		72%						79%			64%	
e) Diseases		67%		40%						47%		50%	35%	
f) Bird	47%	67%		64%						74%		90%	66%	
g) Rat	71%	100%		52%						32%		20%	49%	
h) Wild animal														

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (6/13)

Question Items	Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
(6) Egg Plant (Garden Egg)														
a) Drought												83%		19%
b) Flood			25%											7%
c) Poor drain								8%						4%
d) Pests			63%					23%				83%		48%
e) Diseases			63%					100%				50%		78%
f) Bird			13%											4%
g) Rat			50%											15%
h) Wild animal														
(7) Okra														
a) Drought		23%	20%		14%		7%							13%
b) Flood			10%				7%							3%
c) Poor drain														
d) Pests		92%	70%		86%		29%	57%			60%			67%
e) Diseases		69%	70%		21%		100%	43%			60%			62%
f) Bird														
g) Rat					36%		14%							11%
h) Wild animal														
(8) Onions														
a) Drought				13%										10%
b) Flood				25%										20%
c) Poor drain														
d) Pests				50%							50%			50%
e) Diseases				100%										80%
f) Bird														
g) Rat														
h) Wild animal														
(9) Hot Pepper														
a) Drought			50%	60%								100%		53%
b) Flood			100%											13%
c) Poor drain				20%										7%
d) Pests			50%	60%				33%				75%		53%
e) Diseases				80%		100%		67%				100%		73%
f) Bird			50%											7%
g) Rat			100%			100%								20%
h) Wild animal														
(10) Tomatoes														
a) Drought			11%	25%				33%	100%	78%		50%	100%	51%
b) Flood														
c) Poor drain														
d) Pests			33%					33%	100%	44%	33%	100%	50%	51%
e) Diseases			22%	100%				33%	90%	78%	50%	50%		60%
f) Bird														
g) Rat			44%							11%				11%
h) Wild animal														
(11) Cowpea														
a) Drought														
b) Flood														
c) Poor drain														
d) Pests			100%								100%	100%		100%
e) Diseases											50%	100%		50%
f) Bird														
g) Rat												100%		25%
h) Wild animal														
(12) Groundnuts														
a) Drought				25%									60%	24%
b) Flood														
c) Poor drain														
d) Pests											50%			18%
e) Diseases				25%	50%						17%		20%	24%
f) Bird				50%									80%	35%
g) Rat				50%	100%								80%	47%
h) Wild animal														

**Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy
and Intention for the Rehabilitation Projects (7/13)**

Question Items	Projects/No. of Samples	ASHI 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
Q-8 Income from Homestead in the Last One Year														
9.1 Income of crops grown in the homestead (CD1,000/farmer)														
Total Gross Income		24.8	540.4	38.6	31.9	133.2	45.8	-	9.4	51.4	135.2	7.8	35.6	90.1
Net Income (50%)		12.4	270.2	19.3	16.0	66.6	22.9	-	4.7	25.7	67.6	3.9	17.8	45.1
9.2 Income from perennial crops (CD1,000/farmer)														
Total Gross Income		-	-	-	0.5	12.3	3.3	9.8	25.0	-	46.4	-	-	9.0
Net Income (80%)		-	-	-	0.4	9.8	2.6	7.8	20.0	-	37.1	-	-	7.2
Total Net Income (CD1,000/farmer)		12.4	270.2	19.3	16.4	76.4	25.5	7.8	24.7	25.7	104.7	3.9	17.8	52.3
Q-9 Livestock Income (CD1,000/farmer)														
		9.3	13.6	33.4	88.1	75.5	10.4	8.0	127.0	33.9	11.6	152.0	48.9	45.7
Q-10 Non-Farm Income (CD1,000/farmer)														
(1) Salary from other occupation		65.4	36.8	-	48.0	77.6	67.3	-	-	18.0	7.2	106.0	-	36.8
(2) Wages from working on other farm		20.0	-	-	3.5	1.6	-	-	-	-	39.0	9.0	-	7.7
(3) Wages for casual worker		29.4	24.0	-	1.0	32.8	120.0	-	-	-	2.4	-	-	18.4
(4) Earnings from cottage industry		-	-	72.0	29.9	42.7	-	-	12.0	-	125.0	26.6	-	27.7
(5) Earnings from subsidiary business		-	140.0	12.0	5.8	14.4	376.8	-	4.1	-	58.2	85.0	74.7	61.3
(6) Receipt of gifts and remittance from relatives and others		36.0	14.7	10.0	0.4	4.9	24.0	-	4.0	-	14.1	-	12.0	10.7
(7) Hire for farm machinery, equipment and work animals		2.4	-	4.9	106.6	-	-	3.0	-	-	-	-	-	15.7
(8) Rent for farm land		-	-	-	-	-	-	-	-	-	-	-	-	-
(9) Interest earned from money loan		-	-	10.0	-	-	-	-	-	-	-	-	-	0.6
(10) Other non-farm income		3.0	32.0	54.0	9.9	66.8	-	21.6	-	-	30.0	36.0	-	20.7
Total		156.2	247.5	162.9	205.1	240.8	588.1	24.6	20.1	18.0	275.9	262.6	86.7	199.6
Q-11 Living Expenses and Loan Repayment														
11.1 Living Expenses (CD1,000/farmer)														
(1) Food		1,252	1,572	1,680	1,337	1,124	1,125	1,021	1,062	1,035	1,197	1,196	1,111	1,234
Rice		(116)	(208)	(84)	(239)	(74)	(46)	(34)	(33)	(100)	(206)	(47)	(103)	(122)
Cassava		(157)	(133)	(272)	(77)	(315)	(135)	(155)	(64)	(83)	(26)	(166)	(205)	(139)
Yam		(84)	(98)	(175)	(42)	(21)	(155)	(103)	(168)	(108)	(219)	(232)	(100)	(117)
Maize and other cereals		(177)	(154)	(99)	(196)	(85)	(104)	(132)	(35)	(35)	(168)	(122)	(113)	(131)
Vegetables and Fruits		(165)	(201)	(250)	(189)	(86)	(147)	(142)	(159)	(92)	(136)	(174)	(108)	(157)
Meat and Eggs		(126)	(156)	(87)	(170)	(92)	(156)	(62)	(271)	(236)	(168)	(73)	(103)	(141)
Fishes		(229)	(356)	(353)	(177)	(320)	(196)	(281)	(243)	(274)	(117)	(143)	(286)	(241)
Others		(198)	(266)	(360)	(247)	(131)	(186)	(112)	(89)	(107)	(157)	(239)	(93)	(186)
(2) Tobacco and cigarettes		3	-	-	1	4	-	1	98	7	9	1	4	8
(3) Soap, shampoo		80	78	123	45	58	64	51	73	57	59	47	57	64
(4) Electric charge		27	22	2	13	-	18	12	32	17	6	24	-	14
(5) Fuel woods		84	78	114	47	57	38	66	100	35	51	60	58	64
(6) Household furnishing & equipment		119	148	105	28	39	22	59	51	74	51	18	39	63
(7) Repair and maintenance of house		13	140	43	31	21	33	23	37	61	32	26	37	41
(8) Clothing		104	206	127	181	101	162	141	107	114	125	186	131	143
(9) Medicine and medical expenses		57	84	112	94	96	78	75	70	69	55	108	110	82
(10) Education		205	174	253	84	26	85	56	69	67	29	49	53	97
(11) Recreation		4	4	18	14	9	33	1	27	4	27	6	25	14
(12) Expenses for ceremonial occasions		48	173	67	37	21	42	32	32	78	72	52	55	58
(13) Transportation and communication		42	52	126	47	26	63	41	19	27	34	83	65	49
(14) TV and radio license		2	4	-	2	1	11	-	16	10	2	1	1	4
(15) Remittance to relatives		25	101	48	48	11	17	15	42	27	29	74	38	39
(16) Others		-	7	-	7	8	5	4	9	98	-	20	10	11
Total		2,065	2,843	2,818	2,016	1,602	1,796	1,598	1,844	1,780	1,778	1,951	1,794	1,985
11.2 Loan Repayment (CD1,000/farmer)														
		9	7	511	517	7	2	-	28	1	8	-	24	114

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (8/13)

Question Items	Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
Q-12 Farming Situation														
12.1 If irrigation water is available sufficiently throughout a year, which crops do you want to cultivate in the future ? (Plural answer)														
Wet Season														
(1) Paddy		90%	33%		100%	93%		50%			85%	10%	100%	56%
(2) Maize		30%	73%	100%	32%	53%	100%	60%	100%	80%	65%	100%	60%	65%
(3) Sorghum						7%					5%		10%	2%
(4) Cassava		5%	13%	30%	8%	40%	47%	35%	30%	90%	5%	40%	50%	28%
(5) Yam							40%	25%	10%	20%	5%	10%		9%
(6) Sweet Potatoes			20%				7%	30%						6%
(7) Mongo Beans														
(8) Bush Beans											5%			1%
(9) Soybean			7%		8%		7%	5%			5%	10%		4%
(10) Sesame														
(11) Groundnut				100%		7%	7%			10%	45%		30%	14%
(12) Lentil						7%		5%			5%			2%
(13) Cowpea			7%	70%	4%	27%	20%	10%	10%		5%	60%		14%
(14) White Cucumber			7%										10%	1%
(15) Green Cucumber													10%	1%
(16) Snake Cucumber						7%					5%			1%
(17) Bottle/Bitter Gourds														
(18) Okra		40%	33%		24%	20%	40%	20%			5%		20%	19%
(19) Eggplant			27%				33%	15%				30%		8%
(20) Tomatoes		20%	53%		4%	13%	13%	40%	90%	20%	10%		30%	23%
(21) Butter Nuts														
(22) Radish														
(23) Onions			13%		16%	13%	7%	5%						6%
(24) Hot Pepper (Chilies)		5%	33%	70%		27%	13%	10%					10%	12%
(25) Bell pepper					4%							20%		2%
(26) Water Melon				10%				5%						1%
(27) Sweet Melon														
(28) Cabbage			33%			13%				10%			20%	6%
(29) Other crops			20%							10%				2%
Dry Season														
(1) Paddy		60%	13%		80%	60%		10%			90%		40%	37%
(2) Maize		15%	13%		44%	20%	53%	15%	80%	10%	15%	10%	10%	24%
(3) Sorghum														
(4) Cassava						13%		10%					10%	3%
(5) Yam											5%			1%
(6) Sweet Potatoes			20%					30%						5%
(7) Mongo Beans											5%			1%
(8) Bush Beans														
(9) Soybean						7%	7%				5%			2%
(10) Sesame														
(11) Groundnut			7%				7%				5%			2%
(12) Lentil														
(13) Cowpea		5%	13%			13%	7%	15%	50%	10%	25%	10%		12%
(14) White Cucumber													10%	3%
(15) Green Cucumber		10%	7%				7%							1%
(16) Snake Cucumber											5%			
(17) Bottle/Bitter Gourds														
(18) Okra		75%	60%	10%	48%	60%	100%	60%		30%	50%	60%	80%	56%
(19) Eggplant			53%	20%	4%	20%	60%	25%		60%	10%	90%		25%
(20) Tomatoes		5%	20%	100%	20%	60%	27%	20%	100%	80%	50%	30%	70%	41%
(21) Butter Nuts											5%			1%
(22) Radish														
(23) Onions		5%		100%	32%	13%	20%	10%			45%			19%
(24) Hot Pepper (Chilies)		40%	33%	60%		27%	13%	5%				20%	50%	18%
(25) Bell pepper							7%					10%		1%
(26) Water Melon		25%	20%			7%		65%		40%			10%	15%
(27) Sweet Melon			7%					5%						1%
(28) Cabbage			53%	70%		13%	33%	15%					50%	17%
(29) Other crops			67%				7%							6%
12.2 What are problems on farming ? (Plural answer)														
(1) Low yield of crops		35%	40%	20%	88%	20%	20%	20%	70%	40%	35%	30%	40%	40%
(2) Levelling problem of paddy field		5%	13%		88%	20%					10%		20%	18%
(3) Drainage problem		15%	40%		56%	13%				10%	10%		10%	16%
(4) Drought damage		40%	40%	90%	12%	93%			90%	60%		60%	70%	38%
(5) Damage of pests and diseases		30%	60%	50%	68%		87%	20%	20%	40%	25%	20%	10%	38%
(6) Weed damages		20%	40%		48%			5%			40%	20%	20%	19%
(7) Damage by wild animal			13%								10%		10%	3%
(8) Difficulty for hiring animal/machine		45%	73%		16%	60%	67%	15%			60%	30%	40%	36%
(9) Labour shortage		10%	27%		4%						5%	10%		5%
(10) Difficulty for obtaining seeds			7%	10%	8%	7%					10%		10%	4%
(11) Difficulty for purchasing agro-chemicals		35%	20%	60%	52%	33%	100%	5%	10%	20%	30%		20%	34%
(12) Difficulty for purchasing fertilizers		50%	27%	50%	64%	60%	73%	5%		10%	45%	10%	30%	39%
(13) Expensive of farm inputs		40%	100%	60%	96%	53%	80%	70%	100%	80%	60%	60%	90%	73%
(14) Lack of farm road			13%	90%	16%						20%			11%
(15) Marketing problems for products		25%	67%	50%	12%	47%	33%	50%	60%	80%	30%	20%	30%	39%
(16) Lack of storage facilities		10%	33%	20%	12%	13%		15%		10%	20%		30%	14%
(17) Loan problems		85%	73%	80%	72%	87%	93%	65%	100%	90%	75%	40%	90%	78%
(18) Others		35%	20%				20%				5%			8%

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (9/13)

Question Items	Projects/No. of Samples													Whole 180
	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	ARU 10	TAN 10	BON 20	SUB 10	OKY 10		
12.3 Which items do you want to improve your present farm management? (Plural answer)														
(1) To acquire irrigation water	-	-	20%	12%	-	7%	10%	10%	90%	5%	30%	100%	18%	
(2) To improve irrigation facilities	70%	60%	100%	88%	100%	93%	80%	100%	100%	25%	70%	100%	79%	
(3) To drain out excess water	5%	27%	-	68%	7%	-	-	-	10%	10%	-	20%	16%	
(4) To prevent pests and diseases	15%	60%	50%	52%	-	27%	25%	-	20%	40%	20%	10%	29%	
(5) To prevent damage by wild animal	-	20%	-	8%	-	-	-	-	-	5%	10%	10%	4%	
(6) To prevent weed damage	5%	33%	10%	52%	-	-	-	-	-	45%	30%	10%	18%	
(7) To improve supply of farm inputs	45%	40%	20%	92%	73%	93%	55%	90%	90%	75%	40%	50%	63%	
(8) To improve farm road	-	27%	90%	32%	-	-	-	-	-	10%	-	-	13%	
(9) To improve transportation of products	-	7%	50%	12%	-	-	10%	-	-	25%	10%	-	9%	
(10) To introduce improved varieties	35%	40%	60%	56%	20%	7%	-	-	20%	25%	10%	-	25%	
(11) To improve farming practices	-	20%	20%	40%	7%	20%	10%	-	-	35%	-	10%	16%	
(12) To introduce mechanized farming	15%	67%	-	32%	40%	-	-	-	20%	20%	20%	40%	25%	
(13) To strengthen agricultural extension	-	40%	30%	56%	7%	7%	10%	-	-	20%	-	50%	20%	
(14) To improve agricultural credit	70%	80%	80%	76%	60%	87%	50%	90%	100%	55%	30%	70%	69%	
(15) To construct drying floor	-	20%	-	20%	27%	-	-	-	-	10%	-	70%	12%	
(16) To construct processing facilities	-	27%	-	24%	-	-	5%	-	30%	20%	-	10%	11%	
(17) To construct storage facilities	20%	27%	20%	20%	27%	-	5%	-	30%	20%	10%	40%	18%	
(18) Others	10%	13%	-	4%	-	-	-	-	-	5%	-	-	3%	
Q-13 Prices (As of November-December 1995)														
13.1 Hired labour charge (CD1,000/man-day)	2.9	2.0	2.5	2.8	2.2	2.1	2.0	2.5	2.1	1.1	1.7	2.5	2.1	
13.2 Hired/Rental charge of tractor/machinery (CD1,000/ha)														
Ploughing	64.8	33.8	45.0	61.3	43.3	50.0	35.3	40.0	40.0	39.8	38.0	29.3	45.3	
Harrowing	32.0	21.5	24.3	30.3	36.5	25.0	15.5	40.0	40.0	20.3	37.5	16.3	26.5	
Levelling	-	21.8	-	-	-	-	-	-	-	20.8	-	-	21.0	
Furrowing	21.8	27.5	-	28.8	-	-	-	-	47.5	20.3	-	-	28.0	
Threshing	40.0	-	-	40.8	-	-	-	-	-	62.5	25.0	-	47.0	
Total Transportation Cost	3.9	81.7	10.0	5.8	7.9	10.0	24.0	20.0	26.7	1.1	13.8	5.7	12.5	
13.3 Purchasing prices of farm inputs														
Fertilizers														
Urea (CD1,000/kg)	0.42	0.57	0.32	0.64	0.45	0.56	-	0.60	0.60	0.53	0.56	0.42	0.53	
Ammonium Sulfate (CD1,000/kg)	0.39	0.38	0.36	0.44	0.35	0.51	0.42	0.34	0.36	0.33	0.38	0.36	0.38	
Compound fertilizers (CD1,000/kg)	0.47	0.49	0.47	0.64	0.50	0.56	0.49	0.48	0.42	0.46	0.48	0.48	0.51	
Agro-chemicals														
Herbicide (CD1,000/lit.)	8.9	6.0	-	6.2	5.3	12.0	-	22.0	-	6.8	24.0	-	7.9	
Insecticide (CD1,000/lit.)	10.4	22.7	9.8	5.8	2.4	18.6	10.9	23.3	18.0	11.4	20.0	19.8	13.9	
Fungicide (CD1,000/lit.)	-	0.5	12.7	-	3.3	0.4	9.3	13.0	11.6	11.7	12.0	-	8.0	
13.4 Milling charge of paddy (CD/kg of paddy)	20	16	-	47	14	-	-	-	-	23	-	24	28	
Q-14 Credit/Loan														
14.1 Did you have loan?														
No	20%	80%	20%	36%	33%	93%	83%	60%	90%	70%	88%	100%	61%	
Yes	80%	20%	80%	64%	67%	7%	17%	40%	10%	30%	13%	-	39%	
What purpose did you take loan?														
(1) Loan for purchasing farm inputs	36%	50%	64%	70%	56%	100%	50%	100%	100%	33%	-	-	52%	
(2) Loan for hiring machinery	34%	25%	36%	22%	44%	-	50%	-	-	33%	-	-	32%	
(3) Loan for purchasing farm machinery	-	-	-	4%	-	-	-	-	-	-	-	-	1%	
(4) Loan for purchasing livestock	-	-	-	-	-	-	-	-	-	-	-	-	-	
(5) Loan for living	30%	-	-	4%	-	-	-	-	-	-	-	-	12%	
(6) Others (Specify)	-	25%	-	-	-	-	-	-	-	33%	-	-	3%	
14.2 How much its total debt amount?														
(1) Less than CD100,000	7%	33%	-	6%	60%	-	50%	-	100%	75%	100%	-	23%	
(2) CD100,000 - CD500,000	87%	67%	50%	56%	40%	100%	50%	100%	-	25%	-	-	60%	
(3) CD500,000 - CD1,000,000	7%	-	13%	25%	-	-	-	-	-	-	-	-	9%	
(4) Over CD1,000,000	-	-	38%	13%	-	-	-	-	-	-	-	-	8%	
14.3 From whom did you borrowed? (Plural answer)														
(1) Bank	6%	-	100%	-	-	100%	100%	-	50%	-	-	-	17%	
(2) Middleman/broker of farm products	94%	33%	-	72%	100%	-	-	-	-	17%	-	-	57%	
(3) Merchant	-	-	-	11%	-	-	-	-	-	-	-	-	3%	
(4) Rice Miller	-	-	-	-	-	-	-	-	-	-	-	-	-	
(5) Land owner	-	-	-	-	-	-	-	-	50%	33%	100%	-	11%	
(6) Relatives	-	33%	-	17%	-	-	-	-	-	17%	-	-	1%	
(7) Other farmer	-	-	-	-	-	-	-	-	100%	33%	-	-	10%	
(8) Others	-	33%	-	-	-	-	-	-	-	33%	-	-	-	
14.4 Interest and repayment method (Include both bank and private loans, 1994-1995)														
(1) Interest per one season (%/season)	19%	30%	87%	70%	-	-	18%	-	-	-	30%	-	51%	
(2) Repayment a) Cash	15%	100%	100%	50%	100%	100%	100%	100%	100%	80%	100%	-	-	
b) In kind	85%	-	-	50%	100%	-	-	-	-	20%	-	-	-	
14.5 Did you pay its debt?														
Yes	87%	67%	75%	100%	80%	100%	100%	80%	-	83%	-	-	82%	
No	13%	33%	25%	-	20%	-	-	20%	100%	17%	100%	-	18%	
In case of "No", why didn't you pay? (Plural answer)														
(1) Because of no money.	-	-	-	-	-	-	-	-	100%	25%	100%	-	30%	
(2) Because its amount is very expensive.	-	-	-	-	-	-	-	-	-	25%	-	-	10%	
(3) Distance from my house to bank is very far. I can't go to the bank for payment.	-	-	-	-	-	-	-	-	-	-	-	-	-	
(4) Bank staff must come to my house for collecting its money.	-	-	-	-	-	-	-	-	-	25%	-	-	10%	
(5) Because neighboring farmers and/or my friends don't pay also its debt.	-	-	-	-	-	-	-	-	-	-	-	-	-	
(6) No reason. If the bank staff come to my house, I will pay its debt.	-	-	-	-	-	-	-	-	-	-	-	-	-	
(7) No reason, anyhow I don't like to pay debt.	-	-	-	-	-	-	-	-	-	-	-	-	-	
(8) Others	100%	100%	-	-	-	-	-	100%	-	25%	-	-	50%	

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (10/13)

Question Items	Projects/No. of Samples														Whole
	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10			
Q-15 Operation and Maintenance of Existing Irrigation System															
15.1 Can you satisfy with quantity of water received at last season ?															
Yes	20%	27%	-	56%	-	-	17%	-	-	95%	11%	10%	26%		
No	80%	73%	100%	44%	100%	100%	83%	100%	100%	5%	89%	90%	74%		
15.2 Did you receive irrigation water on time ?															
Yes	25%	60%	-	92%	7%	-	33%	-	-	56%	22%	60%	36%		
No	75%	40%	100%	8%	93%	100%	67%	100%	100%	44%	78%	40%	64%		
15.3 What problems do you have in your irrigation system ? (Plural answer)															
(1) Leakage of pound, gates and pipes.	95%	53%	100%	52%	33%	93%	80%	100%	80%	25%	70%	10%	64%		
(2) Damages of canal.	85%	7%	-	40%	100%	-	-	-	20%	15%	20%	40%	30%		
(3) Not operating or broken pump.	5%	80%	10%	4%	67%	27%	20%	10%	90%	-	60%	-	27%		
(4) Not operating or broken gates.	-	-	-	20%	7%	-	-	-	-	-	-	20%	4%		
(5) No water measuring devices.	-	7%	20%	8%	-	-	5%	10%	-	65%	-	60%	14%		
(6) Weeds, soil and inert matter gathered in canals.	50%	33%	-	24%	-	-	-	-	-	35%	-	10%	16%		
(7) Intake, pump & diversion structures and other structures are damaged/broken.	65%	47%	100%	16%	47%	80%	30%	90%	-	5%	80%	10%	43%		
(8) Illegal water usage by the farmers.	35%	7%	-	56%	13%	-	-	-	-	40%	-	20%	19%		
(9) Water taking to cultivate some crops in the reservation area.	5%	-	-	-	-	-	-	-	-	-	-	20%	2%		
(10) Water is controlled by specific farmers.	5%	-	-	4%	-	-	-	-	-	-	25%	-	4%		
(11) GIDA doesn't distribute water equally.	-	-	-	-	-	-	-	-	-	25%	-	20%	4%		
(12) Others	5%	27%	30%	4%	7%	67%	5%	-	90%	5%	90%	-	22%		
15.4 Do you think that it is necessary to change the quantity of water distribute to farmers ?															
Yes	80%	64%	100%	32%	100%	100%	83%	100%	100%	26%	100%	100%	76%		
No	20%	36%	-	68%	-	-	17%	-	-	74%	-	-	24%		
If "Yes", (1) Increasing by two times	20%	27%	30%	-	100%	100%	20%	100%	100%	-	78%	100%	60%		
(2) Increasing a little	80%	73%	70%	100%	-	-	80%	-	-	100%	22%	-	40%		
(3) Decreasing a little	-	-	-	-	-	-	-	-	-	-	-	-	-		
15.5 Do you have any problems on irrigation schedule decided by GIDA?															
Yes	75%	53%	100%	4%	93%	100%	67%	100%	100%	50%	100%	20%	65%		
No	25%	47%	-	96%	7%	-	33%	-	-	50%	-	80%	35%		
If "Yes", what are the reasons ? (Plural answer)															
(1) I can't cultivate crops within the period decided by GIDA, because of labour shortage.	-	-	-	-	-	-	-	-	-	-	-	-	-		
(2) I can't cultivate crops according to the GIDA's irrigation schedule, because farm inputs are not available in right time.	5%	-	20%	-	-	-	-	-	-	15%	-	20%	4%		
(3) I can't cultivate crops according to its schedule, because loan/credits are not available in the right time.	25%	7%	50%	-	-	7%	15%	-	-	-	-	20%	9%		
(4) No irrigation water is available in right time.	25%	-	-	-	13%	13%	5%	10%	90%	-	80%	20%	17%		
(5) Because of unstable irrigation water supply.	55%	27%	90%	-	93%	93%	35%	100%	-	35%	80%	-	47%		
(6) Because of delayed water supply by GIDA.	45%	7%	50%	4%	80%	67%	35%	100%	90%	35%	90%	20%	46%		
(7) I don't know its irrigation schedule, because of no information by GIDA.	5%	-	-	-	13%	13%	-	-	-	-	-	-	3%		
(8) I don't like its irrigation schedule.	45%	-	-	-	60%	60%	5%	100%	100%	5%	90%	-	32%		
(9) Others	-	20%	-	-	-	-	-	-	10%	15%	-	-	4%		
15.6 Do you think irrigation water is distributed uniformly among the farmers ?															
Yes	15%	67%	78%	80%	7%	100%	100%	11%	-	42%	56%	90%	56%		
No	85%	33%	22%	20%	93%	-	-	89%	100%	58%	44%	10%	44%		
If "No", what are the reasons ? (Plural answer)															
(1) Illegal water path.	75%	-	-	-	53%	-	-	80%	-	5%	-	-	18%		
(2) Close the canal partially by putting stone, soil etc.	50%	-	-	4%	13%	-	-	-	-	35%	-	-	11%		
(3) Wrong opening of turnout gates.	5%	-	-	-	7%	-	-	90%	-	40%	-	10%	11%		
(4) Damage of turnouts.	-	7%	-	-	60%	-	-	-	-	5%	-	-	6%		
(5) Water passing to drainage canal due to damage or holes of canal bank.	65%	7%	-	-	67%	-	-	-	-	-	-	-	13%		
(6) There are soil and weeds in the canal because of not cleaning.	-	-	-	8%	-	-	-	-	-	5%	-	-	2%		
(7) Others	25%	20%	10%	-	7%	-	-	-	100%	10%	30%	-	14%		
15.7 Farmers participation to O&M															
(1) Have you been engaged in any maintenance work for canal, structures and O&M road before starting irrigation supply ?															
Yes	100%	73%	100%	100%	100%	100%	94%	100%	100%	95%	100%	100%	97%		
No	-	27%	-	-	-	-	6%	-	-	5%	-	-	3%		
(2) Do you think that cleaning and repairing of field canal, canal bank and structure (If there is a minor damage) are your responsibilities ?															
Yes	100%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	99%		
No	-	-	-	-	-	-	-	-	-	10%	-	-	1%		
(3) Have you investigated irrigation facilities regularly during irrigation period ?															
Yes	90%	71%	100%	100%	93%	100%	94%	100%	100%	75%	89%	100%	92%		
No	10%	29%	-	-	7%	-	6%	-	-	25%	11%	-	8%		

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (11/13)

Question Items	Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
(4) Did you look in your village that some farmers damage irrigation facilities when they feel not enough water or during water shortage ?														
Yes		15%			46%	7%			11%		21%			12%
No		85%	100%	100%	54%	93%	100%	100%	89%	100%	79%	100%	100%	88%
(5) If you observe a minor damage of canal and bar														
a) Repairing by myself		90%	73%	100%	96%	93%	100%	50%	100%	80%	80%	90%	100%	86%
b) Not repairing by myself										10%	5%	10%	10%	2%
c) Informed to the project office		95%	67%	90%	92%	80%	100%	60%	90%	90%	90%	70%	80%	84%
d) Leave to waste of irrigation water										10%				1%
15.8 Do you clean the drainage canal every season (before starting the season) to keep low water table in the drainage canal to prevent problems like salinity ?														
Yes			53%	100%	24%	100%		100%	100%	100%	89%	100%	50%	66%
No		100%	47%		76%						11%		50%	34%
Q-16 Existing Farmer's Organization for Operation and Maintenance (O&M) of Irrigation Facilities														
16.1 What are purposes of the farmers organization in your irrigation area ?														
(1) O&M of irrigation facilities		100%	100%	80%	84%	100%	100%	20%	60%	100%	75%	90%	70%	81%
(2) Cooperative purchasing of farm inputs and cooperative shipping of products		95%	80%	80%	48%	60%	100%	75%	90%	100%	95%	70%	100%	81%
(3) Loan arrangement to the farmer		65%	60%	40%	36%	80%	93%	85%	80%	100%	70%	80%	60%	69%
(4) Social activities to the village people			7%	20%	8%		7%			50%	50%	20%	20%	12%
16.2 What are problems for activities of the farmers organization in your irrigation area ?														
(1) Almost no function to operate and maintain the irrigation facilities.			27%	20%		20%	13%	15%			5%	10%	20%	10%
(2) The farmers have no interest to the organization activities.					20%	13%					5%			4%
(3) No leaders						7%								1%
(4) No fund to operate and maintain the irrigation facilities		95%	87%	100%	52%	87%	93%	85%	100%	90%	95%	90%	100%	87%
(5) No definitive articles and by laws for farmers activities			20%	50%							5%			5%
(6) No participation to the farmer's organizations					24%									3%
16.3 Irrigation service charge														
(1) Do you know irrigation service charge ?														
Yes		100%	100%	100%	100%	100%	100%	94%	100%	100%	100%	100%	100%	99%
No								6%						1%
(2) Do you know the amount of irrigation service charge ?														
Yes		100%	100%	100%	100%	87%	100%	100%	100%	100%	100%	100%	100%	99%
No						13%								1%
In case of "Yes", please answer its amount per one season or a year.														
One season (CD1,000/ha)	55		500		50	49	260	90	165	280	62	300	50	
One year (CD1,000/ha)	88	523		60	79	266	79	165	280	121	300	50		
(3) How do you think about amount of irrigation service charge ?														
a) Very cheap														
b) Cheap						13%	7%				5%			2%
c) Moderate	95%	7%	67%	96%	47%	73%	25%	10%		65%	67%			53%
d) Expensive	5%	27%	33%	4%	27%	20%	38%	90%		20%	22%	70%		26%
e) Very expensive		67%				13%		38%		100%	10%	11%	30%	19%
(4) Do you like to pay irrigation service charge ?														
Yes		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
No														
(5) Do you know the necessity for irrigation service charge ?														
Yes		100%	100%	100%	92%	100%	100%	100%	100%	100%	95%	100%	100%	98%
No					8%						5%			2%
In case of "Yes", please could you explain its necessity. (Plural answer)														
a) O&M costs of all irrigation facilities are covered by the irrigation service charge which is collected from farmers.			53%	30%	60%	20%	13%	50%	100%	100%	25%	10%		37%
b) O&M costs of distribution and field canals are covered by irrigation service charge.	95%	73%	90%	84%	93%	100%	40%	80%	100%	90%	90%	100%		84%
c) A part of salary of GIDA's staff are covered by this irrigation service charge.	10%	7%		4%										2%
d) It is same with tax.	15%			8%										3%
e) Loan repayment for construction cost of all irrigation facilities have been covered by the irrigation service charge.				24%				10%						4%
f) It is the depreciation cost of irrigation facilities.			13%								5%			3%
g) It is one of the incomes of GIDA for operation and management of irrigation facilities.	70%	73%	80%	68%	47%	93%	10%		100%	45%		100%		57%
h) Others								5%						1%

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (12/13)

Question Items	Projects/No. of Samples														Whole
	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	180		
(6) Do you agree to pay irrigation service charges with present basis which you are followed ?															
Yes	100%	87%	100%	100%	100%	100%	94%	100%		100%	100%	60%	90%		
No		13%					6%		100%			40%	10%		
(7) Did you pay irrigation service charge ?															
Yes	100%	80%	100%	100%	93%	100%	100%	100%	100%	100%	100%	100%	98%		
No		20%			7%								2%		
In case of "No", why didn't you pay ? (Plural answer)															
a) Because of no money.		33%			100%								13%		
b) Because its amount is very expensive.		33%											7%		
c) Distance from my house to the project office is very far. I can't go to the office for payment.															
d) Staff of GIDA (project office) must come to my house for collecting its money.															
e) I could not pay the irrigation service charge, because I don't know how to pay its charge. (How much its charge; to whom I must pay it; when pay its money.)															
f) Because neighboring farmers and/or my friends don't pay also its charge.															
g) Neighboring farmers and/or my friends suggested to me that no need its payment because of no obligation.															
h) No reason, if staff of GIDA (project office) come to my house, I will pay its charge.															
i) I don't agree to the irrigation service charge, because irrigation water must be supplied by the government under free of charge.															
j) If irrigation facilities are repaired by GIDA, I will pay the irrigation service charge.					100%								7%		
k) If irrigation water is available timely and sufficiently, I will pay the irrigation service charge.					100%								7%		
l) All of irrigation service charge collected from GIDA are going to the Accra head office, and no re-investment for improving our irrigation facilities is done by GIDA. Therefore, I don't like to pay the irrigation service charge.															
m) I never pay its charge to the staff of GIDA, because I don't like them.															
n) No reason, anyhow I don't like to pay the irrigation service charge.															
o) Others		100%											20%		
(8) At present, GIDA has a problem that many farmers do not pay its irrigation service charge. What is the difficulty to pay the irrigation service charge on time ? (Plural answer)															
a) Very low harvest.	95%	67%	20%	100%	87%	100%	55%	100%	100%	85%	70%	90%	82%		
b) Farmers think no need to pay.	5%								60%	10%			5%		
c) Our income is not enough to pay.	30%	67%	10%	80%	67%	100%	60%	90%	100%	95%	10%	90%	68%		
d) O&M charges are very much.	10%	53%	20%	4%	7%			10%	90%	15%	10%		16%		
e) O&M must be done by GIDA.		7%			7%		5%		60%				5%		
f) After solving the problems in the field, farmers like to pay.		27%	20%	16%	13%			90%	100%	5%		20%	19%		
g) Not receiving enough water.	55%	7%	10%	16%	67%	13%	15%	10%	40%		40%	60%	26%		
h) Not receiving water on time.	35%	7%	10%		60%				30%		40%	40%	16%		
i) Others	15%		10%							5%		10%	3%		
16.4 Farmers' Opinion to the Turn Over of O&M to the Farmers' Organization															
(1) If GIDA will turnover all of operation and maintenance of irrigation facilities to your farmer's organization, do you agree on its turnover ?															
Yes	10%	53%	10%	8%	33%		28%			15%			15%		
No	90%	47%	90%	92%	67%	100%	72%	100%	100%	85%	100%	100%	85%		
(2) Do you participate to its organization ?															
Yes	95%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	98%		
No	5%									10%			2%		

Table D-1 Result of Farm Interview Survey on Farmers' Socio-Economy and Intention for the Rehabilitation Projects (13/13)

Question Items	Projects/No. of Samples	ASH 20	WEI 15	AMA 10	AFI 25	AVE 15	KPA 15	MAN 20	AKU 10	TAN 10	BON 20	SUB 10	OKY 10	Whole 180
(3) How do you think about O&M of the irrigation facilities by the farmers' organization ? (Plural answer)														
a) Such farmer's organization can't operate and maintain all of the irrigation facilities.		85%	47%	90%	92%	67%	100%	20%	90%	80%	100%	80%	80%	77%
b) If GIDA makes advice and technical support to O&M of irrigation facilities, it is possible.		85%	80%	90%	72%	80%	100%	65%	90%	100%	90%	90%	70%	78%
c) The farmer's organization can't operate and maintain all the facilities, but part of facilities will be possible.		75%	87%	100%	68%	67%	87%	45%	80%	80%	90%	70%	80%	76%
d) O&M costs are covered by irrigation service charge which is collected from the members. But it is difficult to collect from the members, because they don't pay its money. Thereby, its turnover is impossible.		80%	67%	-	12%	13%	20%	15%	90%	100%	5%	-	50%	34%
e) If GIDA collect irrigation service charge from the farmers, the farmers organization can operate and maintain the facilities.		10%	27%	-	-	-	7%	-	10%	-	5%	-	-	5%
f) O&M of facilities will be difficult technically, even if GIDA makes its advice and technical support.		10%	33%	-	-	-	-	-	-	-	10%	-	30%	7%
g) Any how, GIDA should be operate and maintain all of the facilities, because it is government's duty.		-	13%	-	-	-	-	-	-	-	-	-	-	1%
h) Others		-	7%	-	-	7%	-	-	20%	-	10%	-	-	3%
Q-17 Farmers' Opinion on Turn Over of O&M to Farmers' Organization														
17.1 Do you need the rehabilitation of irrigation facilities ?														
Yes		100%	100%	100%	100%	93%	100%	100%	100%	100%	100%	100%	100%	99%
No		-	-	-	-	7%	-	-	-	-	-	-	-	1%
17.2 If GIDA will proposed to establish the farmer's organization for operation and maintenance of irrigation facilities:														
(1) Do you agree ?														
Yes		84%	93%	80%	88%	67%	100%	100%	100%	100%	95%	100%	90%	91%
No		16%	7%	20%	12%	33%	-	-	-	-	5%	-	10%	9%
(2) If your village chief agreed its establishment, do you agree also ?														
Yes		85%	93%	100%	92%	71%	100%	100%	100%	100%	95%	100%	89%	93%
No		15%	7%	-	8%	29%	-	-	-	-	5%	-	11%	7%
(3) Do you participate to its farmer's organization ?														
Yes		100%	100%	100%	100%	100%	100%	100%	100%	100%	95%	100%	100%	99%
No		-	-	-	-	-	-	-	-	-	5%	-	-	1%
(4) If your village chief said you to participate to the organization, do you follow it ?														
Yes		100%	100%	100%	96%	100%	100%	100%	90%	100%	100%	100%	100%	99%
No		-	-	-	4%	-	-	-	10%	-	-	-	-	1%
17.3 If GIDA will hand over the operation and maintenance of the irrigation facilities:														
(1) Do you agree ?														
Yes		15%	73%	80%	40%	67%	-	89%	90%	-	85%	100%	70%	56%
No		85%	27%	20%	60%	33%	100%	11%	10%	100%	15%	-	30%	44%
(2) If your village chief agreed its hand over, do you agree also ?														
Yes		20%	73%	60%	48%	67%	-	88%	89%	-	90%	100%	50%	56%
No		80%	27%	40%	52%	33%	100%	12%	11%	100%	10%	-	50%	44%
17.4 There are following two types for handing over of operation and maintenance. Which type do you like ?														
(1) Handing over to the farmer's organization														
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
(2) Handing over to village community headed by village chief.														
		-	-	-	-	-	-	-	-	-	-	-	-	-
Q-18 Farmers' Organization for Production and Marketing														
18.1 Do you know farmers' organization for marketing														
Yes		75%	69%	30%	12%	40%	7%	6%	60%	-	47%	88%	80%	40%
No		25%	31%	70%	88%	60%	93%	94%	40%	100%	53%	13%	20%	60%
18.2 Farmers' Intention to Marketing Organization														
(1) Do you participate to this organization ?														
Yes		100%	100%	100%	100%	93%	100%	100%	100%	90%	95%	100%	90%	98%
No		-	-	-	-	7%	-	-	-	10%	5%	-	10%	2%
(2) What activities/services do you want to this organization ? (Plural answer)														
a) Farm inputs supply		95%	100%	80%	84%	100%	100%	85%	100%	30%	85%	90%	60%	86%
b) Farm machinery services		95%	100%	80%	88%	80%	93%	50%	-	80%	60%	80%	70%	75%
c) Hiring services of draft cattle		-	-	-	-	-	7%	-	10%	-	20%	-	-	3%
d) Transportation services for products		25%	33%	70%	24%	20%	-	15%	70%	-	30%	60%	-	27%
e) Information services for marketing		35%	53%	70%	64%	60%	80%	30%	70%	100%	45%	60%	20%	55%
f) Extension services		25%	87%	40%	92%	47%	-	30%	50%	-	40%	20%	60%	44%
g) Supply of draft cattle		-	-	-	-	7%	-	-	20%	-	5%	-	-	2%
h) Cooperative shipping of products		15%	60%	50%	-	7%	-	5%	80%	100%	15%	20%	-	23%
i) Cooperative purchasing of farm inputs		30%	87%	60%	40%	33%	20%	45%	80%	90%	75%	90%	100%	57%
j) Others		70%	27%	-	4%	-	80%	-	-	-	20%	-	-	19%

Table D-2 Result of Farm Interview Survey on Farmers' Intention for Proposed Rehabilitation Plans (1/3)

Survey Items	Ashaiman	Aveyime	K-Torkor	Mankessim	Okyereko	Whole
Q-1 Background of the Farmer						
Q-2 Farmers' Intention for Farming Plan						
2.1 Do you agree to the crops proposed ?						
Yes	80%	80%	100%	90%	100%	90%
No	20%	20%	-	10%	-	10%
2.2 Do you agree to the double cropping per one year ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
2.3 Do you agree to the cultivation right of farmers that "all lands in the irrigation project will be allocated to farmers in accordance with L.I. 1350 of GIDA" ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
2.4 Do you cultivate continuously the land irrigated by the project under the cultivation right ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
2.5 Farmers' intention for the land holding area.						
(1) Existing irrigation area per a farmer	0.59 ha	0.57 ha	0.10 ha	0.25 ha	0.40 ha	0.38 ha
(2) Future holding area after rehabilitation	0.94 ha	1.68 ha	0.82 ha	1.18 ha	1.12 ha	1.15 ha
Q-3 Farmers' Intention to the Proposed Rehabilitation Plan for Irrigation Facilities						
(1) Do you agree to the irrigation plan (method) ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(2) Do you agree to the total irrigable area ?						
Yes	70%	100%	100%	100%	100%	94%
No	30%	-	-	-	-	6%
(3) Do you agree to the rehabilitation plan of facilities ?						
Yes	90%	100%	100%	100%	100%	98%
No	10%	-	-	-	-	2%
Do you have any other request for the rehabilitation of irrigation facilities ?						
Yes	-	40%	40%	10%	20%	28%
No	-	60%	60%	90%	80%	73%
(4) Do you agree to the proposed equipment and building for O&M ?						
Yes	-	90%	100%	100%	100%	98%
No	-	10%	-	-	-	3%
Do you have any other request for the equipment and building ?						
Yes	-	90%	90%	80%	40%	75%
No	-	10%	10%	20%	60%	25%
Q-4 Farmers' Intention to the Proposed Plan for Farmers' Society						
4.1 If GIDA will proposed to establish the farmers' society for operation and maintenance of irrigation facilities:						
(1) Do you agree ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(2) Do you participate to its farmers' society ?						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
4.2 Farmers' intention to the organizational structure of the farmers' society						
(1) Do you agree its proposed organizational structure ?						
(a) Overall structure						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(b) Women's group						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(c) Marketing and credit section						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(d) Agriculture section						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-
(e) O&M section						
Yes	100%	100%	100%	100%	100%	100%
No	-	-	-	-	-	-

**Table D-2 Result of Farm Interview Survey on Farmers'
Intention for Proposed Rehabilitation Plans (2/3)**

Survey Items	Ashaiman	Aveyime	K-Torkor	Mankessim	Okyeroko	Whole
(f) Auditing system						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(2) Do you have any other opinion or suggestion about the proposed organizational structure ?						
4.3 Farmers' intention to the society's activities						
(1) Operation and maintenance activities: The society operates and maintains all of irrigation facilities, and these activities are managed by the O&M section under the executive committee. Do you agree this activities ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(2) Activities of the women's group under the executive committee: This group under the executives committee promote the women's activities such as processing and health care. in order to encourage greater participation of women in public affair. Do you agree this activity ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(3) Marketing services of farm inputs managed by the marketing and credit section under the executive committee. Do you agree this activity ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(4) Group loan system managed by the marketing and credit section under the executive committee. Do you agree this activity ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(5) Marketing services of farm products managed by the marketing and credit section under the executive committee. Do you agree this activity ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
(6) Supporting activities of agricultural extension managed by the agricultural section under the executive committee. The extension activity it self is carried out by the government's extension office. The farmers' society support its activities in order to make smooth communication between the farmers and the extension office. Do you agree this activity ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
4.4 If GIDA will hand over the operation and maintenance of the irrigation facilities:						
(1) Do you agree ?						
<input type="checkbox"/> Yes	80%	90%	100%	100%	100%	94%
<input type="checkbox"/> No	20%	10%	-	-	-	6%
(2) As the condition to the turn-over of the irrigation facilities, which items do you request to GIDA ?						
<input type="checkbox"/> (a) GIDA should repair all facilities before turn-over.	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> (b) GIDA should train to the farmers on the operation and maintenance.	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> (c) Others	80%	80%	70%	50%	60%	68%
4.5 There are following two types of the operation and maintenance by the farmers' society. Which type do you like ?						
<input type="checkbox"/> (1) The operation and maintenance is shared between GIDA and farmers' society depending on its technical possibility. All operation and maintenance costs are covered by the farmers.	100%	70%	100%	90%	90%	90%
<input type="checkbox"/> (2) The farmers' society operate and maintenance all facilities with own cost.	-	30%	-	10%	10%	10%
4.6 After the turn-over of the irrigation facilities, all of the operation and maintenance costs are covered by irrigation service fees collected from the farmers. For the this irrigation service fees, if its amount will increase more after the rehabilitation, do you agree ?						
<input type="checkbox"/> (a) 20% up from the present fees	40%	80%	40%	50%	30%	48%
<input type="checkbox"/> (b) 50% up from the present fees	50%	10%	20%	10%	20%	22%
<input type="checkbox"/> (c) 70% up from the present fees	-	-	20%	-	-	4%
<input type="checkbox"/> (d) 100% up from the present fees	10%	-	20%	40%	50%	24%
<input type="checkbox"/> (e) No increase	-	10%	-	-	-	2%
4.7 The following articles will be proposed to include in the Articles and By-laws in your society at present. Do you agree ?						
Article-1 The society has the right to collect ISC from the beneficiary who received irrigation services from the society, and the beneficiary has the duty to pay its ISC to the society.						
<input type="checkbox"/> Yes	-	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
Article-2 The society inflicts a punishment on the beneficiary who uses irrigation water and facilities illegally and is not able to pay ISC.						
<input type="checkbox"/> Yes	-	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-

**Table D-2 Result of Farm Interview Survey on Farmers'
Intention for Proposed Rehabilitation Plans (3/3)**

Survey Items	Ashaiman	Aveyime	K-Torkor	Mankessim	Okyereko	Whole
Article-3 The farmers have the duty to participate in the co-operative works on O&M to be planned by the society						
<input type="checkbox"/> Yes	-	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
Article-4 The tenant beneficiary has a right to join the society with the election to the executive members, and is in duty bound to pay ISC and membership fees, as well as the owner beneficiary.						
<input type="checkbox"/> Yes	-	100%	100%	100%	90%	98%
<input type="checkbox"/> No	-	-	-	-	10%	3%
Q-5 Improvement of Marketing						
(Please refer Page A-4, 3. Improvement of Marketing)						
5.1 Do you think that your society can introduce this marketing system ?						
<input type="checkbox"/> (1) Yes. It is possible without any support from the Government.	20%	-	-	-	-	4%
<input type="checkbox"/> (2) Yes. If GIDA or other agency support to the society, it is possible. Which support do you need ?	80%	100%	100%	100%	100%	96%
<input type="checkbox"/> (3) No. It is impossible.	-	-	-	-	-	-
5.2 Do you participate this marketing activity						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
Q-6 Improvement of Agricultural Credits (Group Loan System)						
(Please refer Page A-4, 4. Improvement of Agricultural Credits (Group Loan System))						
6.1 Do you think that your society can introduce this loan system ?						
<input type="checkbox"/> (1) Yes. It is possible without any support from the Government.	10%	-	-	-	-	2%
<input type="checkbox"/> (2) Yes. If GIDA or other agency support to the society, it is possible. Which support do you need ?	90%	100%	100%	100%	100%	98%
<input type="checkbox"/> (3) No. It is impossible.	-	-	-	-	-	-
6.2 Do you participate to this loan system ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
Q-7 Women in Development						
7.1 If GIDA will propose such programme, do you agree ?						
<input type="checkbox"/> Yes	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> No	-	-	-	-	-	-
Q-9 Do you have any other request or suggestion to our rehabilitation projects ?						
Ashaiman						
(1) Power tiller		(3) Credit facility		(5) Clinic		
(2) Training		(4) Transportation facility of products				
Aveyime						
(1) Tractor/power tiller for land preparation		(5) Motorcycle for society's activities				
(2) Truck for transportation of products		(6) Drying floor (3-6 places)				
(3) Credit facility		(7) Storage facilities				
(4) Rice mill		(8) Improvement of farm road				
Kpando-Torkor						
(1) Credit facility		(5) Processing facilities for crops (oil extraction)				
(2) 4W-tractor for land preparation		(6) Living house for key farmers				
(3) Truck for transportation of products		(7) Motorcycle from house to project site				
(4) Clinic		(8) Improvement of seed and farm inputs supply				
Mankessim						
(1) Credit facility		(5) Expansion of cultivation area				
(2) Tractor/power tiller for land preparation		(6) Marketing improvement and truck for transportation of product				
(3) Clinic		(7) Strengthening of agricultural extension				
(4) Nursery school		(8) Farm tools (rubber boots, grove, cutlass, etc.)				
Okyereko						
(1) Tractor/power tiller for land preparation		(5) School building				
(2) Credit facility		(6) Settlement project of village to proper area, in order to avoid mosquitos.				
(3) Electricity		(7) Road to village				
(4) Clinic						

Table D-3 Result of Public Meeting (1/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
Q-1 General Attendance (1) Farmers in the existing area (Persons) - Chairman - Vice chairman - Secretary - Committee members Village Chief Farmers Total attendants Number of existing farmers % of attendants (2) Farmers of outside area (Persons) (3) Grand Total (4) GIDA/Study Team	Male Female Total 1 1 2 1 1 2 5 5 10 54 4 58 62 4 66 74 89% 62 4 66 74 89%	Male Female Total 1 1 2 1 1 2 2 2 4 1 1 2 29 7 36 34 7 41 62 74 66% 34 7 41	Male Female Total 1 1 2 1 1 2 5 5 10 39 21 60 43 21 64 118 54% 30 7 37 73 28 101	Male Female Total 1 1 2 1 1 2 5 5 10 31 21 52 40 21 61 89 69% 40 21 61	Male Female Total 1 1 2 1 1 2 2 2 4 1 1 2 29 34 63 34 34 68 68 100% 18 19 37 52 53 105	Total 5 3 5 16 2 269 300 411 73% 74 374	
Language used in the meeting Q-2 Farmers' Intention to the Rehabilitation Plan for Irrigation Facilities (1) Total irrigable area after rehabilitation Do you agree to total irrigable area? (Show one's hand.) Yes (%) No (%)	44-50 ha 85% 17% - The rehabilitation is carried out only to the left bank area (about 50ha), then the farm lands in this area will be allocated to all farmers in the Ashaiman project. It means that a holding size per farmer become small after the rehabilitation. About 17% of total attendants could not understand for reduction of the irrigable area. The study team explained them on the reason that is limited water resources. After the discussion, all farmers finally agreed to the plans (50 ha of the left bank area and reduction of the size).	63-90 ha 93% 7% - The project consists of 63 ha of the existing area and about 27ha of new area. Almost all farmers requested the development of all area (90ha). The farmers want to expand the irrigable area as much as possible.	70-280 ha 98% 2% - In the proposed development plan, there are 4 irrigation blocks (280 ha in total). Through the meeting, the farmers requested the development of at least 2 blocks or 140 ha in total with sufficient lands for cultivation of staple food crops (maize, cassava, etc.) under the rainfed condition. The team explained them that surrounding lands of the development blocks leave for the cultivation of such crops.	50-100 ha 100% - Out of total potential area (170ha), a private company holds about 70 ha, and the remaining 100 ha belong to Beefikrom village. The study team explained them that the company's lands are not included in the project area. In addition, hilly/steep lands (20ha) in the remaining 100 ha are also rejected from the project area, because these lands have serious problem on soil erosion. All farmers agreed on the rejection of these lands. The total development area to be studied in the plan is 80ha.	40-80 ha 100% - There are two development blocks: existing area (40ha) and the surrounding new area (40ha). All farmers strongly requested the development of all lands (80ha).	95% 5%	

Table D-3 Result of Public Meeting (2/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyerako	Whole
(2) Rehabilitation plan of facilities	<p>Do you agree to the rehabilitation plan of irrigation facilities? (Show one's hand.)</p> <p>Yes (%) No (%)</p> <p>Do you have any other request for the rehabilitation of irrigation facilities?</p>	<ul style="list-style-type: none"> - Irrigation canal system - Drainage system - Farm road network <p>100%</p> <ul style="list-style-type: none"> - Improvement of land levelling in the upper area. - Rehabilitation of check drainage canal. - Drainage improvement of the fields located along the main drainage canal. - Bridge on spillway 	<ul style="list-style-type: none"> - Pumps & pump station (fixed + movable) - Irrigation system - Drainage system - Farm pond - Farm road network <p>100%</p> <ul style="list-style-type: none"> - Several farmers asked the size of farm pond. The team explained them that its size is less than 1 ha, then they agreed to the pond. They were afraid that a lot of the fields is lost to the project due to the construction of a big pond. 	<ul style="list-style-type: none"> - Pumps & foundation works - Sprinkler system - Soil conservation works <p>100%</p> <ul style="list-style-type: none"> - Stand by power source for electric failure. - Spare parts - Improvement of roads between main road and Dzigsbe village 	<ul style="list-style-type: none"> - Pumps - Sprinkler system <p>100%</p> <p>Spare parts of the irrigation facilities such as pump and sprinklers</p>	<ul style="list-style-type: none"> - Pumps & foundation works - Irrigation system - Drainage system - Related structure <p>100%</p> <ul style="list-style-type: none"> - The farmers have a lot of upland fields located at the northern part of the project area, and they asked for the access from village to their fields through the project area. 	100%
(3) Irrigation plan (method)	<p>Do you agree to the irrigation plan (method)? (Show one's hand.)</p> <p>Yes (%) No (%)</p>	<ul style="list-style-type: none"> - Gravity irrigation - Continuous irrigation <p>100%</p> <p>Some farmers asked meaning of "continuous irrigation." The study team explained that irrigation water always flows in the canals within the water delivery schedule.</p>	<ul style="list-style-type: none"> - Intake by pumps - Gravity irrigation - Continuous irrigation <p>100%</p> <p>None</p>	<ul style="list-style-type: none"> - Pumps - Main pipeline : fixed - Movable sprinkler - Rotational irrigation <p>100%</p> <p>None</p>	<ul style="list-style-type: none"> - Fixed pump station - Main pipeline : fixed - Movable sprinkler - Rotational irrigation <p>100%</p> <p>The farmers asked for fixed sprinkler system. The team explained that the movable sprinkler system is better than fixed one from the standpoint of easy land preparation, low investment cost, adaptability to the cultivation to various crops, etc. This movable one was accepted by all farmers.</p>	<ul style="list-style-type: none"> - Fixed pump station - Gravity irrigation - Continuous irrigation <p>100%</p> <p>None</p>	100%
(4) Required equipment and building for O&M	<p>a) GIDA project office</p> <ul style="list-style-type: none"> - Rehabilitation - New <p>b) Storage house (materials, etc.)</p> <p>c) Garage</p> <p>d) Drying floor</p> <p>e) Storage house for farming</p> <p>f) Equipment for O&M</p> <p>Do you agree to these plans? (Show one's hand.)</p> <p>Yes (%) No (%)</p>	<p>106 m2</p> <p>None</p> <p>None</p> <p>None</p> <p>None</p> <p>1 no.</p> <p>L.S.</p> <p>100%</p>	<p>None</p> <p>175 m2</p> <p>1 no.</p> <p>1 no.</p> <p>1 place</p> <p>1 no.</p> <p>L.S.</p> <p>100%</p>	<p>None</p> <p>175 m2</p> <p>4 nos.</p> <p>1 no.</p> <p>None</p> <p>4 nos.</p> <p>L.S.</p> <p>100%</p>	<p>None</p> <p>175 m2</p> <p>1-3 nos.</p> <p>1 no.</p> <p>None</p> <p>1-3 nos.</p> <p>L.S.</p> <p>100%</p>	<p>None</p> <p>175 m2</p> <p>1 no.</p> <p>1 no.</p> <p>1 Place</p> <p>None</p> <p>L.S.</p> <p>100%</p>	100%

Table D-3 Result of Public Meeting (3/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
<p>Do you have any other request for the equipment and building ?</p>		<ul style="list-style-type: none"> - Tractor with trailer - Threshing machine - Knapsack type sprayers - Motor cycle for gate operator <p>(The study team explained them that only O&M equipment are included in the project.)</p>	<ul style="list-style-type: none"> - Power tiller - Sprayer - Drying floor: 2 places - Motorcycle for pump attendant - Truck for improvement of marketing <p>(The team explained them that such equipment are not included in the project.)</p>	<ul style="list-style-type: none"> - Transportation facilities - Drying floor for onion, maize and groundnuts. <p>(For the drying floor, the team recommended to construct storage/drying houses made by local materials and by their own cost. The team also explained that trucks are not included in the project. The farmers agreed on storage/drying houses.)</p>	<ul style="list-style-type: none"> - Tractor for land preparation - Knapsack type sprayers - Truck - Cold storehouse for improvement of vegetable marketing <p>(The team explained that these are not included in the project.)</p>	<ul style="list-style-type: none"> - Motorcycle for pump attendant - Power tiller - Harvester and rice planter - Rice mill for local consumption <p>(The team explained them that only O&M equipment and facilities are included in the project.)</p>	
<p>Q-3 Farmers' Intention for Farming Plan</p>							
<p>a) Proposed crops and cropping pattern</p>		<p><u>Rainy season</u> 50% - Rice 25% - Maize 25% - Cowpea & Groundnuts</p> <p><u>Dry season</u> 50% - Rice 25% - Okra & Tomato 25% - Onion</p> <p>200%</p> <p>All lands in the irrigation project will be allocated to farmers in accordance with IDA's L.I.1350.</p>	<p><u>Rainy season</u> 50% - Rice 25% - Maize 25% - Cowpea & Groundnuts</p> <p><u>Dry season</u> 50% - Rice 25% - Okra & Tomato 25% - Onion</p> <p>200%</p> <p>All lands in the irrigation project will be allocated to farmers in accordance with IDA's L.I.1350.</p>	<p><u>Rainy season</u> 50% - Maize 50% - Cowpea & Groundnuts</p> <p><u>Dry season</u> 50% - Onion 25% - Okra 25% - Tomato</p> <p>200%</p> <p>All lands in the irrigation project will be allocated to farmers in accordance with IDA's L.I.1350.</p>	<p><u>Rainy season</u> 50% - Sweet Potato 25% - Maize 25% - Cowpea & Groundnuts</p> <p><u>Dry season</u> 50% - Watermelon 25% - Eggplant 25% - Okra</p> <p>200%</p> <p>All lands in the irrigation project will be allocated to farmers in accordance with IDA's L.I.1350.</p>	<p><u>Rainy season</u> 50% - Rice 25% - Maize 25% - Cowpea & Groundnuts</p> <p><u>Dry season</u> 50% - Rice 25% - Onion 25% - Okra & Tomato</p> <p>200%</p> <p>All lands in the irrigation project will be allocated to farmers in accordance with IDA's L.I.1350.</p>	
<p>b) Cropping intensity</p>							
<p>c) Land allocation</p>							
<p>3.1 Do you agree to the proposed crops ?</p>	<p><u>Rainy Season</u> Yes (%) No (%)</p>	<p>100%</p> <ul style="list-style-type: none"> - Introduction of export crops - Cultivation of upland crops according to those marketability. 	<p>100%</p> <ul style="list-style-type: none"> - Basically, the proposed cropping pattern was accepted by all farmers. 	<p>100%</p> <ul style="list-style-type: none"> - Several farmers requested the cultivation of cowpea instead of groundnuts. 	<p>100%</p> <ul style="list-style-type: none"> - The cropping pattern is basically accepted by all farmers. But many farmers want to cultivate more wide area of maize. 	<p>100%</p> <ul style="list-style-type: none"> - In addition to the proposed crops, many farmers requested the cultivation of hot pepper in both seasons. 	
<p>3.2 Do you agree with that "all lands in the project (Show one's hand.)</p>	<p><u>Dry Season</u> Yes (%) No (%)</p>	<p>100%</p> <ul style="list-style-type: none"> - Same request with the rainy season (See Alternative Cropping Pattern in NOTE) 	<p>100%</p> <ul style="list-style-type: none"> - The farmers want to have cultivation of hot pepper, cabbage and carrot. 	<p>100%</p> <ul style="list-style-type: none"> - In addition to the above crops, hot pepper and garden egg were requested by the farmers. 	<p>100%</p> <ul style="list-style-type: none"> - In addition to the proposed crops, many farmers want to cultivate hot pepper. 	<p>100%</p> <ul style="list-style-type: none"> - Cultivation of hot pepper 	
<p>3.2 Do you agree with that "all lands in the project (Show one's hand.)</p>	<p>Yes (%) No (%)</p>	<p>100%</p> <p>L.I. 1350 is the regulations of GIDA. "Land allocation in accordance with L.I. 1350" means that the farm lands are allocated by the Land Allocation Committee which consists of a District Secretary, a representative of GIDA, the Project Manager of the Project, a representative of the Traditional Council, a representative of the District C.D.R., and two representatives of the farmers' association. Almost all farmers agreed on the land allocation by this committee.</p>					

Table D-3 Result of Public Meeting (4/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
3.3 Farmers' intention for the holding area in the irrigation system after rehabilitation.	Present holding area (acre/farmer) Proposed holding area (acre/farmer)	1.23 ac./farmer 1.00 ac./farmer	1.43 ac./farmer 1.50 ac./farmer	0.28 ac./farmer 0.28 ac./farmer	0.75 ac./farmer 0.75 ac./farmer	0.8 ac./farmer 0.8 ac./farmer	
Do you agree to the proposed holding area? (Show one's hand.)	Yes (%) No (%)	100% -	100% -	100% -	100% -	100% -	22% 78%
How many acre do you need?		0.5 ac.: - 1.0 ac.: 100% 1.5 ac.: - 2.5 ac.: -	1.5 ac.: - 2.0 ac.: - 2.5 ac.: 98% 3.0 ac.: 2%	0.5 ac.: 3% 1.0 ac.: 97% 1.5 ac.: - 2.0 ac.: -	0.75 ac.: - 1.0 ac.: 97% 1.5 ac.: - 2.0 ac.: 3%	1.0 ac.: 32% 1.5 ac.: 29% 2.0 ac.: 26% 2.5 ac.: 13%	
Why do you need its area?		- At first, all farmers had a request of the size of 2.5 ac./farmer. The team explained them on the limitation of water resources. After the discussion, all farmers finally agreed on the size of 1.0 acre.	- All farmers had a strong request of a size of 2.5 acres. The farmers said that a farm household forms a big family including relatives, and all of them can support the farm works.	- A lot of farmers, who come from Kpando, want to have farm land over 0.28 ac., because they have no lands without the project area. After the discussion among the attendants, they agreed on the size of 1.0 acre.	- The farmers said that 1.0 acre is reasonable in viewpoint of available labour force.	- The holding size required by the farmers largely varied from 1.0 to 2.5 acres. After the discussion, all farmers agreed to the land allocation of 1.5 acres/farmer.	
3.4 Do you have any opinion or suggestion about the proposed farming plan?		- Maize cultivation in dry season (some farmers said that fresh corn has a good profit.) - Introduction of export crops in both seasons like the Wejja project is also suggested by the farmers.	- The team explained them that sprinkler irrigation system is introduced in a part of new area. The farmers agreed on its sprinkler system.	- Tomato cultivation has some problems on nematodes. - Wide scale vegetable cultivation has marketing problem. To settle it, transportation facilities like truck should be considered in the plan. - Promotion of crop export	- A lot of farmers pointed out that the area of watermelon is a bit too wide in view of marketability. But all products are marketed, if it is possible to cultivate it in the best season between November to February. - Several farmers want to cultivate onion and vegetables (cabbage).	- The farmers asked the study team for improvement of salinity problem in the fields (20 acres) located along the main drainage canal. The team explained them that it will be settled by the improvement of drainage system which is planned in this project.	
Q-4 Farmers' Intention to the Strengthening Plan for Farmers' Society							
4.1 GIDA will propose a new organizational structure as shown in attached figure. Do you agree its proposed structure? (Show one's hand.)	Yes (%) No (%)	100% -	100% -	100% -	100% -	100% -	100% -
4.2 Farmers' intention to the society's activities	(1) Operation and maintenance activities under the executive committee	Yes	Yes	Yes	Yes	Yes	Yes
	(2) Activities of the women's group	Yes	Yes	Yes	Yes	Yes	Yes
	(3) Marketing services of farm inputs	Yes	Yes	Yes	Yes	Yes	Yes
	(4) Agricultural credit services (group loan system)	Yes	Yes	Yes	Yes	Yes	Yes
	(5) Supporting activities of agricultural extension	Yes	Yes	Yes	Yes	Yes	Yes

Table D-3 Result of Public Meeting (5/8)

Agenda	Projects	Ashaman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
4.3	If GIDA will hand over the operation and maintenance of the irrigation facilities after rehabilitation: (1) Do you agree? (Show one's hand.) Yes (%) No (%) (2) As the conditions to the handing-over of the irrigation facilities, which items do you request to GIDA?	100% - GIDA should repair all facilities before handing-over. - GIDA should train the farmers on O&M - Improvement of credit facilities - Strengthening of training activities (Training at foreign countries like that Thailand & Indonesia)	100% - GIDA should repair all facilities before handing-over. - Training programme on O&M - Proper handing-over (joint inspection by both parties, preparation of handing-over list, etc.) - Spare parts in sufficient quantity	100% - Repairing of all facilities before handing-over - Training programme on O&M - Preparation of property list - Joint inspection - GIDA should provide credit facility to the farmers. - Transportation facilities for improvement of marketing	100% - Rehabilitation of all facilities and training of farmers on O&M - Credit facilities (capital of revolving credit)	100%	100%
4.5	After the handing-over of the irrigation facilities, all of the operation and maintenance costs are covered by irrigation service fees collected from the farmers. For the irrigation service fees, if its amount will increase more after the rehabilitation, do you agree? (Show one's hand) (Unit: CD/acre/season) (a) No increase (present amount) (b) 20% up from the present fees (c) 50% up from the present fees (d) 70% up from the present fees (e) 100% up from the present fees	CD 20,000/acc. CD 24,000/acc. CD 30,000/acc. CD 34,000/acc. CD 40,000/acc.: 92.4%	CD 62,000/acc. CD 74,000/acc.: 2.4% CD 93,000/acc. CD 105,400/acc.: 95.1% CD 124,000/acc.: 2.4%	CD 100,000/acc. CD 120,000/acc.: CD 150,000/acc.: 100% CD 170,000/acc.: CD 200,000/acc.:	CD 40,000/acc.: CD 48,000/acc.: CD 60,000/acc.: CD 68,000/acc.: CD 80,000/acc.:	CD 20,000/acc.: CD 24,000/acc.: CD 30,000/acc.: CD 34,000/acc.: CD 40,000/acc.: 100%	
4.6	The following articles will be proposed to include in the "Articles and By-laws" in your society at present. Do you agree? Article-1 The society has the right to collect irrigation service charge from the beneficiary who received irrigation services from the society, and the beneficiary has the duty to pay its service charge to the society. Article-2 The society inflicts a punishment on the beneficiaries who use irrigation water illegally and fail to the payment of irrigation service charge. Article-3 The farmers have the duty to participate in the communal works on O&M planned by the society. Article-4 The tenant beneficiary has a right to join the society with the election to the executive members, and is in duty bound to pay irrigation service charge and membership fees, as well as the owner beneficiary.	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes	Yes Yes Yes Yes

Table D-3 Result of Public Meeting (6/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
Q-5 Improvement of Agricultural Credits (Group Loan System)	5.1 Do you think that your society can manage the proposed loan system? (Answer by clapping of hands)	- Majority Yes	- Majority Yes	- Majority Yes	Majority - Yes	- Majority Yes	- Majority Yes
	5.2 In the case of "Yes", do you participate to this loan system? (Answer by clapping of hands)	Yes	Yes	Yes	Yes	Yes	Yes
	Q-6 Improvement of Marketing						
6.1 Do you think that your society can manage the marketing system? (Answer by clapping of hands)	(1) Yes. It is possible without any support from the Government.	-	-	-	-	-	-
	(2) Yes. If GIDA or other agencies support to the society, it is possible.	Majority Yes	Majority Yes	Majority Yes	Majority Yes	Majority Yes	Majority Yes
6.2 In the case of "Yes", do you participate to this loan system? (Answer by clapping of hands)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Q-7 Do you have any other requests or suggestions to the rehabilitation project?	Farmers' request: - Power tiller, threshing machine, rice mill, and those spare parts - New drying floor: 2 nos., rehabilitation of existing floor: 2 nos. - Small houses for watching field. - Credit facilities (farmers want to have revolving loans like that of the Dawhenya project)	Farmers' request: - Milling machine, because of no milling machine in Aveyime village. - Power tiller, combine harvester, winnow - Tarpaulin, mud boots - Canteen - Capital of revolving fund (The study team explained them that these equipment and buildings are not included in the project.) Farmers' suggestion - Farmers' training facilities such as equipment and buildings.	Farmers' request: - Providing of package credit - Construction of fish pond - Improvement of transportation facility - Tractor for land preparation - Strengthening of extension activities - Supply of farm inputs (marketing problem for farm input supply)	Farmers' request: - Tractor for land preparation - Farming equipment and farm inputs (knapsack type sprayer, boots, chemicals, etc.) - Introduction of rice cultivation - Credit facilities like Dawhenya irrigation project	Farmers' request: - Knapsack type sprayer - Tractor for land preparation (The team explained that these are not included in the project.) - There was a request for the removal of the village due to the occurrence of a lot of mosquito. The team explained that such plan is not included in the project.	Farmers' suggestion: - For the commencement of the construction, it is necessary to inform it to the existing farmers before 6-12 months, because they should transfer their farming to other places.	

Table D-3 Result of Public Meeting (7/8)

Agenda	Projects	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyerereko	Whole
<p>Q-8 Specific Items to be Confirmed with Farmers</p> <p>8.1 Farmers' participation to the rehabilitation works</p> <p><u>Objective:</u> Training of rehabilitation works</p> <p><u>Methods:</u> Farmers who will receive irrigation water participates the rehabilitation and construction works. No labour charge is paid to these works.</p> <p><u>Merits:</u> Farmers will have some knowledge and practices on maintenance work of the facilities.</p> <p>8.2 Women's participation to the activities of the farmers' societies</p> <p><u>Objective:</u> Promotion of women's participation in the development</p> <p><u>Methods:</u> The farmers' societies will appoint women's committee members. Especially women's auditors are recommended.</p> <p>8.3 Levelling works by the farmers</p> <p>The project provides land clearing to the extension areas. But no final levelling is carried out to these areas, and it is entrusted to the farmers. Do you agree to this method?</p>	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - Almost all farmers agreed to participate the rehabilitation works with no payment of labour charge. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed to the women's participation. <p>(No extension area)</p>	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed to participate the rehabilitation works of the project. - They have fully understood that no labour charge is paid to such works. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - They have some interest to promote such women's participation, and agreed to appoint women as auditors. 	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. The farmers said that if contractor can provide transportation services to the farmers who are living in Kpando, they also join in these works. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - The team recommended to appoint women's leaders in the society and to promote some agribusiness by the women. These were accepted by all farmers. <p>Extension area: 27 ha</p> <ul style="list-style-type: none"> - All farmers attended in this meeting agreed on it final levelling works. 	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. The chairman said that there is one woman's member in the society's executive committee at present, and the society can provide more opportunity to women. <p>Extension area: 240 ha</p> <ul style="list-style-type: none"> - All farmers agreed on it. The project newly extended by the project are shifting cultivation area. The proposed irrigation method is sprinkler, and they said that final levelling of fields for such irrigation method is not difficult. 	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers accepted this idea. The chairman said that there is one woman's member in the society's executive committee at present, and the society can provide more opportunity to women. <p>Extension area: 50 ha</p> <ul style="list-style-type: none"> - All farmers agreed on it final levelling works. 	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - This idea is accepted by all farmers. <p>Extension area: 40 ha</p> <ul style="list-style-type: none"> - The answer was available only from farmers who are cultivating crops in the extension area, and all of them agreed on its final levelling. Village chief (chairman of the society) agreed it. 	<p>Farmers' intention:</p> <ul style="list-style-type: none"> - All farmers agreed on it. <p>Farmers' intention:</p> <ul style="list-style-type: none"> - This idea is accepted by all farmers. <p>Extension area: 40 ha</p> <ul style="list-style-type: none"> - The answer was available only from farmers who are cultivating crops in the extension area, and all of them agreed on its final levelling. Village chief (chairman of the society) agreed it. <p>All lands to be developed by the project belong to Okyerereko village. The village chief stated that these lands are released from the village under the condition that all lands are allocated only to the farmers in Okyerereko village. In this case, it is not necessary to pay land compensation.</p>
<p>NOTES</p> <p>- At present, all farmers in the right bank area transferred to the left bank area, because GIDA is now rehabilitating some irrigation facilities in this area.</p>	<p>Out of new area (27ha), a private family holds about 20ha, and the remaining 7ha belong to GIDA.</p> <ul style="list-style-type: none"> - The family was requested by the society for the use of their land, and the head of family agreed on it, under the condition that a high priority for land allocation is given to his family. 	<p>All lands in the project area belong to Dzigbe village and have been managed by the village chief. The leaders of the society and the village chief had meeting on land acquisition. Then they had an understanding that Dzigbe village provides the lands necessary for the development project.</p>	<p>The Mankessim project consists of two blocks: existing area (30ha) and new area located in valley (50ha). The team explained that the existing area are excluded from the project, because the soils of this area are not suitable for vegetable cultivation. However, all farmers know all about the soil problem, nevertheless they strongly requested the rehabilitation of the existing area.</p>	<p>All lands to be developed by the project belong to Okyerereko village. The village chief stated that these lands are released from the village under the condition that all lands are allocated only to the farmers in Okyerereko village. In this case, it is not necessary to pay land compensation.</p>	<p>All lands to be developed by the project belong to Okyerereko village. The village chief stated that these lands are released from the village under the condition that all lands are allocated only to the farmers in Okyerereko village. In this case, it is not necessary to pay land compensation.</p>	<p>All lands to be developed by the project belong to Okyerereko village. The village chief stated that these lands are released from the village under the condition that all lands are allocated only to the farmers in Okyerereko village. In this case, it is not necessary to pay land compensation.</p>	
							(to be continued)

Table D-3 Result of Public Meeting (8/8)

	Ashaiman	Aveyime	Kpando-Torkor	Mankessim	Okyereko	Whole
NOTES	<p>- In December 1995, there were 120 farmers, but as of November 1996, 74 farmers have cultivated crops in the left bank area, and the remaining 46 farmers left from the Ashaiman area. The chairman said that they will back soon to the area after the rehabilitation.</p> <p>- If a size of 1.0 acre is allocated to the farmers, the number of farmers who join in the project is 120.</p> <p>- The farmers requested to use the farm lands in the right bank area during the construction period. The director of IDC agreed to use the lands and to deliver irrigation water to them.</p>	<p>- The study team clearly stated that the land acquisition is the basic condition to implement the irrigation project. The team never touch this matter, and it should be settled by the farmers themselves or the Government of Ghana.</p> <p>- Several farmers are now cultivating crops in the new area belonging to GIDA. The chairman said that it is possible to develop this new area and existing farmers can join in the project.</p> <p>- The study team asked him for necessity of village chief's approval on this matter. He said that village chief of Aveyime has no power and the society can settle it.</p> <p>- The chairman said that the number of farmers who can join in the project is estimated to be over 200.</p>	<p>- The number of existing farmers is 118. In addition, about 200 farmers are on the waiting list. Of total existing farmers, 30 farmers come from Dzigbe village and the remaining 88 farmers are from Kpando town. Most of the waiting farmers are from Kpando.</p> <p>- The number of farm household in Dzigbe is estimated to be 500. The village chief stated that he want to allocate irrigated lands to all village farmers as much as possible. If it is impossible, he want to take up room for at least 200 farmers. He said that all crowns in the village can join in this project, if 200 rooms are available.</p> <p>- Total farmers who can join in the project is estimated as follows: 1) Dzigbe village 500 2) Existing farms from outside 90 3) Waiting farms from outside 200 Total 790 (Source: Villag and chairman)</p>	<p>- The number of existing farmers in the valley area is estimated to be 50. (Source: village chairman of Mankessim)</p> <p>- The lands of the new area belong to Beefikrom village, and the existing area is under GIDA. The village chief of Mankessim has a power to use the lands of Beefikrom village, and he agreed on the irrigation development in these lands by GIDA.</p> <p>- Almost all farmers attended in this public meeting have no detailed information on the lands of the Export Promotion Company.</p> <p>- The villages related to the project area are Mankessim and Beefikrom, and the numbers of household in those villages are estimated to be 1,000 and 400, respectively.</p>	<p>- All of attendants of the public meeting are people of Okyereko village. Out to total attendants, 68 persons are the farmers in the existing project area (40ha), and the remaining 37 persons are the farmers outside project area.</p> <p>- Assuming that a size of land allocation is 1.5 acres, total farmers in the project area after the rehabilitation is estimated to be 130. On the other hand, the number of farm households in Okyereko village is 150. It means that over 80% of the farmers in the village will be included in the project.</p>	
	<p>Alternative Cropping Pattern in the Ashaiman Project</p> <p>Since the water resource of the Ashaiman project is severely limited and a holding size of farmers is reduced after the rehabilitation, it is necessary to introduce water saving and more high profitable cropping pattern. In this context, the following alternative cropping pattern was discussed in the meeting.</p> <p>Rainy Season 50% - Maize, Cowpea, Groundnut 50% - Paddy rice</p> <p>Dry Season 100% - Vegetables including Okra, Tomato, Onion, etc.</p> <p>For this pattern, the farmers pointed out the following problems: (i) Vegetable cultivation in the all fields may be difficult, because part of fields has a poor drainage; and (ii) the fields in the upper area have some levelling problems. After the discussion, the following results were obtained: (i) In the fields having levelling problem, the vegetable cultivation is better than rice cultivation; (ii) the vegetable cultivation in all fields may be possible, if the poor drainage is improved.</p>					