

Report of the Workshop  
on

# Mid-Term Review of Joint Study on Rural Development Experiment Project

7th and 8th December, 1993.

**Edited by**

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**Report of the Workshop  
on**

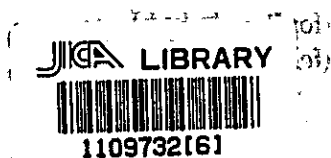
**Mid-Term Review of Joint Study on  
Rural Development Experiment Project**

**7th and 8th December, 1993.**

**Executing Agencies**

Bangladesh Academy for Rural Development (BARD)  
Japan International Co-operation Agency (JICA)

27092



Mid-Term Review of Joint Study on  
Rural Development Experiment Project

**Collaborating Agencies**

Kyoto University, Japan.  
Bangladesh Agricultural University, Mymensingh  
Rural Development Academy, Bogra.  
Bangladesh Rural Development Board, Dhaka.



Rural Development Experiment (JRDE) Project  
1/14, Iqbal Road, Mahammadpur, Dhaka,  
Bangladesh, Phone: 814443

**Published by**

**Bangladesh Academy for Rural Development (BARD)**  
Comilla, Bangladesh.  
and  
**Japan International Cooperation Agency (JICA)**  
Dhaka, Bangladesh.

**ISBN984-559-041-1**

**November- 1994.**

**Price**

**Taka : 220.00 (for Bangladesh)**

**US \$ : 18.00 (for outside Bangladesh)**

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**Joint Study on Rural Development Experiment (JSRDE) Project**  
1/14, Iqbal Road, Mahammadpur, Dhaka,  
Bangladesh, Phone: 814443

Cooperating Agencies

**Printed by**

**AGAMI Printing & Publishing Company**  
211, Kanthal Bagan, Dhanmondi,  
Dhaka-1205; Phone: 862819

বিত্তিক গবেষণা থেকে প্রাপ্ত তথ্যের উপর ভিত্তি করে এই  
বইটি লেখা হয়েছে। এতে রচিত হয়েছে বাংলাদেশের  
গুরুত্বপূর্ণ অর্থনৈতিক সমস্যাগুলোর উপর গবেষণার  
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## FOREWORD

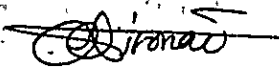
The joint Study on Rural Development Experiment (JSRDE) project has its origin in an earlier study project on agricultural and rural development (Joint Study on Agricultural and Rural Development - JSARD) jointly executed by Bangladesh Agricultural University (BAU) and Japan International Cooperation Agency (JICA) from 1986 from to 1990. Many of the basic issues and hypothesis with which the present JSRDE project is being implemented were developed in the course of earlier JSARD project activities.

The JSRDE project has provided gainful, productive and cordial opportunities to both Bangladesh Academy for Rural Development (BARD) and Japan International Cooperation Agency (JICA) to execute and implement the project with active cooperation from the Japanese expert team headed by Prof-Y. Kaida, Kyoto University, Kyoto, Japan, Bangladesh Agricultural University (BAU), Mymensingh, Rural Development Academy (RDA), Bogra and Bangladesh Rural Development Board (BRDB), Dhaka, The JSARD project identified the issues, problems, questions and clues of rural development in Bangladesh and their dimensions and magnitude. The current project (JSRDE) stepped into actions addressing those issues and problems as "an experiment of village based multi-sectoral rural development". The interventions are being made in five project villages located at different agro-ecological zones. A number of national and Japanese experts in rural development of participating institutions are actively involved in implementing the project.

A Mid-Term Review Workshop on Joint Study on Rural Development Experiment (JSRDE) project was held on 7th and 8th December, 1993 at RDA, Bogra to review the project activities of five different project villages, to identify the problems, bottlenecks and prospects of the experimentation and to have an interaction and exchange of ideas and views among the participating experts and

field workers. It appears from the report of the workshop that its objectives were achieved considerably. We believe, such mid-term review always provides a forum to examine the efficacy of the interventions and to redirect the emphasis where necessary. We expect that if such methodical efforts are continued, the experts will eventually be able to propose a structural and conceptual framework of rural development for Bangladesh.

We thank the participating institutions, scholars and experts who prepared the reports, participated in the deliberations, and gave considerable efforts in editing and bringing the report in its present shape. We hope, this report will be of use to policy makers, planners, implementors, researchers and others concerned with rural development in Bangladesh and other countries as well.



**(Hironao Suzuki)**  
Resident Representative  
JICA, Bangladesh



**(Dr. Salehuddin Ahmed)**  
Director General  
BARD, Comilla

## **PREFACE**

The "Joint Study on Rural development Experiment" project is jointly implemented both by national and international institutions. Kyoto University, Kyoto, Japan, Bangladesh Academy for Rural Development, Comilla, Rural Development Academy, Bogra, Bangladesh Agricultural University, Mymensingh and Bangladesh Rural Development Board, Dhaka are the partners in the implementation the project. Bangladesh Academy for Rural Development (BARD), Comilla and Japan International Cooperation Agency (JICA), Dhaka are the executing agencies of the project while the Rural Development and Co-operatives Division of the Ministry of Local Government Rural Development and Cooperatives has been operating as the sponsoring and administrative ministry. The Japan International Cooperation Agency (JICA) has been providing generous financial support to the project. The "Report of the Workshop on Mid-Term Review of Joint Study on Rural Development Experiment (JSRDE)" project which was held on 7-8th December, 1993 at Rural Development Academy, Bogra is going to be published.

The JSRDE project is an action research project in which experts in different disciplines of agricultural and rural development of both Bangladesh and Japan are actively involved with the objective of developing a sustainable model of rural development. During the first phase, the problems and needs of the project village and the key clues and questions of rural development were identified through both intensive and extensive studies. In the present project development efforts have been undertaken through interventions to remove the location-specific problems.

The Planning Commission, the Economic Relations Division and the RDCD of the Ministry of local Government, Rural

Development and Cooperatives are actively providing all assistance to implement the project. We are thankful to all of these government departments. We are also thankful to those who prepared and presented the village reports in the workshop, the Rural Development Academy, Bogra which provided all kinds of physical support to organize the workshop, the Project Director and the General Manager of JSRDE for extending guidance and logistics support and to all who worked hard for the success of the workshop and publication of the report.

**The Editors**

The Editors of this book are the members of the project team who were involved in the preparation and presentation of the village reports in the workshop. The project team is grateful to the project sponsor for providing the financial support for the workshop and for the publication of the report. The project team is also grateful to the project sponsor for providing the facilities and equipment for the workshop. The project team is also grateful to the project sponsor for providing the transport facilities for the workshop. The project team is also grateful to the project sponsor for providing the food and accommodation for the workshop. The project team is also grateful to the project sponsor for providing the printing facilities for the report. The project team is also grateful to the project sponsor for providing the distribution facilities for the report. The project team is also grateful to the project sponsor for providing the marketing facilities for the report. The project team is also grateful to the project sponsor for providing the distribution facilities for the report. The project team is also grateful to the project sponsor for providing the marketing facilities for the report. The project team is also grateful to the project sponsor for providing the distribution facilities for the report. The project team is also grateful to the project sponsor for providing the marketing facilities for the report.

This report was prepared under the guidance of the Project Director and the General Manager of JSRDE and the support of the Ministry of Local Government, Rural



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## **1. Introduction:**

Bangladesh-Japan Collaboration in the joint study projects has its origin in the project named Joint Study on Agricultural and rural Development (JSARD) in Bangladesh. It was a four- years research Project started in June, 1986 and completed in June, 1990. The project was jointly sponsored by the Ministry of Agriculture and Forestry, Government of Bangladesh and the Government of Japan. The project was implemented jointly by Japan International Co-operation Agency (JICA), Bangladesh Agricultural University (BAU), Mymensingh, Bangladesh Academy for Rural Development (BARD), Comilla and Rural Development Academy (RDA), Bogra. The lead institution in Bangladesh was BAU. A number of key questions and key clues have been identified during the project period. These are as follows:

### **Key Questions**

- a. How to increase agricultural production to make the rural economy self-sustaining not only from technological aspects but also from socio-economic aspects?
- b. How to improve the living condition of the landless households who represent the majority of the population?
- c. How to improve the functional gap between thana centre and the village?
- d. How to create employment opportunities for the large number of landless labourers and small farmers who constitute the majority of the population?

### **Key clues**

- a. Each cropping pattern is highly location specific. Identification or classification of local land units on a village level would provide a basic set of information for improving cropping systems.

- b. Boro rice expansion provided a drastic change in the existing cropping system.
- c. Voluntary installation of shallow Tubewells (STW) has induced inequity resource utilization on the one hand and lower efficiency of STWs use on the other hand.
- d. Important field of activities for rural development were identified as follows:
  - i. Group activities.
  - ii. Creation of job opportunities .
  - iii. Interaction between supply and demand of labour .
  - iv. Institution Building ,
  - v. Extension services.
  - vi. Credit supply.
  - vii. Education and training.
  - viii. Relationships among administrative units, merchants and villagers.
- e. Gap in concepts, motivations and strategies of development plan among different administrative organizations and villages seemed to bring unfavorable efforts in pursuit of development programme.
- f. The role of socio-economic study is crucial not only in providing basic data and their use but also provides information concerning the human activities within and outside the village. They help to understand the structure, leadership and social tension in the villages.
- g. Government's endeavours to have development efforts penetrated into the village tend to be blocked because of the administrative dislinkage between the union and the village. The lowest social unit has not so far been identified properly to administer the development project.

In order to test the validity, feasibility and applicability of those key questions and clues for improving the conditions and uplifting the living standard of rural population action oriented rural development experiments started in five villages i. e. Aira in Bogra, Daskhin Chamuria in Tangail, Parichkitta and

Austodona in Comilla and Farishair in Chandpur from 1992.

The project aimed at evolving a framework of rural development for Bangladesh. The four basic approaches of the project are as follows:

- a. To unite the two groups in a village, one is the traditional social organization oriented to religious and disciplinary norm and the other is economically motivated groups for rural development.
- b. To identify and make good use of ecologically sustainable appropriate farming technologies.
- c. To fill the gap between and link the two prime institutions, union parishad and gram (para) to promote the rural development.
- d. To encourage and promote non-agricultural job opportunities outside the village, especially at growth centers.

The project have been working following above basic approaches. In the middle of the project period a workshop was held at Bogra on 7th and 8th December, 1993:

## **2. Objectives of the Workshop**

The main objective of the Mid-Term Review Workshop was to assess the development of the experiments for the improvement of socio-economic conditions of project sites following four basic approaches through some interventions for suggesting a framework of rural development. The specific objectives were:

- i. to review the project activities of the different project sites;
- ii. to identify the problems and prospects of the experimentation;
- iii. to make recommendations for the improvement of the project activities for the rest of the project period.

## **3. Participants**

In this Workshop 17 Government officials, 10 Japanese Experts, 4 Project personnels, 8 Field Staffs and 6 Village representatives attended. (List of participants is given in Annex- "A")

#### **4. Duration**

The duration of the workshop was 2 (two) days i. e. 7th and 8th December, 1993 (programme of the workshop is given in Annex-"B".)

#### **5. Methodology**

Nine papers were prepared by the Task Force and Counterpart members which were distributed among the participants. There were five business sessions excluding the inaugural and closing sessions. In these business sessions the participants got the scope of discussing each and every papers very openly and frankly through question and answers on the contents of the papers. Besides these, Ms. Saleha Begum presented an overview paper on the project activities.

#### **6. Inaugural Session**

Inaugural session of the workshop was started at 9-00 a. m. on 7th December, 1993. In the session Dr. Ashrafuddin Ahmed, Director General, RDA, Bogra was the chairperson. At the outset of the session Ms. Saleha Begum, Project Director of JSRDE welcomed all the participants and guests to the workshop and explained the objective of the mid-Term Review Workshop. In her speech she mentioned that JSARD project (1986-90) was a research based project while JSRDE project (1992-95) is an action research project in which research has been conducting with some actions and interventions. The attempted interventions are expected to suggest a framework for rural development in Bangladesh. She also mentioned that both Bangladeshi and Japanese team members have been working in the project villages on the basis of the four basic approaches as mentioned in the TAPP. She said that the Mid-Term Review Workshop is organized to give an opportunity to all who are involved with the project activities i. e., project personnels, Bangladeshi and Japanese experts, field staffs, village representatives and relevant government officials to sit together and exchange their views with others about various project activities. She expressed her hope that through this workshop, problems of the experimentation could be identified

and the solutions would be found out for the improvement of the project activities for the rest of the project period. Prof. Y. Kaida, Japanese Team Leader from Kyoto University highlighted project background and its link with the JSARD project. He mentioned that the workshop was arranged to review the activities of project at the middle of the project period and squizout workable action programmes which would be suitable for villages in the coming days. He further expected that in the workshop every body related with the project activities would openly and frankly discuss all aspects of the activities mentioning the weaknesses and strengths of the action programmes so that it could be learning for others. He mentioned that in the project villages there are both formal and informal groups, through which linkage could be established for receiving and delivery of Govt. services for the villages. Experiences of the NGOs can also be considered in evolving the framework for rural development in Bangladesh. In his speech he also threw lights about sustainable farming technology, soil, fertility, land and water development, rural hydrology of the project villages. He further stressed upon the issue of poverty alleviation of the villagers through employment generation and income earning at the time of formulation of plan for the individual project site. Dr. Ashrafuddin Ahmed in his inaugural speech gave a short description of the rural development in Bangladesh. He mentioned about "Comilla Model" and two tier Co-operatives which are being implemented by BRDB. He further added the contribution of Grameen Bank and NGOs activities in the field of rural development of the country. He said, as JSRDE is in its experimental stage now, it can give some insight to some issues within its framework. These issues are:

- i. to findout the result of informal and formal groups with minimum and maximum intervention;
- ii. To examine the strengths and weaknesses of the old models of rural development;
- iii. To find out ways to minimise rural-urban dichotomy through non-farm economic activities; and
- iv. to think about transfer and impact of transition from local appropriate tecnologies. He thanked the JSRDE project

personnels, Kyoto:University, JICA and wished the success of the workshop and formally inaugurated the workshop.



*Dr. Ashrafuddin Ahmed, DG, RDA, Bogra is delivering his speech in the inaugural session of the Mid Term Review Workshop of JSRDE at RDA, Bogra.*

## **7. Business Session**

### **7.1 Business Session- 1**

The session was chaired by Mr. A. K. M. Obaidullah, Regional Project Co-ordinator, JSRDE project, Comilla.

Mr. Swapan Kumar Dasgupta, Dy. Director, BARD and Mr. Shiro Mukai, Japanese short-term expert performed the responsibilities of rapporteurs. Ms. Saleha Begum, Project Director, JSRDE project presented her overview paper in which she summarised the contents and issues of all the papers to be presented in the workshop. The village reports on Daskhin Chamuria were presented by Dr. Muhammed Salim, Associate professor, BAU, DR. K. Fujita and Mr. Kazuo Ando, Japanese experts. Papers presented in the session on Daskin Chamuria village are given in the following pages.



# Improvement of the Efficiency of Existing Cropping Systems of Daskhin Chamuria Village

*Dr. Mohammed.Salim*

## **Introduction**

Daskhin Chamuria village is located on the East-side of the Jamuna river, some sixty five kilometers northwest from Dhaka. The village belongs to the Shahadevpur Union of Kalihati thana, Tangail district. It is located on the floodplain formed by the Lohajang river. The agriculture of the village is affected mainly by the hydrological condition i.e., flood which is caused by rain and spilled water from the Lohajang river. In the village flood starts in July and all lands except homestead area (mounted on rural levee) undergo 1-3 m depth of water by August and September. Water decreases rapidly and flows into river at the end of October and all lands appear above water by November. Deep inundation and both rapid increase and decrease are hydrological characteristics of this floodplain area (Uchida and Ando, 1993).

Evolution of cropping patterns in Daskhin Chamuria village shows a different picture from the existing cropping patterns. Three decades crop cultivation was mostly traditional and very low input based and rainfed in nature. Lands were less intensively cultivated with a few numbers of cropping patterns.

Major cropping patterns until 1960s were either (a) sole deepwater aman rice or mixed deepwater aman rice and aus rice cultivation or (b) jute or aus rice cultivation followed by rabi crops. Farmers used to grow grass pea as relay crop in the deepwater aman rice fields in medium and low lands of the village. In high lands farmers used to grow various rabi crops after jute or aus rice, for example cheena, pulses and mustard.

Such dry-culture during rabi season was good for the physical, biological and chemical properties of the soil. Moreover, huge production of grass pea was a unique source of feed for the dairy

cattle. Mainly due to the availability of huge fodder the area became a milk pocket in the country.

Lands under major crops and different cropping patterns of Daskhin chamuria village are shown in Table 1. It is evident that boro rice covers 36.9% of the total cropped area followed by deepwater aman rice (29.4%). Boro rice has emerged as a dominant crop replacing deepwater aman rice. It is interesting to note from 1944-45 census that in Shahadevpur Union about 66% of the net cropped area was covered by different rabi crops mainly by pulse crops (Ando et al, 1990) but rabi crops at present occupy only 24.4% of the total cropped area (Table 1) and pulse occupy only 1.4% among the rabi crops (Table 2). The absolute dominance of mustard (78.2%) among rabi crops is associated with the boro rice expansion (pattern nos. 2, 5 and 10).

In recent years with the development of irrigation facility—firstly through deep tubewells and later through shallow tubewells a sharp change in cropping patterns has occurred within the deepwater aman rice areas of Daskhin Chamuria village. Farmers are now growing deepwater aman rice as transplanted crop centering around boro (MV) rice, cropping patterns 2 and 4 (Table 1). The cultivation of mixed deepwater aman and aus rice has been totally stopped.

With the change of cropping pattern the dry land culture of pulse, oil seed and other rabi crops has turned into wet land boro culture. Due to continuous wet condition and intensive cropping the fertility status of soil is deteriorating causing deficiency of some macro-(e.g., sulphur) and micro-(e.g., zinc) nutrients in the soil (Hossain, 1988). Displacement of pulses and oil seed crops by boro rice has created shortage of protein and fat in the diet of the people and feed shortage of livestock. Shortage of livestock feed is one of the main reasons of decreasing livestock population in this area at present.

Jute cultivation has reduced to a great extent in this area. For this reason also soil fertility has decreased with the decline of organic matter. Moreover, shortage of jute stick has made biomass fuel shortage and shortage of low-cost housing materials creating excessive pressure on bamboo (Hossain 1993).

For both aus rice and transplant aman rice in rainfed condition, local varieties dominate. Pajam covers about half of the total transplant aman rice area (Table 2). Sadachamura variety is mostly preferred (covers about 90%) in deepwater aman rice for its earliness in maturity. In irrigated situation, modern rice varieties dominate over local varieties. For example IR 8 is the most popular variety in the village which occupies about 80% of the total boro rice area. It is due to the fact that preparation of the nursery bed is done at the time of recession of flood water in late November to early December. Any delay in preparation of nursery bed is not possible from water management point of view in the nursery bed because of sandy loam texture of soil that covers most of the cultivated area of the village. Transplantation of seedling is also delayed upto February till the mustard harvesting. Due to delay of transplantation seedling age becomes more than two months. Only IR 8 variety can produce satisfactory growth with seedlings of such old age. This absolute dominance of IR 8 cropping in boro season is risky because the crop may be susceptible to severe damage in the event of insect or pathogenetic. Thus variety diversification with MV boro rice in the village is essential.

With this in mind the following component technologies have been designed for testing in the existing cropping patterns of Daskhin Chamuria village by the JSRDE project to make the cropping patterns more productive and sustainable from agronomic point of view.

#### **Inclusion of Pulse in the Pattern**

Pulses improve the overall nutritional value of cereal based diets because they contain remarkable quantity of protein and fair quantity of minerals and vitamins. Pulses are important source of fodder and feed cattle and poultry. Due to the practice of intensive cropping pattern in the village without replenishing the fertility lost through harvest and other phenomena, incorporation of pulses in the cropping pattern is essential so that the nitrogen fixed through Rhizobium and organic matter deposited through crop residues maintain an equilibrium.

As a part of the action programme of the JSRDE project, grass pea will be cultivated in the fallow land in the village (Table 3) and in the levee (ail) of the fields soyabean will be cultivated without the existing cropping patterns. Soyabean cultivation in the land levee will provide an extra income to farmers.

### **Inclusion of Sesbania**

Sesbania is a legume of diversified use being grown for green manure, fodder, biomass fuel and also for fencing (Evans and Rotar, 1987). *Sesbania aculeata* (Desi dhaincha) is traditionally practised in Bangladesh as green manure for rice cultivation. It is also grown as sole or hedge row crop for using as fuel and fencing deepwater aman rice for protecting them from intrusion of water hyacinth. Recently a new species, *Sesbania rostrata* (African dhaincha) has been introduced in the country (FSRDP, 1991). *Sesbania rostrata* is an annual species and thrives well in moist and flooded soils. It nodulates along its stem as well as in roots. These nodules can fix nitrogen and release into soil after ploughing (Dreyfuss et al, 1983). The nitrogen fixation potential of the species has been estimated to be 200 Kg/ha at 50 days. Green young leaves can be fed to ducks, poultry. Leaves contain protein that can be fed to livestock by mixing with straw. It can be propagated through seeds and stem cutting (Hossain et al, 1990).

Plants of 4-5m height will be taken for cutting and 50-100cm cuttings will be used. Usually 2-3 days after transplantation root initiate and leaves emerge after 5-6 days of planting. For green manuring in aus and boro rice fields, *Sesbania* seeding or manuring in aus and boro rice fields before panicle initiation (Table 3) is necessary. *Sesbania* after 40-60 days of planting will be incorporated in to the soil at the time of land preparation for the next crop. For fuel and seed purposes *Sesbania* will be grown from stem cutting in aman rice planted at 2m X 1m as row X plant distance. Seed will be harvested around the same time of harvesting aman rice (Table 3). In water hyacinth prone deepwater aman fields, stem cuttings of *Sesbania* will be transplanted in the levees of the fields. Above mentioned action programmes with *Sesbania* will be undertaken from coming rabi season (1993-94)

### **Inclusion of Modern Varieties in Aus rice and Varietal Diversification in Boro rice**

In order to reverse wet culture of rice to dry one, change of cropping pattern from boro (MV) to aus (MV) has been designed. Two new promising aus varieties, BR 21 and BR 22, will be cultivated as rainfed aus instead of boro cv, IR 8 (Table 3). This change allows soil to remain dry for substantial part of the year.

BR 27, a newly released transplanted aman variety especially developed by BIRRI for low-lying areas, is under trial in the village (Table 3). Inclusion of this relatively tall statured transplant aman variety is expected to be better suited for cultivation in Daskhin Chamuria. Suitable management practices of boro nursery bed for growing seedlings of modern varieties like BR 3, BR 11, BR 14 etc. are to be thought of. Appropriate techniques of water management and cultural practices are yet to be developed. Development of component technology in this area is crucial for cultivation of recently developed modern varieties of BIRRI for the varietal diversification in boro rice from the monopoly culture of IR 8.

### **Conclusion**

In short, farmers in the study area appear to adjust with cropping systems through combining their farming skills with different technologies to make use of their available farm resources according to their needs. These cropping systems that are expected to supply all those components required for the production of the existing patterns in the village is a result of farmers long time adaptation with natural environment of floodplain coupled with the adjustment and practice of technological innovations in agriculture. The farmers in Daskhin Chamuria village demonstrate distinct signs of taking advantage of the modern seed, fertilizer, water and chemical technologies along with credit facility and some infrastructure development to gear up modernization process for increased production of crops for allowing self-sufficiency in food and earn higher income. To make the existing cropping system more efficient JSRDE project in consultation with the farmers of the village and agricultural extension personnel has designed the component technologies for testing and implementation.

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Table-1: Land under different cropping pattern in Daskhin Chamuria Village (1991-92)

Pattern No	Cropping Pattern	Net cropped area (ac)	Total cropped area (ac)	Deepwater aman (ac)	Rabi crops	Boro rice
1.	Aus/Jute-Fallow-Rabi crops (wheat, barley, millet)	35.7	71.4	-	35.7	-
2.	DWA-Mustard-Boro	107.5	322.5	107.5	107.5	107.5
3.	Fallow-Fallow-Boro	31.7	31.7	-	-	31.7
4.	DWA-Fallow-Boro	99.3	198.6	99.3	-	99.3
5.	Fallow-Mustard-Boro	5.5	11.0	-	5.5	-
6.	TA-Rabi crops (wheat, barley, millet)	9.6	19.2	-	9.6	-
7.	TA-Fallow	6.2	6.2	-	-	-
8.	Fallow-Fallow-Rabi crops*	5.6	5.6	-	5.6	-
9.	Aus/Jute-Fallow-Boro	7.9	7.9	-	-	7.9
10.	Aus/ Jute-Mustard-Boro	7.4	22.2	-	7.4	7.4
11.	Others	6.0	6.0	-	-	-
	Total	320.4	702.3	206.8	171.3	259.3
	Percent over total cropped area cropping intensity		219.2%	29.4	24.4	36.9

\* DWA, Deepwater aman rice; TA, Transplant aman rice

Rabi crops, Names are shown in Table 2

Source: Resource Invention Survey, Daskhin Chamuria Village, 1992

**Table 2: Percentages of different varieties and crops grown in different cropping seasons in Dakshin Chamuria Village**

kharif-1 (1991)		kharif-2 (1991)		Rabi 1991-92	
Aus rice		Transplant aman rice		Boro rice	
Local variety:		Local variety:		Local variety:	
1	Niboraus	Patjag	23.0	Kunail boro	0.2
2	Vaturi	Katijul	13.4	Bazari	0.2
3		Nizershail	1.0		
4		Modern variety:		Modern boro:	
5		Iratom	0.3	IR	79.9
6		Gazi (BR 14)	19.7	BR 14	2.8
7		Pajam	52.6	BR 11	11.7
8				Purbachi	0.5
9				Pajam	4.7
10		Deepwater aman rice		Rabi crops	
11		Local variety:		Mustard	78.2
12		Sadachamura	89.5	Wheat	11.9
13		Lalchamura	7.0	Millets	4.5
14		Defa	1.4	Cheena	1.1
15		Kaika	0.6	Barley	1.7
16		Jonokray	0.4	Lentil	1.2
17				Grass pea	0.2
18				Coriander	0.1
19				Potato	0.4
20				Sweet potato	0.5
21				Linseed	0.1
22				Onion	0.1



**Table-3: Different component technologies to be tried against different cropping patterns in Daskhin Chamuria**

Pattern No.	Cropping pattern	Component technology
1.	Aus/Jute-Fallow-Rabi crops (Wheat, barley, millet )	<ul style="list-style-type: none"> <li>* Incorporation of transplant Sesbania in aus rice for green manuring.</li> <li>* Cultivation of BR 21 or BR 22 in aus season.</li> </ul>
2.	DWA-Mustard-Boro	<ul style="list-style-type: none"> <li>* Cultivation of BR 21 or BR 22 in aus season.</li> </ul>
3.	Fallow-Fallow-Boro	<ul style="list-style-type: none"> <li>* Varietal development through nurserybed management.</li> </ul>
4.	DWA-Fallow-Boro	<ul style="list-style-type: none"> <li>* Cultivation of BR 21 or BR 22 in aus season.</li> </ul>
5.	Fallow-Mustard-Boro	<ul style="list-style-type: none"> <li>* Incorporation of Sesbania in boro rice mixed cropping.</li> </ul>
6.	T. A.-Rabi crops	<ul style="list-style-type: none"> <li>* Cultivation of Sesbania in fallow season for green manuring and biomass fuel production.</li> <li>* Cultivation of DWA fences with Sesbania.</li> <li>* Cultivation of BR-22.</li> </ul>
7.	T.A.-Fallow	<ul style="list-style-type: none"> <li>* Cultivation of Sesbania as inter-cropping for seed production and biomass fuel production</li> <li>* Cultivation of BR 27.</li> <li>* Grass pea cultivation.</li> </ul>
8.	Fallow-Fallow-Rabi crops	<ul style="list-style-type: none"> <li>* Cultivation of Sesbania in fallow season for green manuring and biomass fuel production</li> </ul>
9.	Aus/Jute-Fallow-Boro	<ul style="list-style-type: none"> <li>* Change of variety (BR 21 or BR 22).</li> </ul>
10.	Aus/Jute-Mustard-Boro	<ul style="list-style-type: none"> <li>* Change of aus variety (BR 21 or BR 22).</li> </ul>
11.	Others	

## TOWARD A LONG-TERM STRATEGY FOR INCOME GENERATION: RURAL INSTITUTIONS AND RESOURCE MOBILIZATION

*Dr. K. Fujita*

### **A. Introduction**

The ultimate target of rural development is to uplift the living standard of rural masses through encouragement of socio-economic and cultural activities in rural areas. Considering the widespread and serious poverty situation in rural Bangladesh, however, it seems quite natural that emphasis has long been placed on the economic welfare of villagers, especially through enhancement of income generating activities either by 'modernization of agriculture' or promotion of off-farm self-employment activities. Thus it seems to us that the final target is to encourage individual economic activities. The real point at issues is to find out or build more sustainable and effective strategy toward this ultimate purpose of rural development.

What we emphasize in this paper is that it is high time to change the present paradigm of rural development strategy. Except few cases such as Village-AID Programme and Swanirvar movement, it seems to us that rural development in Bangladesh has been and recently more and more concentrated on the same strategy; namely, injection of a set of training & credit through organizing cooperatives or some informal small groups under the name of poverty alleviation. It should not be denied at all, but we think it is very necessary to focus another neglected aspects of rural development, which emphasizes infrastructure development through some community-based village institutions. Stress would be placed on the building and rehabilitation/maintenance of village-level infrastructures, such as rural road, small bridge, hat, primary/high school, post office, and so on. Our hypothesis is that the most important constraint hindering the development of individual economic activities in rural areas

is not the shortage of credit nor the lack of skill but the lack of such infrastructures.

Because infrastructure is characterized as 'public goods', some kind of collective actions and public/community investment become inevitable for its development. It cannot be accomplished by individuals alone in most cases, unless he is a big Zamindar in the old days. Taking into account the non-existence of such isolated rich in contemporary rural Bangladesh, and more so in future, once we decide to adopt the proposed new paradigm, necessity arises to establish a different framework of rural development, which would include different village-level institutional set-up, different mechanism of resource mobilization & investment, and different mode of linkage with local government, especially with the Union Council.

JSRDE project, which has started toward building a suitable 'model' for rural development, has four focal points to be explored through planning, implementation and monitoring of action programmes:

1. to establish appropriate village organization,
2. to strengthen linkage between village organization and the local government,
3. to find out and develop environmentally sustainable farming technology,
4. to encourage off-farm employment opportunities,

This paper will focus, among these four focal points, mainly on 1) and 4) from the experiences of Daskhin Chamuria village at Tangail site. The other points of 2) and 3) will shed light in other papers. Because of the very nature of the JSRDE, discussions should be done mainly on the basis of the findings from action programmes, but before going to this stage (Section C), it is necessary to discuss why we think a new paradigm of rural development should be emphasized, from both the empirical and theoretical point of view. Section B would be allocated for this purpose. Part of the findings in this section actually become available through implementation of various action programmes. In other words, they are also the products of JSRDE project.

## **B. Change of the Paradigm: From Credit to Infrastructure**

### **1. Importance of Infrastructure Development**

The term 'infrastructure' is frequently used, but there is no consensus in economic literature on its precise meaning. So, in this paper we use the term 'rural infrastructure' without precise definition, but it includes road, bridge, market, electricity, school, bank, post office, dispensary, and so on. The fact that lack of such infrastructure severely hinders the development of rural economy is now widely recognized. It blocks the mobility of goods, labour, capital, information, government, technical services etc. and lowers the rate of return from private investment. The development of rural infrastructure has far-reaching implications for poverty alleviation by indirectly generating income.

Table 1 summarizes the results of a case study conducted jointly by BIDS and IFPRI on the economic impacts of rural infrastructure development. First, the table suggests that infrastructure raised per acre agricultural income by 20% through enhanced diffusion of water-seed-fertilizer technology along with improved terms of trade (paddy/fertilizer price has increased by 23%). Second, it encouraged the development of off-farm job opportunities by 30%, especially for the rural women. Regional wage rate for unskilled labour (agriculture) also increased by 12%. It is evident that infrastructure development has tremendous economic impacts on both farm and non-farm sectors.

### **2. Basic Concept of Present and Proposed Paradigm**

In spite of far-reaching impacts of infrastructure development as described above, Union-level and village-level infrastructure has relatively been neglected. Although Fourth Five Year Plan (1990-95) emphasizes infrastructure development along with the income generating programmes, by saying that "the prime needs for rural development in Bangladesh are productive employment and income generating programmes in both farm and non-farm sectors along with the development of agriculture and basic infrastructure in rural areas" (V.F-1), but the development of growth centres and

growth centre connecting roads (Feeder Road-B) are mainly targeted there.

The road system in Bangladesh is illustrated in Table 2. Road and Highway Department (RHD) is responsible upto Feeder Road-A, while District Council is responsible for Feeder Road-B. Under these main road system, there are more than 126,000 km of Rural Roads, which connect union with thana and market to market (R1), union to union (R2), village to village and farm to village (R3). The construction and rehabilitation of such Rural Roads have been conducted by Union Council through thana office under various aid schemes such as Rural Works Programme (RWP), Food for Works Programme (FFW), Rural Maintenance Programme (RMP) and so fourth.

**Table 1. Economic Impacts of Infrastructure Development**

	Infra-Dev. Villages	Infra-Undev. Villages	Difference (%)
Irrigation (%)	42.1	20.5	105
HYV Rice (%)	42.0	24.5	71
Fertilizer (KG/ha)	150	78	92
Paddy Price (Tk/md)	294	277	6
Fertilizer price (Tk/md)	119	139	-14
Agri.Income (Tk/acre)	5,012	4,719	20
Employment per household Agriculture (days)	292	297	-2
Non-Agricultural (days)	210	161	30
Total (days)	502	457	10
% of women	15.1	6.4	136
Wage rate (Tk/days)	20	18	12

Source: Ahmed, R. and Hossain, M., Developmental Impact of Rural Infrastructure in Bangladesh, IFPRI, 1990.

**Table 2. Road system in Bangladesh**

Class	Responsible Agencies	Nature of Link	Official Standard of top width (m)	Length (Km)
National Highway	Roads and Highways Department (RHD)	connect capital with Divisional HQ and major regional centres	12.2	2,800
Regional Highway	RHD	connect old District HQ and commercial centres with each other	10.9	1,220
District Road	RHD	connect new District HQ to arterial road	9.14	2,830
Feeder Road-A	RHD	connect Thana HQ to arterial road	7.32	4,000
Feeder Road-B	LocalGov/ District Council	connect important markets (growth centre) to arterial road	7.32	6,400
Rural Road (R1)	Thana Council	connect Union with Thana market to market	4.87	
Rural Road (R2)	Thana council	inter-Union connecting road	3.66	
Rural Road (R3)	Thana council	inter-village and farm to village	2.44	126,600 (R1+R2+R3)

But unfortunately these schemes have not been satisfactorily implemented in terms of quantity and quality, mainly because there were virtually no local resource mobilization and no local level planning at the village-level. Our target is to fill the needs for the infrastructure development at the village-level in light of institution and resource mobilization. In other words, to strengthen RWP-type activities at the village level should be targeted.

On the other hand, the present paradigm of rural development in Bangladesh is in a word, to activate individual economic activities directly through organizing cooperative societies or some informal groups, and injecting a set of training and credit from outside. We never deny the present paradigm. Rather it has enough rationale in the context of contemporary rural Bangladesh. The intention of ours

is only to emphasize another important aspect of rural development which has been relatively neglected; i. e. infrastructure development aiming at indirect and long-term impacts on individual's economic activities in replacement with aiming at direct and short-term impacts.

Table 3 illustrates the differences in basic concepts between the present and proposed paradigm. It should be mentioned that one of the major differences is that the present paradigm is characterized as a typical 'target group approach' while the proposed one is a 'community approach'. Another major difference is the characteristic of resource mobilization and investment. While investment of purely private nature or at most joint investment is targetted under the present paradigm, the main target of proposed paradigm is public/community investment. This difference of the nature of investment may be crucial for the understanding of the difference of two paradigms.

From this point of view, the village-level federation or some sort of umbrella organization of various cooperative societies may not be suitable for the pursuit of common interest, for cooperative societies are accustomed to think about only private economic activities of the members. It may be unpalatable for the members of cooperatives to invest their shares/savings in the development works like road improvement.

**Table 3. Basic Concepts of Two Paradigms**

	Present Paradigm	Proposed Paradigm
Major Activities	IG by Credit & Training/ Motivation	Infrastructure development
Impacts on IG Approach	Direct, Short-term Target Group	Indirect, Long-term Community
Institution	Cooperative Society/ Informal Small Group	Village Committee/ Sub-Organization
Characteristics of Investment	Private/Joint	Public/Community
Resource Mobilization	Share/Savings	Voluntary Labour/Subscription/ Refund from Tax

### **3. Limitations of the present paradigm**

Before going to explain key issues to be solved under the Proposed paradigm, problems and limitation of the present paradigm would be briefly discussed below.

#### **3-1. Myth of Self-Employment Generation by Rural Poor through Credit Supply**

A strong tendency can be observed among the conventional way of thinking to overemphasize the capital constraints, or the poverty itself, as the most crucial factor hindering the development of individual economic activities. But we believe that individual economic activities in rural areas hampered, in most cases, by lack of infrastructures rather than lack of capital. Moreover, it is actually impossible for all the landless poor to initiate off-farm self-employment activities even if enough capital is available, for those who are not endowed with 'entrepreneurship' it is quite difficult to initiate and manage their enterprises.

There seems to be a hidden belief in the present paradigm that if the rural poor are provided with cheap institutional credit and proper technical assistance they can generate self-employment opportunities without difficulty. But observations in the village Daskhin Chamuria, especially investigations to the real structure of village informal credit market indicate that the belief may be a great myth. Actually, as will be presented later in detail, it is observed that most of the surplus capital of the villagers, irrespective of inside origin or outside origin, is not utilized for self-employment activities but is made an advance to the village 'entrepreneurs'.

Entrepreneurs are defined in this paper as those who are not employees, managing own business to seek profit with capital and risk, regardless of hiring employees or not. All the farmers are the entrepreneurs in this sense but are excluded from the discussion because of the focus on off-farm income and employment generations. But owners of modern agricultural equipment such as STW/DTWs, power tillers, and rice mills are included into the category of entrepreneurs.



Among the total labour forces of 920 in the village (1.71 persons per household in average including some females), we have regarded as entrepreneurs those who are engaged in any business, whether as their main occupation or subsidiary occupation, plus those who are the owners of STW/DTWs, power tillers, rice mills, handlooms, and shops. As is listed below, there are 119 households (22% of total) which have such entrepreneurs in the village. It should be noted here that there are one power tiller owner and two rice mill owners, but they are at the same time the owners of STW/DTW, so are included to this category.

- DTW/STW, owners (14 households)
- shopkeepers/tailors (13 households)
- handloom owners (10 households)
- various processing and trading business such as fishing net, paddy/rice, jute, egg, vegetables, fruit, salt, pan, clothes, kitchen utensils, etc (82 households)

As is shown in Table 4, more than 50% of these entrepreneurs are either landless or functionally landless, but still the percentage is lower than the average (64%). Participations of landless agricultural labourers is uncommon except for rice business. Except for some

**Table 4. Profile of Rural Entrepreneurs in Daskhin Chamuria**

	No. of HH	Ave. land owned	Ave. Land operated	HH less than 0.5 acres	No. of GB member
Entrepreneurs	119	1.2	1.0	65 (55%)	30 (25%)
STW/DTW owner	14	5.3	3.9	3	1
Shopkeeper/Tailor	13	1.4	1.3	5	3
Handloom owner	10	0.8	0.6	5	3
Net busi.	21	0.8	0.8	8	5
Clothes busi.	5	0.6	0.6	3	1
Egg/Veg/Fruit busi.	19	0.3	0.5	15	9
Rice busi.	24	0.3	0.3	18	5
Other busi.	13	0.5	0.3	8	3
Non-Entrepreneurs	419	0.6	0.5	279 (66%)	77 (18%)
<b>Total</b>	<b>538</b>	<b>0.7</b>	<b>0.6</b>	<b>344 (64%)</b>	<b>107 (20%)</b>

professional traders, the entrepreneurs are usually large farmers (STW/DTW owners), medium to small farmers (shopkeepers), and small to marginal farmers (other business).

The point at issue is that if these entrepreneurs who need capital, especially working capital, and who can utilize it for productive purposes. Indeed two-thirds of the entrepreneurs borrowed money from the informal credit market in the village, and about 30% of them borrowed more than Tk. 2,000 of money not through land mortgage (Table 5). In this case they have to pay exorbitant rate of interest (usually 10% per month). Closer investigation of Table 5

**Table 5. Financial Status of Entrepreneurs**

	No. of HH	Borrower	Borrower cum Lender	Lender	Others	Borrower Tk. 2,000< (non-mort.)
Entrepreneurs	119	54(45%)	26 (22%)	16 (13%)	23 (19%)	37 (31%)
STW/DTW owner	14	5	5	2	2	6
Shopkeeper/Tailor	13	5	3	2	3	4
Handloom owner	10	3	1	3	3	3
Net busi.	21	9	8	2	2	12
Clothes busi.	5	2	1	0	2	1
Egg/Veg/Fruit busi.	19	12	1	3	3	6
Rice busi.	24	11	4	3	6	3
Other busi.	13	7	3	1	2	2
Non-Entrepreneurs	419	145 (35%)	71 (17%)	109(26%)	94 (22%)	28 (7%)
Total	538	199 (37%)	97 (18%)	125 (23%)	117 (22%)	65 (12%)

indicates that even those who engage in petty business (egg/vegetables/fruit business) required working capital in most cases, although less than Tk. 2,000. STW/DTW owners require huge amount of working capital in every irrigation season because of the existence of crop-sharing system in the payment of irrigation fee. More than Tk. 10,000 is necessary for the owners of a STW for the payment of electricity bill. In other words, farmers are getting credit from STW owners for 2 or 3 months until harvest time, when they repay one-fourth of the produce, per acre credit provided is about Tk.2,000 (10md/acre \* 200.Tk/md). It is really surprising that many landless

and functionally landless are included among the lenders of such working capital to the entrepreneurs. According to Table 6, among the 125 pure lender households in the village, 104 households (83%) are landless and functionally landless. Moreover, among the 57

**Table 6. Informal Credit Market in Daskhin Chamuria**

	No. of HH	Borrower	Borrower cum Lender	Lender	Others	Borrower Tk. 2,000< (non-mortgage)	
0	206	44	18	68	76	15	24
0-0.49	138	53	30	36	19	15	11
0.50-0.99	84	40	21	11	12	12	9
1.00-2.49	78	45	19	8	6	16	9
2.50-4.99	24	15	5	1	3	6	1
5.00-	8	2	4	1	1	1	3
Total	538	199	97	125	117	65	57

households in the village who lend more than Tk. 2,000 not through land mortgage, 35 households (61%) are landless and functionally landless. In addition, as shown in Table 7, these poorest villagers are getting most of the land being mortgaged out in the village. According to our estimate, the imputed interest rate of land mortgage is approximately 25% per annum. This rate of interest is much lower than in the case of non-land mortgage (120% per annum), but considering the security and advantage of getting self-employment opportunities on the mortgaged land, it is not so bad.

**Table 7. Transaction of Mortgaged Land in Daskhin Chamuria**

Landownership	No. of HH	Owned land	Mortgage-out	Mortgage-in (acre)
0	206	0	0	13.1
0-0.49	138	29.2	7.9	13.8
0.50-0.99	84	58.8	15.6	5.4
1.00-2.49	78	121.3	23.7	3.7
2.50-4.99	24	83.2	13.6	1.7
5.00-	8	77.6	9.4	0.2
Total	538	370.4	70.2	38.1

Table 8 shows an example of informal cash flow from poor to a big entrepreneur who owns three STWs and 8 acres of cultivated land. Poor villagers such as small farmers, agricultural labourers, handloom labourers, and rickshaw pullers gave loans to him, under the arrangement of either land mortgage or getting 2 maunds of paddy as interest per Tk. 1000 for 4 months. If price of paddy is assumed to be Tk. 200/md, the interest rate would be 120% per annum. Thus it may be said that usurious cash flow from poor to the entrepreneurs, especially rich entrepreneurs, is rather common in the village.

Table 8. Borrowing from Informal Sources by a STW owner

Year	Amount	Interest	Lender		
			owned land	main job	relative
Land mortgage					
1990	5,000	mortgage	0	labour	x
1991	4,000	mortgage	0.25	loom lab	x
"	4,000	mortgage	1.01	agri	x
"	4,000	mortgage	0.55	agri	x
"	4,000	mortgage	0.14	agri	x
"	5,000	mortgage	0.23	agri	x
"	5,000	mortgage	0.32	labour	x
"	8,000	mortgage	0	agri	x
"	8,000	mortgage	1.13	agri	x
"	5,000	mortgage	1.13	agri	x
"	4,000	mortgage	0	labour	x
"	7,500	mortgage	3.48	agri	x
"	4,000	mortgage	0	agri	x
Non-mortgage					
1989	10,000	2 md/	1.09	agri	x
1990	9,500	2 md/	0	richshaw	x
1991	3,000	2 md/	0	net busi	x
"	8,000	2 md/	0	buisness	x
"	10,000	2 md/	0.60	agri	x
"	6,500	2 md/	0.37	labour	x
1992	1,000	2 md/	0.03	labour	x
"	5,000	No	1.01	agri	x
"	3,000	2 md/	0	agri	x
"	10,000	2 md/	0	loom lab	x
"	8,000	—	1.11	agri	x
"	4,500	2 md/	0	loom lab	x

Note: 2 md/ means that 2 maund of paddy should be paid as interest per Tk. 1,000 of principal 4 months later.

Inflow of institutional credit to the village has accelerated since 1990 when Grameen Bank (GB) had started to operate. Number of GB members in the village is now 108 which covers 20% of total households. It is estimated that about 70% of institutional credit comes from GB. Now the poorer section some have easier access to the institutional credit than the richer section. The problem is that there seems to be a gap between demand and supply of credit. Among the 108 GB members only 28 households (26%) are the entrepreneurs. And among the entrepreneurs of 119 households only 30 households (25%) are the GB members. And it should be paid a special attention that according to our observation there are quite few entrepreneurs who have started their business after they became members of GB.

It may be evident from the above discussion that the rural poor do not have much scope for generating self-employment opportunities even if enough capital is available from outside sources. Now the real problem is how to support limited number of entrepreneurs who are the real engines for rural economic development. If they are more effectively supported, the overall economic activities are more encouraged and there will be some 'trickle-down' effects to the poorer villagers in the form of increasing employment opportunities. And even if all the poor cannot be saved within the near future, we should recognize that the poverty problem cannot be solved within the present generation. We should be more long-sighted. This is one of the reasons why we emphasize infrastructure development.

### **3-2. Myth of Class-based Co-operative Society**

Under the present paradigm there seems to be another belief that common economic interest is shared among the same economic strata of villagers. To some extent it is true. But for example, how can landless people share common economic interest because they are not homogenous at all in most cases.

But actually, regardless of the intention of policy-makers, cooperative societies or other informal groups are not organized on the basis of economic strata or class. They have another principle of organization totally different from economic strata. This is one of the main

reasons why the coverage of cooperative society tend to be limited. From our observation in Daskhin Chamuria village, cooperative societies and other groups for income generation are typically organized centering around gushti relations.

Table 9 shows gushti-wise distribution of the members of existing cooperatives. It is evident that KSS and MSS were organized centering

**Table 9. Gushti-wise Distribution of Cooperative Members**

Gushti	No. of HH	Ave. land owned	% of SSC or more	KSS	MSS	BSS1	BSS2
N1	33	0.74	8.0		1	2	
N2	20	0.77	3.2			2	
N3	46	0.35	0.5			1	
N4	56	0.52	0			6	
N5	1	4.50	28.6				
N others	5	0.06	0				
M1	54	1.19	12.5	18	16	3	
M2	16	0.95	7.0	2	1	3	
M3	5	1.20	9.1			1	
M4	13	0.72	1.5			2	1
M5	33	0.43	1.9		1	6	
M6	28	0.43	1.4	5		5	
M7	5	0.92	0				
M8	26	0.20	0			2	
M9	8	0.01	0		6	3	
E1	18	0.99	4.1			1	1
E2	11	0.56	0				
E3	22	0.20	0				
E4	11	0.11	0		1	1	
E5	5	0.04	0			2	
E Others	1	0	0				
S1	44	1.06	3.8				8
S2	27	0.75	4.0				14
S3	28	0.63	0.7		6		16
S4	9	0.27	0				1
S5	9	0.13	0.4				
S6	3	0.87	0				
S7	1	2.40	14.3				
Other Village					8	5	5
<b>Total</b>	<b>538</b>	<b>0.68</b>	<b>3.6</b>	<b>25</b>	<b>40</b>	<b>45</b>	<b>46</b>

around one strong gushti in the middle para, and are under the control of this gushti until today. On the other hand, the principle of organization of BSS was quite different. It was organized on the basis of equity, and the members are from almost every para and every gushti. The organization of BSS seems to be more ideal for policy-makers than the KSS and MSS. But the problem arose from this very fact. Actually, although KSS and MSS are both well-functioned, BSS has long been defunct and in fact became a paper cooperative. It may be concluded that if cooperatives are organized among one or two gushtis, they can function well, but if they are organized beyond this 'private' world, internal coordination and cooperation will be quite difficult and finally tend to be defunct. There seems to be a serious dilemma here.

In Daskhin Chamuria village there are also many informal saving societies (sonchai samity). About 10 to 20 members participate in the weekly savings (usually Tk. 1 to Tk. 5) and when certain amount of money is accumulated, they invest this money jointly for profit making such as mortgaging of land, giving loan to some entrepreneurs such as shopkeepers, and so on. It is notable here that historically speaking the number of informal societies tended to increase soon after BRDB cooperatives were organized. This fact also gives an evidence that number of factions exist in the village, hampering the expansion of cooperative members beyond the private world of particular gushti.

Another lesson from the experience of informal savings societies is that there seems to exist some tendency among villagers not to repay loans obtained from the societies. Our interpretation is that in case any group, even if it is totally informal in nature, is regarded as public by other villagers, they are reluctant to repay the loan from the group. Such a difficulty in recovering the invested money is attributed to the frequent breaking down of this informal saving societies. It may be said that private economic activities, including savings should be done individually as far as possible. In this context further extension of branches of financial institutions (banks) into rural areas would be recommended. The experience of informal savings society taught us that there exists a huge potential of savings mobilization in the contemporary rural Bangladesh. It is really very

necessary to mobilize savings for channelling them to entrepreneurs for their private investment.

However, considering that it is the lack of infrastructure that hinders effective activities of existing/potential entrepreneurs most, the more fundamental question is how to mobilize financial resources for public/community investment. This is one of the major reasons why we emphasize the introduction of post offices in rural areas. Encouragement of savings in the post offices can also serve this very objective, because the savings can be utilized by the government for the infrastructure development.

#### **4. Key Issues under the Proposed Paradigm**

The key issues to be explored through action programmes in relation to the proposed paradigm are:

1. What is most suitable village-level institutions to pursue common interest centering around village-level infrastructure development, and
2. How to mobilize necessary resource from the village for the development of infrastructure.

These two key questions are of course highly inter-related. Resource mobilization cannot be possible without participation of villagers. But mere participation of villagers without resource mobilization do not have much meaning.

Before going to discuss action programmes, special attention should be paid that the established village institution in Daskhin Chamuria village is expected to play multiple functions besides infrastructure development, for example, to serve as a contact body with government field assistants.

### **C. Lessons from Action Programmes**

#### **1. Local-level Planning: Limitation of Village Committee**

The Daskhin Chamuria Village Committee (VC) was formed on 12th January 1993 at a village general meeting. It was suggested from the



project that members of VC be selected from four paras in proportion with the population size, namely 4 from North and Middle para, 2 from East para, and 3 from South para. It was also suggested that one female member be selected from each para. As expected, existing leaders (matabbors) were selected and endorsed at the meeting (Table 10).

There was a village development committee in the village since 1979 under the Swanirvar movement. It was organized only among North, Middle, and East para and 3, 4, 2 members were selected from each para. The committee used to hold meetings three times a year in a yard of primary school to discuss repair of bamboo bridge, repair of roads damaged by flood, and the make coordination of STW and DTW irrigation, and so on. But gradually the committee became inactive and it had virtually no activities by the time JSRDE project came to the village.

However, two points should be mentioned here. First, seven among nine members of the last committee became the members of the new

**Table 10 . Members of Village Committee in Daskhin Chamuria**

	title	para	age	education	occupation	landholding	note
1.	Chairman	North	55	SSC	farming	3.18	
2.	Vice-chairman	South	35	class 9	business	0	STW owner
3.	Vice-chairman	East	55	class 10	farming	4.97	STW owner
4.	Secretary	Middle	35	HSC	service	2.66	project staff
5.	Assistant Sec.	Middle	32	SSC	service	1.24	project staff
6.	Member	North	50	class 2	farming	0.74	
7.	Member	North	52	HSC	teacher	7.97	STW owner
8.	Member	North	60	IL	farming	0.52	
9.	Member	Middle	55	HSC	teacher	5.02	
10.	Member	Middle	38	SSC	farming	0	UP member
11.	Member	East	70	IL	farming	1.51	Shopkeeper
12.	Member	South	65	class 3	farming	2.05	
13.	Member	South	60	class 7	farming	16.06	STW owner
14.	Member (female)	North	30	class 3	housework	0	
15.	Member (female)	Middle	25	SSC	service	2.66	project staff
16.	Member (female)	East	25	BA	housework	1.75	now in Dhaka
17.	Member (female)	South	25	class 8	housework	4.83	

VC again. Second, infrastructure development has continuously been the major responsibility of the committee. The history of village also shows that the existing leaders had played an important role in the establishment of the village primary school and the hat.

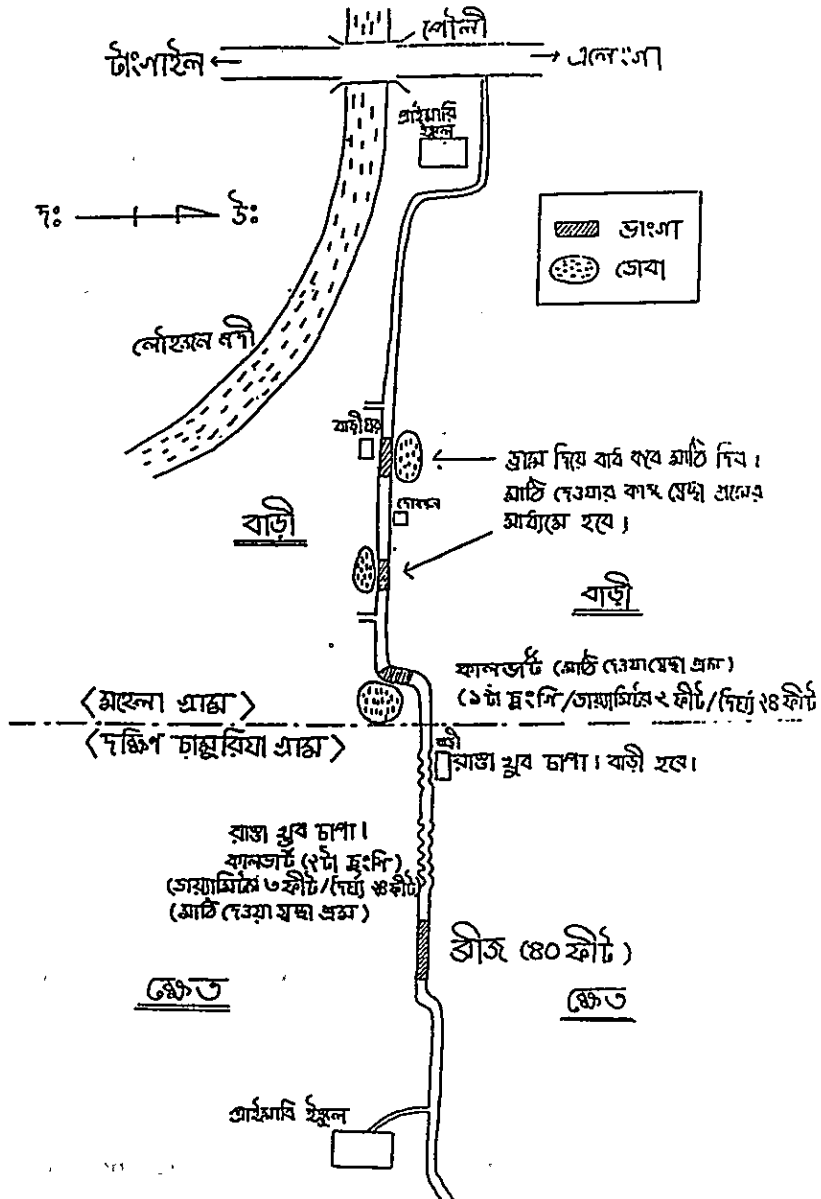
Because the JSARD project had already suggested through discussion with the villagers that the improvement of road which connects the village with Dhaka-Mymensingh highway should be given a priority, the JSRDE project initiated the road improvement programme soon after the establishment of VC. As the project did not have enough money for the construction of a necessary bridge, it was planned to cooperate with CARE. It was found out that in order to fulfil the technical conditions of CARE, several parts of the road should be repaired with culverts and earth works (Figure 1). It was planned that necessary culverts and related civil works (which require professional skills) would be covered by the project on the condition that earth works would be provided from the village. The cost of earth works was estimated as approximately Tk. 8,000.

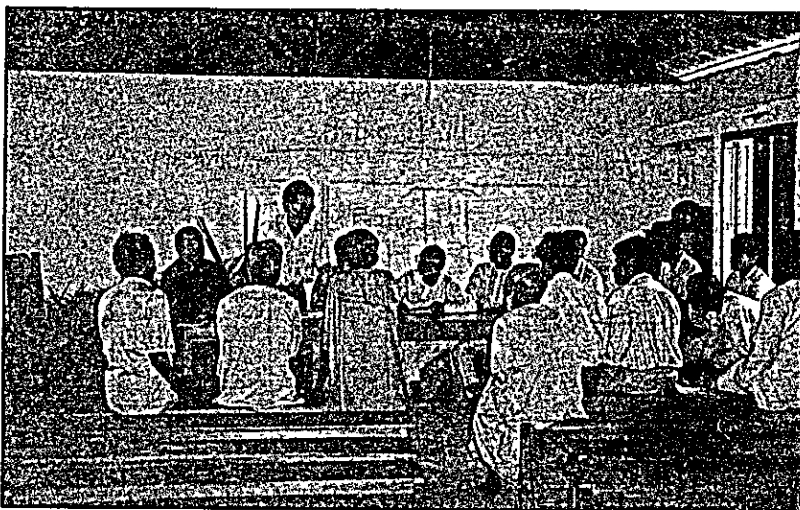
After some preparatory works for about a month, setting-up of culverts had started on 12th February 1993 and all the works had finally completed by the end of May 1993. The construction of a bridge was endorsed at the Thana committee as a first priority project and sent to the CARE office for final approval. The bridge is supposed to be constructed by CARE during this dry season. But through implementing this action programme, the project and VC was faced by, in addition to the problems on financial resource mobilization from the village (will be discussed later), the two problems are as follows:

1. difficulty to decide the place to set up culverts because of the objection of a landowner who lives in the adjacent village,
2. difficulty to get necessary soil because of the objection of some concerned landowners.

These problems were not solved easily in spite of the persistent endeavours made by some VC members. Particularly, the second problem was not solved despite holding three times of salish among the adjacent villagers and VC members. Major lessons obtained from the experiences are as follows:

Figure 1. Connecting Road of Chamuria hat with Highway  
(Prepared by Dr. Uchida)





*Village Committee meeting at Daskhin Chamuria, Tangail.*

1. The power of existing leaders to coordinate for solving inter-village problems is recently getting weaker and weaker. Some authority in a high level such as Union Council is highly required.
2. Infrastructure development programmes without direct participation of villagers in addition to the VC members cannot be easily implemented.

## **2. Mobilization of Voluntary Labour/Subscriptions**

At first it was planned to mobilize voluntary labours for the necessary earth works. The possibility for mobilizing subscriptions is also considered but retained. VC made a plan to allocate the work burdens to the villagers through 41 bari groups, which was organized by the project initiative mainly for the information dissemination.

Despite virtually no experience for the villagers to provide voluntary labours for the infrastructure development, it was successful for one or two days. But it stopped suddenly because due to the above-mentioned conflict with landowners, and moreover Ramadan had started.

Thus the plan to mobilize voluntary labour was abandoned and instead the strategy is adopted to mobilize subscriptions for the payment of labour wages. Under the suggestion from the project, the problem was discussed at VC meeting and it was decided that subscriptions would be collected from the villagers. VC members declared in the presence of attendants of the meeting to give about Tk. 50-100 per person as their contribution. And it was also decided to collect Tk. 5 or Tk. 10 from the other villagers.

Again, inspite of no habit for the villagers to contribute subscriptions for development works, at first stage subscriptions were collected successfully. But after about 20% (Tk. 1, 744) of targetted amount were collected, further collection could not be continued. The reasons seem to be as follows:

1. Union Council has long been responsible for the construction and repair of rural roads by paying wheat to labourers under various aid programmes. Villagers are so accustomed to this system.
2. The ordinary villagers do not have keen interest for the improvement of the road which had been repaired this time, because relatively speaking the road is not closely related to their daily life. This is especially applicable for the villagers of South para.
3. Most of the VC members except 3 or 4 members could not participate in the collection of money.

Anyway we could observe a tendency of the villagers to be reluctant to contribute money for the development of infrastructure which is considered by the villagers as the responsibility of local government. If it were for the religious or cultural purposes, they would be ready to pay much more money without hesitation. There seems to exist a deep gap in their consciousness between development works and religious/cultural matters.

#### **D. Future Prospects**

It was learned from the first attempt of road improvement that without direct participation of villagers infrastructure development programmes may be difficult for fully successful completion. Only the decisions of the VC seems not to be enough. Some institutional

set-up under VC be necessary. So, as a next step the project have introduced para meetings in each para for the participation of villagers to discuss about the construction and repair of intra-village roads which connects each para with the village road and the hat. It is evident for the villagers as well that lack of such connecting roads highly hinders the overall socio-economic activities of the village especially in the rainy season. The major issues to be solved at the para meeting are as follows:

1. how to reach compromise among the persons concerned about the problems for sparing of the land for the construction of new roads,
2. from where soil will be procured,
3. how to mobilize at least some part of the cost of necessary earth works in the form of either voluntary labours or subscriptions. The target amount was decided to be around Tk. 10,000.

By now three to five meetings were held at each para and except one para the first and second issues had already been agreed among the villagers. And new road construction programme in North para already started. The programmes may, we expect, be successfully completed in this dry season but anyway it is too early at this moment to fully evaluate this new attempt.

Finally, let us discuss the possible way of resource mobilization from villagers for the village-level public investment. Considering that the foreign aid cannot fulfil all the needs, especially the village-level infrastructures, there are five possibilities:

First is the mobilization of voluntary labours. There seems to exist some scope for some small works and/or maintenance by voluntary labours. But there is always an anxiety for the poorer sections of villagers to be exploited in the form of 'compulsory' labour.

Second is the mobilization of subscriptions. It may be possible under some close supervision. But there is a problem who will do the labourious work for the collection of money. And there is also a possibility of misappropriation of the collected money.

Third is the accumulation of property such as village land. The land can be rented or mortgaged out and the yearly revenue from the land

can be utilized for necessary infrastructure development. The problem is how to accumulate such common property, and how to prevent misappropriation of the property.

Fourth is the refund from tax, regardless of national tax or local tax. It is now widely recognized that the tax burden of the rural sector is low compared to its ability, especially after the independence of Bangladesh. In Daskhin Chamuria village, for example, against the estimated total village income of Tk. 50-65 lac (under the assumption of Tk. 10,000-12,000 per household), the Union tax which should be paid annually by the villagers is less than Tk. 9,000. As is shown in Table 11, more than 60% of the households is taxed less than Tk. 10 per year, and there are only two households which should pay more than Tk. 200 annually. Only 0.14% to 0.18% of total village income is now taxed by the Union Council. And even if other taxes including those levied by thana office (tax on hat merchants, ferry ghat, etc) and the national taxes (land development tax, VAT, customs, etc) is taken into account, the percentage would not exceed 1% of the village GNP, which means maximum of Tk. 100-120 per household (only two or three days of wages).

The problem is that inspite of the very low rate of tax there are huge amount of arrears. One of the reasons for the widespread nonpayment of Union tax by the villagers seems to be the nature of utilization of realized taxes, namely, almost all the revenues are used now as salary and honorarium to the staff of Union Council.

It can be recommended that in the long-run more tax should be collected by the Union Council and at the same time larger part of the

**Table 11. Union tax in Daskhin Chamuria, 1991/92**

Landholding	No. of HH	unlisted	Tk. 0-10	Tk. 10-30	Tk. 30-50	Tk. 50-100	Tk. 100-200	Tk. 200-
0	206	131(64%)	59 (29%)	15(7%)	1(1%)	-	-	-
0-0.49	138	55(40%)	48(34%)	35(25%)	-	-	-	-
0.50-0.99	84	14(17%)	14(17%)	45(54%)	7(8%)	3(4%)	1(1%)	-
1.00-2.49	78	9(12%)	2(2%)	23(30%)	28(36%)	16(21%)	-	-
2.50-4.99	24	-	-	-	4(17%)	14(58%)	6(25%)	-
5.00-	8	-	-	-	-	-	6(75%)	2(25%)
Total	538	209(39%)	123(23%)	118(22%)	40(7%)	33(6%)	13(2%)	2(0%)

revenue should be refunded to the villages for the development works. The required money for regular construction and maintenance of village-level infrastructure may not exceed Tk. 50,000, which is still less than 1% of the total annual village income. It really seems to be a very difficult task under the condition of rural contemporary Bangladesh, but it is never impossible.

The fifth is the mobilization of post office savings. The savings can be invested by the government to development works. Of course the invested money should finally be filled up by the national taxes, but it seems to us that it is the most pragmatic way of resource mobilization from rural areas in the short and medium term.

The key issue, according to our understanding, is not the lack of capital (poverty) for private investment, but the lack of resource mobilization for public investment. Now it cannot be said that Bangladesh is poor because of the vicious circle of poverty, rather there is a huge potential to save and invest it for promoting common interest, which has in the long-run, we are convinced, far-reaching implications to overall economic progress. The necessary thing is only the willingness to change the paradigm of rural development!



Village Manager & Chairman of V.C. of Daskhin Chamuria are seen with Prof. Y. Kaida & Mr. Kazuo Ando while they are attending the Mid-Term Review Workshop of JSRDE at RDA, Bogra.



# OVERVIEWS OF THE ACTIVITIES OF JSRDE TANGAIL SITE WITH SOME CONCEPTUAL PROPOSAL FOR RURAL DEVELOPMENT

Kazuo Ando

## Introduction

The report is the outcome of a series of discussions held at the weekly seminar among JSRDE members of BAU, BRDB and JICA, and also with field staff at the study village, with a view to reviewing the activities of Tangail site.

### 1. Physical setting of study village and key issues at Daskhin Chamuria.

The study village Daskhin Chamuria is located on the east bank of the Lohajang river, a distributory of the Jamuna river. The basic ecological setting of the village is given by the floodplain environment. The village is under Shahadebpur union of Kalihati thana of Tangail district.

As shown in Figure 1, the main kaccha road connecting the village to the highway is cut off in the rainy season due to the absence of the bridge at the big bhangha. The bhangha is passage for flood water and boat communication.

Previously the predominant cropping pattern was traditional deep water aman rice kharif season followed by kheshari kalai in rabi season. It has now been replaced by the modern variety boro rice. The rapid decrease of the pulse cultivation seems to result in the deterioration of soil fertility.

A number of the villagers are engaging themselves in non-farm jobs. Remarkably, the poor women engaged in the birikiri and sutapati are supporting their livelihood. Beside these, the small business, i.e. egg business, fish-net sale and parboiled rice sale etc. are source of earning to the poor at bazars and hats. The small rural entrepreneurs are significantly functioning in the rural economy.

The village has four paras, namely, Uttar, Madha, Purbo and Daskhin. The villagers of a para are dwelling scatteredly on several chaklas. A chakla is usually a group of Bari Bhati, which is not submerged during the rainy season. Though the roads submerged by the normal flood cut off the frequent communication between paras, the villagers keep the daily communication with neighboring chaklas by kosha, a small boat.

In a para, the rural village leaders namely gram matabars are identified by the villagers. The study village Daskhin Chamuria has the history of rural development programmes initiated by the village leaders. They established the primary school and the village hat in the corner of the village. During the Swanirvar movement, they established two village development committees in the Daskhin para. Though the Swanirvar movement discontinued several years ago, these committees informally functioned upto the recent time.

The characteristics of the Daskhin Chamuria village are summarized in the context of rural development. The action programmes of the village were planned on the basis of the key clues identified by the fact-findings of the village study of JSARD project.

## **2. Operational objectives**

In order to implement the objectives of the project in Daskhin Chamuria village the following working objectives have been laid out to-

1. Strengthen community solidarity consciousness through the utilization of village institutions especially the existing village leadership (matabbar household (bari) groups of a para.)
2. Promote linkage between village and government agencies through the coordination of the Bangladesh Rural Development Board (BRDB)
3. Promote the introduction of new technology vis-a-vis the effective use of appropriate indigenous technology.
4. Mobilize the village resource for development
5. Develop human resource in the line of JSRDE from survey to experiment

### **3. Implementation and monitoring of programmes**

Major activities along with the responsibilities of the field staff in implementing the programmes are very briefly presented below.

1. The field staff are responsible for overall implementation of the programme at the site level.
2. The field staff hold regular discussion about programme starting from initiation to implementation.
3. Daily morning staff meeting at JSRDE village office is a mandatory one.
4. Occasional review meeting is held by the members of programme implementation from BRDB, BAU, JICA and JSRDE village manager to monitor the programmes and decide future.
5. Weekly seminar is conducted on the progress of action programme or on certain issues related to it at BAU or JSRDE Dhaka office.

### **4. Procedure of implementation**

The experience on the implementation of existing rural development programmes from the village indicates that the rural authorities, who are the village leader, union parishad chairman and members and government personnel working at the village, union and thana, are neglected or are used only to meet the requirement of the implementor of the programme, mostly they are not given proper participation and respect in implementation, which directly involves them. Besides, they are not always informed of the programmes officially, even if the programmes are implemented in their area. Accordingly, they have a feeling that these programmes are not theirs and then, they become less cooperative to the programmes. Sometime they approach the implementor individually for their own interest (as touts). The procedure of implementation of development programmes creates bottlenecks. The purpose of JSRDE is to involve the local existing rural development leaders for their local development.

At the beginning, it was thought that the information regarding the action programmes should be officially opened to those persons through the meeting set up by the institutional framework of JSRDE, Tangail. This procedure has the minimum requirement to invite them to the project as a collaborator. Its implication is obviously reasonable to clarify our eager attitude to seek coordination and cooperation from them. Without their individual collaboration to the project, it is likely to be difficult in breaking the primary constraint to promote linkage between village and government agencies. The procedure of implementation of the project in Tangail is outlined below.

**Table 1. : Procedure of Implementation, JSRDE, Tangail.**

First	: Setting up JSRDE Institutions. Village committee, Union advisory group, Thana advisory group,
Second	: Getting comments and consents of programmes with the Village Leaders, Union Parishad Chairman and Members, Thana Officials.
Third	: Implementation of action programmes and monitoring & survey.

### 5. Type of action programmes

For the convenience of implementing the action programme they are broadly classified into three types namely (i) institution type, (ii) input and technological intervention type and (iii) manual preparation type.

The first type is mainly committee and group formation and holding meeting for sharing the decision-making and delivering the information such as the schedule of visit and working plan of development assistants of the government or proposal of the development of rural infrastructures, i. e. road etc.

The second type refers to the supply and services to the rural people, lease of machineries, setting of demonstration plot and agricultural extension services, construction of culverts for road improvement, etc.

The third type relates to the preparation of the manuals used for planning and implementation purpose.

All the action programmes are listed according to the type, date of commencement and four basic JSRDE project approaches.

## **6. JSRDE village institutions**

### **6.1. The leaders' contribution in the rural development programmes and their role in the village**

Information of village survey reveals that the village leaders residing in the village grasp the interests or issues of the village individuals as well as the masses. This ability of the village leader is demonstrated in the bichar/shalish or village court to settle the dispute among the village individuals. The village leaders are respected as the authorities of mediators in the villages on one hand, they are negotiators for their followers in the bichar on the other.

The village leaders are actually classified into para's matabbars, somaj's matabbars or gram's matabbars according to their function and publicity. However, the village leaders (henceforth the leaders), who initiated the rural development programmes in the village, are defacto the gram matabbars. Though they are called gram's matabbar, they are identified by the villagers in terms of para. In the study village, there are four paras namely Uttar, Madha, Purbo and Daskhin. In each para, three to five gram matabbars reside. They are, in a sense, the representatives of their para and agents of their followers.

Besides the function of a mediator in the bichar, the leaders often communicate with the personnel and organizations outside the village. Most of them used to visit the center at least once a month during the period of JSARD project. They are likely to be positive to collect the information in advance of the village masses (after here, the masses). They are acquainted with the movement of public opinions and the interest of the governmental and non-governmental organizations.

The leaders sometime behave themselves like "tout" to realize their own interest by taking advantage of advanced-information holding

persons. Nevertheless, their ability to perceive the public opinion or interest are yet to be evaluated properly. They can comprehend the common interest for the masses, and so, they could initiate the establishment of the primary school and hat in the study village. Owing to their "a tout-like" character, it is not to deal indiscriminately with their contribution in this matter. They are facing issues in the village as the persons concerned, who are members of the village community. Their role in the village community would rather be evaluated from a positive viewpoint.

With the background mentioned above, the institution and the manual preparation type programmes except "support to organization of women's club" programme, which are commencing between January 1993 and April 1993 were prepared by the project, while the input and technological intervention type programmes were prepared from the existing programmes of the development service assistant or the suggestions of the village leaders. In Tangail, the village leaders played a key role in need assessment in preparing the action programmes.

## 6.2. JSRDE institutions

JSRDE village institutions comprising of village Committee, Village Committee office, Para Meeting and Bari Group are given below.

**Table 2. JSRDE Village Institutions\*, Tangail**

1. Village committee	: Chairman (1), Vice Chairman (2), Secretary (1), Assist Secretary (1), Member** (12).
2. Village committee Secretariat	: JSRDE village office
3. Para meeting (4 paras)	: Chairman (Village committee member), Shebok and para people.
4. Bari (household) group (41 groups)	: Shebok (male, 1)***, Shebika (female, 1)*** 10-15 household.

Note: \* JSRDE institutions  
 Village committee  
 † Para meeting  
 ‡ Bari Group

Village communities  
 Gram  
 Para  
 Chakla

- \*\* Village committee members are nominated by the villagers in the village meeting for three years. The thirteen male members are from Uttar para (4), Madha para (4) Purbo Para (3) and Daskhin para (3). Though the four female members were nominated firstly one member from each para, they constitute, at present, Uttar Para (1) Madha Para (2) and Daskhin Para (1) because of leaving the village by the ex-Purbo Para member. There was no suitable candidate in Purbo Para.
- \*\*\* Sebok and Sebika are nominated by the Bari group members for six months.

The village committee is formed following the structure of the previous village development committee. However, at this time, the village leaders of Daskhin para wanted to form jointly one village committee of Daskhin Charnuria village. The numbers of the VC (Village Committee) members are proposed as per the population by JSRDE project. One member represents 30 households. These VC members were selected by the general villagers in the village meeting of 12th January 1993.

The executive body consisting of chairman, vice chairman, secretary and assistant secretary who were nominated among the selected VC members by the general villagers in the same village meeting. The VC is expected to assume role of the village authority for representation and coordinating in the village for rural development programmes.

Bari groups were organized by the JSRDE field staff with JICA experts. It took about one month to organize them in February, 1993. JSRDE staff and JICA experts called the members of the same Bari Group in the night for men and in the day time for the women to explain their function. At the meeting, the shebok (man) and the shebika (woman) of each bari group was selected by the recommendation of the members.

The Primary function of the shebok and shebika is to disseminate information obtained from VC among the members of the bari group. Para meeting started in July 1993 to establish linkage between the VC and the individual villagers as well as to encourage the

individual villagers to participate in the planning process. The common interest of the villagers were discussed separately at each para meeting. Their interests were put forward as a plan to the VC. The VC has endorsed the plan with priority as a village development plan. The examples of programmes initiated by farmers in this way are the village road construction programme and the establishment of the village post office. These are now under implementation.

The shebok is encouraged to attend the para meeting as his function.

## 7. JSRDE governomental inistitutions for linkage

For the purpose of giving necessary suggestions and guidance to the project, Thana and Union Advisory Groups were formed. List of the composition of Thana Advisory group is given below:

### Personnels of JSRDE Thana Advisory Group

Thana Nirbahi officer	Chairman
Thana Agriculture officer	Member
Thana Livestock officer	Do
Thana Fisheries officer	Do
Thana Health & Family Planing Officer	Do
Thana Engineer	Do
Project Implementation Officer	Do
Sub-assistant Engineer, Public Health Engineering	Do
Thana Cooperative Officer	Do
Thana Social Service Officer	Do
Thana Women's Affairs Officer	Do
Thana Education Officer	Do
Thana Rural Development Officer	Member Secretary

The Union Working Group was formed to coordinate their work schedule under the leadership of BRDB. The Union Working Group may be seen as follows:



## Personnels of Union Working Group

Assistant Rural Development Officer	Coordinator
UP secretary	Assistant Coordinator
Supervisor (Health and Family Planning, Shahadebpur Union)	Member
A. S. I. Health Directorate, (Shahadebpur Union)	Do
Branch Manager, Grameen Bank	Do
Project Officer, Swanirvar Family Planning	Do
Officer-in-charge, SPP, Daskhin Chamuria	Do
Block Supervisor, DAE, Shahadebpur, Ward No. 3	Do
Health Assistant, Health Directorate, (Shahadebpur Union, Ward No. 3)	Do
Thana Livestock Assistant	Do
TCCA/BRDB Inspector (Male)	Do
TCCA/BRDB Inspector (Female)	Do
Family Planning Assistant	Do
Work Assistant (LGED)	Do
Mechanic (Public health Engineering)	Do
Swanirvar Field Worker	Do
UP member (Shahadebpur Union, NO. 3 Ward)	Do

## 8. Institutional action programme for linkage

### 8.1. The role of the village leaders in the linkage

The linkage for delivering the governmental service observed during JSARD project was invisible for the masses, for the government service agents used to maintain the individual contact with the leader for this purpose. The leader used to function as a direct receiver or middle man. The selection of contact-farmers of agricultural extension, the founder of the governmental cooperative, the recipients of subsidies of a loan or pumps, relief delivery etc. are easily listed up. The masses are, a posteriori, familiar with the affairs after taking the decision by some leaders. As for an example, one of the village leaders got the loan on behalf of the cooperative mem-

bers, whereas the cooperative members did not know about it at all. This is, now, a serious problem among the members. This type of example is common in every village where the inactive cooperatives are seen. More or less, this happened in the other government services. However, to find fault with the village leader is easier than to criticize the system of the linkage.

## 8.2. The trial of the linkage in Tangail.

The existing rural development programmes based on the needs of a village community, i. e. , road etc. and the linkage of the villagers with the local government institutions, i. e. the line departments, the union parishad are not visible in shape as in the cooperative system, for these are defacto depending on the intentions of individual village leaders. In other words, the visible dialogue system between the village community and the local government institution does not exist in Bangladesh.

Accordingly, top priority was placed to prepare the village institution as the visible representative of village community to communicate with the agencies outside the village. The dialogue system of the government service agents with the villagers is to be attempted in the project. The former is in the village committee, the later is in the village coordination meeting.

Besides the institutions, the essential system is how to deliver the information about the discussion of the village committee and the village coordination meeting to the ordinary villagers. The opened information shared by a village community can, itself, monitor the village leaders and the government service assistants. For information delivery in a community, JSRDE has introduced the bari-group, kairanban and notice board as in Japan. This system can develop the neighbouring community consciousness. If the villagers can grow neighbouring community consciousness through their approaches, they can also grow the solidarity essential for the community based rural development programme. Adequate village community consciousness and awareness of the government services can change the character of the village leaders and working system of the government.

To develop the system of linkage between the village and government and non-government agencies under BRDB's coordination, the following action programmes are now being implemented.

### **8.3. Monthly village coordination meeting**

The village coordination meeting is arranged by the village committee and directed by TRDO, BRDB. The chairman and the secretary of the meeting is the same as the village committee. All the village committee members, the shebok and shebika are invited to the meeting. From the local government and non-government agencies, the personnel attend the meeting. The meeting is scheduled to be held at the primary school, at 11:00 a.m. of the every first Thursday of a month. In the meeting, the achievement of the government agencies and non-government agencies' assistants are discussed, and the schedule of their visits in coming month in the village are informed to the villagers.

The information obtained from the meeting is to be disseminated quickly to the villagers through sangbad, a leaflet containing the information. The sangbad is the brief news printed in one or two paper of A4 size. It is prepared by the JSRDE village office. It is put on the notice board in each para, primary school and hat. Besides the notice board, the sangbad is sent to shebika of each bari-group. The shebika has responsibility to circulate the sangbad among the bari-group members.

In the past, schedule of the government personnel did not reach the villagers well, but recently, this has improved much by the motivation of the Shebok and the Shebika through meeting. The number of the cow vaccinated by the livestock assistant was about 100 on 11th November 1993. The government services seem to be gradually visible in the village.

The attitude of the villagers in the meeting indicate the necessity of the felt-need approach for the technological intervention. Repeating the meeting, the villagers gradually have opened their opinion to the government personnel, when the topics hit their needs.

More than half of the village committee members usually attend the meeting. The attendance of the shebok and Shebika, however is to be encouraged more by the motivation work.

#### 8.4. Preparatory weekly union coordination meeting by union working group

With the six months' experience of the village coordination meeting, the preparatory weekly union coordination meeting started under BRDB's coordination. The preparatory meeting tries to seek the opinion of the union working group and the monthly union coordination meeting. In the preparatory meeting, the government and non-government personnel attending the village coordination meeting are invited for discussion. The meeting was held at the office room of union parishad at 11:00 a.m. on every Wednesday for three months from August 1993 to October 1993.

The preparatory meeting proved the possibility of the coordination of the government service agencies at the union level by adjusting the working schedule of the government personnel. In every meeting, the personnel expressed their opinion actively. For example, when the health assistant told that vitamin could be supplied by the vegetables instead of the capsule, the block supervisor of the agricultural extension told that he could give the extension service to the groups of 10-20 persons formed by the health department, if possible for demonstrating how to grow nutritious vegetables.

The problem for service delivery in this locality was identified by the meeting. The bad road communication during the flood season prevented them from visiting the village. Advanced information of the schedule is much useful to encourage the villagers to be ready for the service.

The question of how to deliver the advanced information was discussed in the meeting. Public health engineer told that he sometimes attends the mosque before starting of Juma prayer on Friday to inform the villagers of his work. The Block Supervisor told that loud speaker is, sometimes, used for information delivery of the insecticide at bazar and hat.

All personnel appreciated the EPI method in principle, but they expressed their limitation because of a small number of personnel. The health and family planning office has more personnel in comparison with other departments.

EPI method got the advance information spread by the assistants from fixed place and date of EPI camp at the collaborators' house. The motivation work is also well carried out by the camps and individual communication by the assistant visiting the villagers etc.

#### **8.5. Monthly union coordination meeting**

On the basis of the experience of preparatory meeting, the monthly union coordination meeting started just in November 1993. The operation and the intention the meeting is discussed later in this article under 14.2.A. proposal of link-system.

#### **9. "Tools" for project implementation with JSRDE institutions**

The main character of the project implementation of Tangail is to attempt the three institutional action programmes mentioned earlier. Besides these programmes, all meeting except the monitoring programmes have detail proceeding as these are recorded in a mimeograph. This procedure is one of the monitoring methods. However, it shows the basic attitude of the project implementation at Tangail. The project always looks for the way how to share the "decision" and "information" among the project personnel as well as the persons concerned in the action programmes. In other words, it is attempted to mobilize the "information" in the human network built by the project. For this purpose, the common "tools" are always followed at Tangail. Among these, the sangbad (news), notice board and kairanban need explanation about their implications because of their character as a medium.

When these "tools" have been explained for distributing information among the villagers, many literate people have raised the questions of their effectiveness. The question is that the information to be distributed through them is "written forms" and above 70% people of the village are illiterate.

It is not always expected in the project that information expressed in a letter will serve the purpose of conveying the message to the illiterate villagers. The important point is that the information is

expressed through physical appearance of language which the illiterate villagers can see and touch from the notice board and kairanban (notice file) and they may be conscious about information and also of "the time of coming of information". And then, they may have some access to information by asking literate persons.

If "the coming of information" can be visually noticed by the illiterate villagers, they may also have access to the information by themselves. The successful transmission of information, specially, related to rural development to the villagers is dependent on "how to inspire the villagers to raise their consciousness about the process of access to "the information".

"The information" is usually diffused in the village through private channel and spread verbally through his/her personal network. This distribution system of information is characterized as a private circulation with "the abstract, or invisible" and so, "the information" can be easily controlled by the person who has the first access to this information.

The notice board and kairanban system can, however, assure the information to be opened to all the villagers, if the villagers are willing to have access to it. In case, of solution of the problem of development programme or affairs in the village, it is basically required to let "the information" be opened to everybody for effective implementation and solution of the problem. The project expects the potential impact of the dissemination of the written information by the sangbad with the notice board and kairanban on the illiterate majority.

#### **10. Input and technological intervention programmes**

Besides the institution action programmes, the action programmes of input and technological intervention are conducted at Tangail are listed below:

1. Lease of power tiller & Agri. machineries.
2. Demonstration Plots of Homestead Garden & MV rice with DAE.
3. Union road improvement by culverts & palisiding for requirement of CARE's Bridge Programme.

4. Palisading for protecting river embankment.
5. Improvement of chula in cooperation with swanirvar.
6. Repair of Youth Club Room.
7. Grafting of fruit trees in cooperation with DAE and Horticultural Board.
8. Field trial for improved cropping pattern.
9. Extension of sanitary latrine with P.H. Engineering.
10. Establishment of village post office.
11. Village road construction.

### **11. Manual preparation for action programmes**

The manuals for action programmes are being prepared of which Rural Hydrological Map and Rural Development Resources Map have been completed. One set of maps was already handed over to the UP secretary. The homestead plant handbook is now being prepared in relation to the fruit tree grafting programmes.

### **12. Tentative conceptual models for rural development**

Some conceptual proposals are prepared as the achievement of the one and a half years' project operation at Tangail. These proposals are still tentative even among the team members of Tangail, Whereas these are prepared for provoking intellectual stimulation regarding "models"

The alternative concept for income generation" is nicely discussed by Dr. Fujita with his angle on the action programmes of the rural road construction. The "Alternative Concept for Technological Intervention" is discussed by Dr. Salim with emphasis on the experience of the improvement of cropping pattern by the field experiment action programmes. And so, here, "A proposal of link-system" and "A proposal of rural infrastructure model" is highlighted. The former two proposals are touched briefly with the conceptual figures, the later two are discussed in detail with the figures and some experiences of the action programmes. These proposals are discussed in 14.2 and 14.3. Some conceptual proposals for rural development, JSRDE, Tangail" with figures are as follows.

- 12.1. Alternative concept for income generation with figure 2&3.
- 12.2. A proposal of Link-system with figure 4&5.
- 12.3. A proposal of rural infrastructure model with figure 6.
- 12.4. Alternative concept for technical intervention with figure 7&8.

### **13. Proposed new action programmes**

The following new action programmes have been proposed in order to strengthen on-going programmes and fulfil the objectives of the project. These are planned to be implemented in addition to the present action programmes.

1. Union Service Center at a Ward.
2. Thana Rural Development Center at BRDB.
3. Village Committee Room.
4. Para Committee Room.
5. Hat Improvement.
6. Adult Education.
7. Tree Plantation for protecting road and embankment.
8. Encouragement of Saving at the village post Office.
9. Introduction of African Dhaincha.
10. Pulse introduction: Motorshuti, cultivation of Soyabean.
11. Vegetable introduction: Kankon (Girna kalmi).

### **14. Some conceptual proposals for rural development**

#### **14.1. Alternative concept for income generation:**

In the study area, the poor villagers often try to earn income with the petty business or as the van puller. The petty business is for example, the egg business and parboiled rice business at the hats and bazars. Earning opportunities from these business depend upon rural roads and hats, which are pre-conditions for the well established rural market.

As shown in Figure 1, the people of the study village have the kaccha road and hat, which were established by the initiative of the village leaders. The kaccha road, connects the village to the highway. The buses, tempos and vans are available at the highway to reach the big market places of Tangail and Elenga. The kaccha road links the



villages with the town, where the various facilities, i.e., hospital, high school and the cinema hall etc. are available. The kaccha road is essential for the daily life of the villagers, who have relation to the town.

The government service assistants also come to the village by this kaccha road. If the villagers are seriously ill, they are transferred to hospital at Tangail town. The small pharmacies are opened every day at the hat. The villagers can buy the medicines immediately from the hat. Without the kaccha road and hat the poor villagers may not keep the life security and may be deprived of the various services from agencies outside the village.

Based on experiences of rural development over four decades since 1950s, poverty alleviation is the essential major programme in Bangladesh. However, the loan and training programmes mostly depend upon the foreign aid (see Figure 2). The poor people are organized to groups or cooperatives to receive the programme. The target group approach is adopted for the poor people. However, this approach seems to have the limitations for the poor people to use the loan and the skill without basic requirements as narrated above. For example, if the poor people are given a loan, they cannot properly use it for the petty business at the rural market.

The problem is not only of rural infrastructure such as the road and hat but also the ability of the people to do business. All the poor people have not equal ability in the business. The majority of the poor people seek employment opportunities in rural area. In this connection, the big rural entrepreneur such as the owner of biri factory has the essential role in the off-farm job opportunities. They can provide the jobs to the poor people. The good rural infrastructure is much required for the economic activity of the big entrepreneur as well as the petty entrepreneur.

The discussion above clearly suggests that loan and training are not the only way for poverty alleviation.

Instead of the major strain of the income generation by the loan and training, the alternative concept is presented here for activating the poor people to go for self reliant-income generation in Figure 3. The concept has the key words of "Security", "Communication", "Infra-

structure", Government Services", "Local Government", "Tax", "Subscription" and "Rural Savings through Post-office". The "security" means it provides rural people with reliance to live in a community without anxieties i.e. diseases, social quarrels etc. It is unquestionable that people cannot be active to use properly their ability under pressure of anxieties. Usually, in the context of rural development, poverty is considered as the major and basic factor for giving people pressure of anxieties. If it is so, the poor people can never be active unless they get rid of the poverty problem.

However, even though the poor people get a loan, it is a difficult task for them to solve their economic problem without essential supports of rural infrastructure i.e. road, hat, etc. and agencies' services i.e. agricultural extension, health etc. These supports can remove the anxiety by increasing of "security" in his/her life.

The direct approach by depending upon the ability of the individuals of the poor is reasonable from the viewpoints of humanity, but it seems to under-estimate the factors which obstruct the development of the poor. The alternative concept, therefore, proposes the necessity of arrangement of basic requirement for the self-reliance of the poor as well as the economic supports.

The poor people in rural Bangladesh like in the study village are neglected in this regard. The constraints for the poverty mentioned above are to be improved by the governmental efforts immediately, because the poor people cannot take major counter action on the matters by themselves.

In Figure 3, the communication and the innovative technological services of the line department of the government are directly encouraging the individual economic activity as well as the security. It is obvious that the rural infrastructure i.e. road, hat, bazar, post-office etc. directly induce rural people to participate in economic activity in rural market, and the government technological assistant services like agricultural extension, livestock department etc. can also directly contribute their skills in production. The model as described in Figure 3 may be an alternative concept for rural development.

The rural development programmes to improve the security, communication, government services need the support of the rural infrastructure and community consciousness under the local government frame, because the local government is the only institution to take responsibility in this matter. In order to alleviate poverty in rural Bangladesh, the alternative concept seems to be more certain than the programmes to give a loan and training/motivation to the individual poor.

To provide the infrastructure to the rural people, the aid is not sufficient in terms of cost and the participation of the rural people. The rural road should be considered as a common property of a community by the rural people. This consciousness can only be grown by the participation of the rural people in terms of the finance and planning.

The local tax, subscriptions and the rural savings through the post office are the suitable devices for financial support for construction and maintenance of the infrastructure in the present situation of Bangladesh. As mentioned in detail by Dr. Fujita, the local tax and subscription are effective ways to mobilize the resources in a community. If the rural road will be constructed on the basis of the plan actually participated by the rural people with their financial contribution, the rural road maintenance programme can be participated by the rural people on the basis of the community consciousness.

One serious constraint to sustainable rural development in Bangladesh is the difficulty in keeping the sustainable infrastructure in rural area. The road damaged by the flood, water or mud during the rainy season can not function as the real sense of the road. The complete communication system all round the year is much required for rural people. The maintenance of the rural road as well as the construction is, therefore, important.

The savings in the post-office should receive attention by the government as the source of budget for rural development in relation to the tax. The encouragement of the individual economic activities by giving proper infrastructure eventually means the increase of sustainable tax collection. The benefit of the savings of the post office should be refunded by the tax. The acceleration of the

development of the rural economy will surely result in increasing the savings of the post office.

## **14.2: A Proposal of link-system**

### **14.2.1. The present link-system**

Figure 4 illustrates the present link-system of the service delivery to the villagers from thana office. The assistants of the line departments usually communicate with the individuals of the village leaders without giving the information of the service to the general villagers. The village leaders also attempt to approach the assistants or officers through the advanced information obtained at thana offices etc.

This present link-system gives the image of "a tout" to the active village leaders, because it is observed that the general villagers often communicate with the assistants through the village leaders. Therefore, the link between the village leaders and thana offices is strong through the assistants. As a result, the general villagers have weak link to get the service. In the study village, the village leaders know and see the assistants, whereas the general villagers are not familiar with them. It seems to happen in every village in Bangladesh.

It does not have to be disregarded that the village leaders willingly approach the assistants with the advanced information. The problem is how to give the "advanced information" to the general villagers. The proposed link-system is expected to encourage the general villagers to approach the assistant and thana offices in a voluntary manner.

### **14.2.2. The concept of the proposed link-system**

The action programme of the village coordination meeting is to test the method how to disseminate the "advanced information" to the general villagers through the link between the village leaders and the assistants at the village level.

The village coordination meeting's link-system makes the communication of the village leaders with the assistants opened to the

general villagers in the meeting. The visible procedures of the sangbad (news), the notice board and the kairanban through the bari group are taken to send the "advanced information" to the general villagers. However, it is not feasible that the village coordination meeting will be held at every village in Bangladesh because of the shortage of the government personnel. Therefore, the new concept of the link-system is proposed here for realizing its feasibility.

The proposal of a link-system consists of the four institutional settings as given in Figure 5. The First one is the Union coordination meeting at the Union Parishad office. The second one is the Union Service Centers at the ward. The third one is the Thana Rural Development Service Center at BRDB thana office. The fourth one is the para in the village.

In the proposed link-system, visible procedures to send the "advanced information" are the sangbad (news), the notice board and kairanban (circular file). The role of the bari group is taken over by the para.

The Union Coordination Meeting has the same function as the Village Coordination Meeting. The members forming the meeting are the UP chairman, UP members and the government personnel working at the union. the meeting is chaired by the UP Chairman. the secretary for the meeting is the UP secretary. The ARDO or TRDO, BRDB attends the meeting as a coordinator. At the meeting, the schedule and achievement of the government service agencies is mainly discussed, and information about rural development collected by BRDB personnel from the various sources is opened to the members. The information collected by BRDB personnel is specially the occasional rural development programmes and the schedule of the other line department workers, i.e., fisheries, social welfare etc., which do not have the assistant at the union level.

The sangbad with information obtained from the meeting is sent to one respectable village leader at each para in the union by the UP chowkidar under the UP secretary's direction. One respectable village leader at each para is recommended by the UP member of the ward, to which the para belongs. The name of the village leader is opened to every body at the meeting of the para organized by the UP

member. One notice board is, at least, located in the para and also at public places like hats and primary schools. The name of the village leader is informed of the general villagers by the sangbad and register in the UP office by the UP secretary. The information of the sangbad is distributed to the general villagers through the notice board and the para meeting which is organized by the village leader in cooperation with UP member and UP chowkidar.

At the thana level, the Rural Development Service Center is to be established at BRDB office. One function of the Rural Development Center is to collect the information from the other departments and send it to the Union Coordination meeting. Another is to guide the general villagers who want to visit the office according to the information distributed by the sangbad. The general villagers are not familiar with the government officials at thana so, it is better for them first to visit the Rural Development Center at BRDB office to get the advice.

At the ward level, the Union Service Center is to be established at the place, where the general villager can identify and approach easily. The government assistants give the service to the general villagers from the base of the Union Service Center at ward. The purpose of the Union Service Center is to catch the general villagers who wish to communicate with government assistants.

As shown in Figure 5, the individual general villagers obtaining the "advanced information" can approach the visible contact places of the rural development service center at thana, union parishad and Union Service Center at the ward in a voluntary manner. The good point of the proposal of a link-system is to catch the "active general villagers", who are neglected in the present link-system. The number of the active general villagers is several times of the village leader. They have to be highlighted in the rural development programmes achieved by the service of the line departments.

The present link-system does not have the clear contact place in any level from the para to the thana level except EPI Camp. The proposed link-system can overcome the shortcomings of the present system within the limitation of the present manpower. However, the role of

BRDB is essential to this system and expected to become a vital force to function in the proposed link-system.

Besides the link-system, the efficiency and quality of the general service of line department should be considered from the broad views of the rural development. The direct dialogue between the villagers and the government personnel is the immediate and primary countermeasure to improve general services. This is also considered in the proposed link-system. In this regard, BRDB can take an initiative as a coordinator with the experience and information obtained at the union coordination meeting as well as the Thana Development Service Center.

Under the present situation, BRDB still has possibility of an institution to coordinate all line departments concerning in the general service for the villagers at the thana level. The experience of implementation of the JSRDE Thana Advisory Group shows the reality in this regard.

The monthly union coordination meeting has started since November 1993 under the coordination of ARDO, BRDB. The attempt of distribution of the sangbad (union sangbad) is firstly planned at one para where the UP member takes interest. Gradually, the area will be extended. The two union service centers will be established at the ward of the study village for the primary action. One is located in the study village and the other is most probably located at the guest house of the UP chairman in Bukta village.

### **14.3. A proposal of rural infrastructure model**

To realize the concept of the income generation and the proposed link-system, the minimum rural infrastructure is an essential setting for rural development programmes with emphasis on the community approach and the general governmental service approach, because, the communication of the people is the key factor for the success of such programmes.

According to the several meetings of the action programmes at Tangail, it is suggested that the poor road discourage the people to

attend the meeting in the village. For example, the number of the attendants of the village coordination meeting decreased sharply during the flood season inspite of the earnest motivation. The frequency of the visit of government assistants decreased remarkably. The rural road activates the communication among the villagers as well as the government assistants. This is, atleast, the minimum requirement to establish the visible government service.

Therefore, the rural road is much required to the villagers to secure the communication during the flood season. In Figure 6, the rural roads are classified into three: village road, union road and thana road according to their requirement. Among them, the village and union road have the important role to the villagers. Union Parishad has the responsibility to construct and repair the union road.

At present, the attention of the local government is paid to the union road to connect one hat to another hat in the study area. However, these roads become useless during the flood season due to the bhangha. As mentioned earlier, the bhangha is necessary for the drainage of the flood water, and so, the bhangha can be replaced only by culverts and bridges.

The village roads connecting one para to another para, where the villagers are dwelling, are disregarded by the local government. Accordingly, the paras exist like islands in the deep water aman rice growing field. Though the villagers have the union road, they become inactive during the flood season due to the disconnection of the village road.

Beside the road, a set of public infrastructure is proposed in Figure 6. The public infrastructure means the minimum socio-economic infrastructure to support the rural life. This set of the public infrastructure is obtained from the discussion of the villagers. A set of public infrastructure has two types according to the present size of the hat. The small hat like the Daskhin Chamuria hat is to be developed to the economic growth center-cum-the public centre in the area. The village growth centre is planned to have bazar, primary school, High school, dispensary, post office and Union service centre. These institutions are surely giving the visible government services to the villagers. At the union head quarters, Bank, Hospital



and Union head office of the GO and NGO service agencies are added to the village growth centre.

The sustainable work and development obviously depends upon the sustainable infrastructure in physical and socio-economic terms. A set of the rural road and public infrastructure are proposed here as a rural infrastructure model for the essential requirement of rural development.

#### **14.4. Alternative technological intervention**

The experience of the village coordination meeting tells that the villagers are eager for the technological advice of Block Supervisor and Livestock Assistant on the solution of the problems. The examples are the problems of early dropping of green cocoanuts and diseases of the cows. They seem to be not so much interested in the readymade technology intervention from external source.

The programme of the readymade technological intervention of the agencies likely to discourage them to adopt the programme or the advice of its unsuitability to the general situation of the villagers. For example, the villagers were encouraged for sugarcane cultivation by the agricultural extension services at the Village Coordination Meeting, but the general villagers were not interested in this.

In the action programmes, the introduction of improved type chula was tried in the village in the early rainy season. The experiments of the chula were not fully accomplished, but this type of the chula was not paid attention to by the village women. The improved chula is invented mainly to save the fuel, but this can not keep the ash to fire the new fuels. And so, the improved chula need more shola (jute sticks), some villagers comment like this.

The cases mentioned above suggest the necessity of the alternative technological intervention, which is based on the needs of the villagers. The needs or the problem to be solved by the technology leads to the development of the necessary technology.

The present technological intervention is top-down intervention regardless of the problems of individual farmers. (see Figure 7).

However, the alternative technological intervention is clearly based on the specific problem of the individual farmers (see Figure 8). This approach needs to undergo experiment or trial in the field. This approach may grow creative assistant, whom the active farmers want to approach.

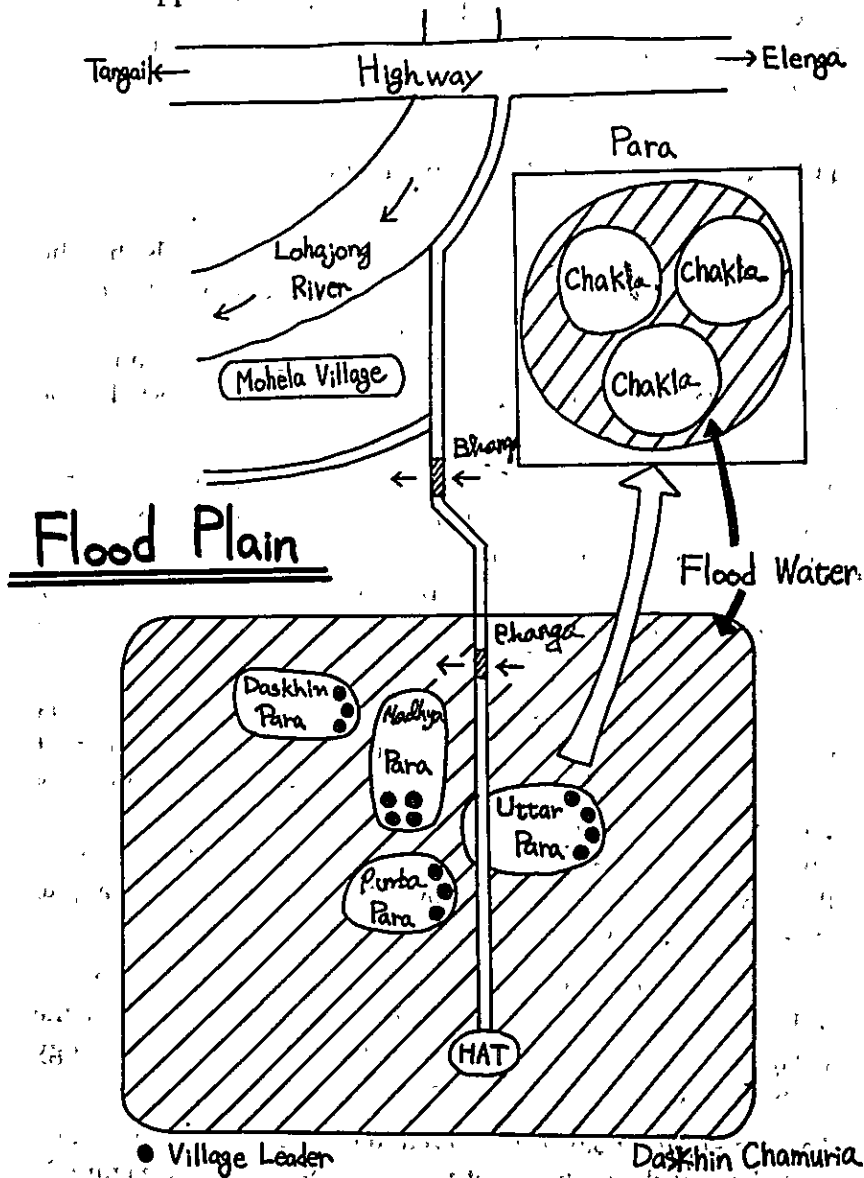


Fig. 1 Setting of the Study Village

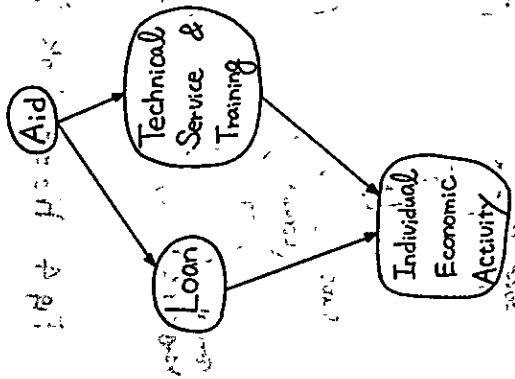


Fig. 2 Present Approach for Income Generation

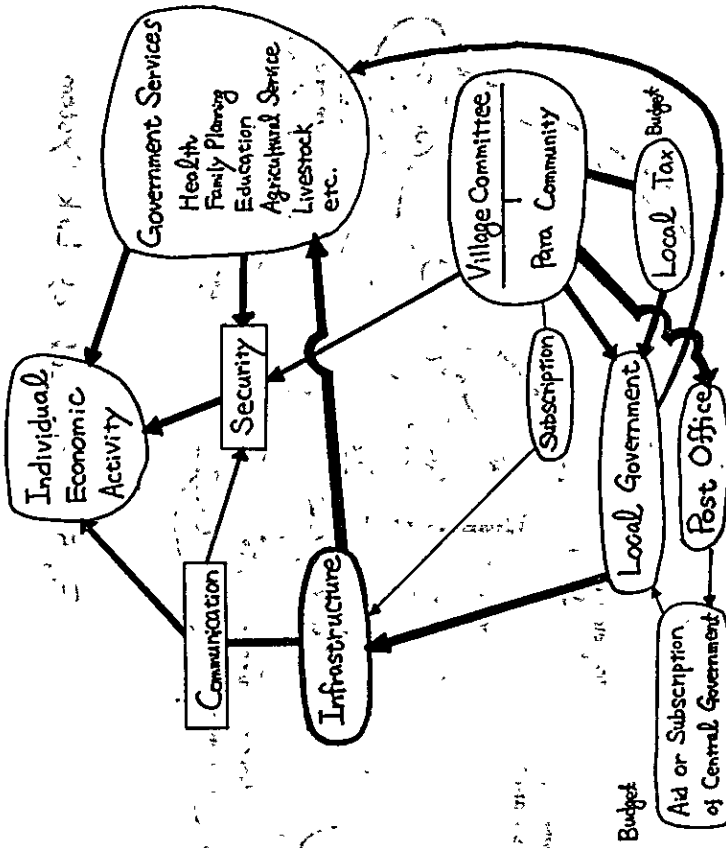


Fig. 3 Alternative Concept for Income Generation

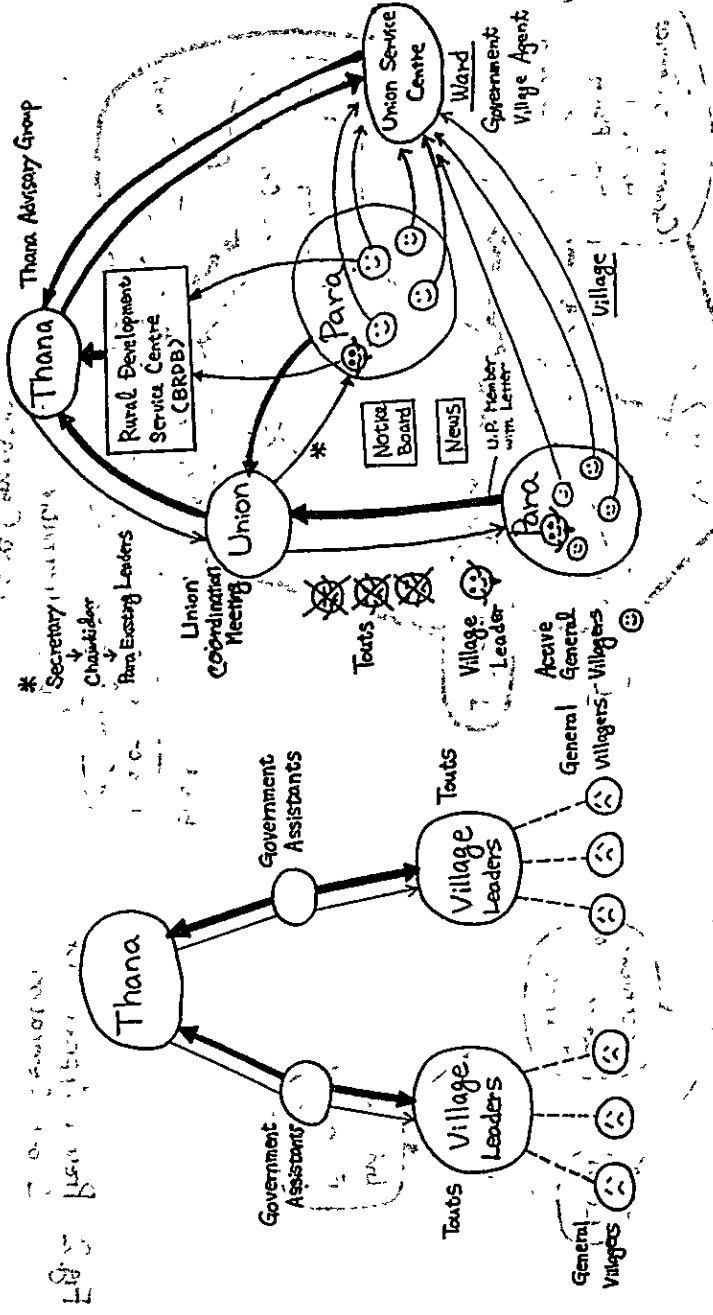
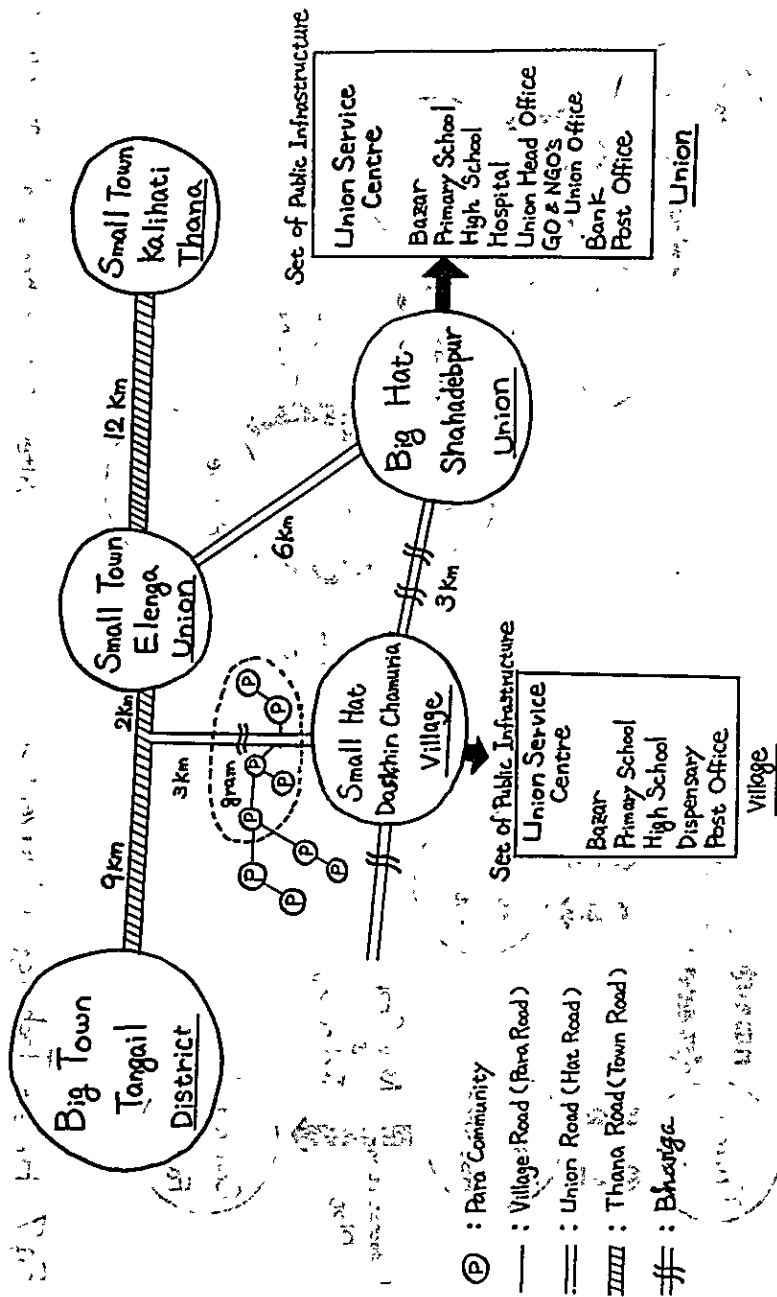


Fig. 5 A Proposal of Link-System

Fig. 4 Present Link-System



10 Fig 6 A Proposal of Rural Infrastructure Model, Targail JSRDE

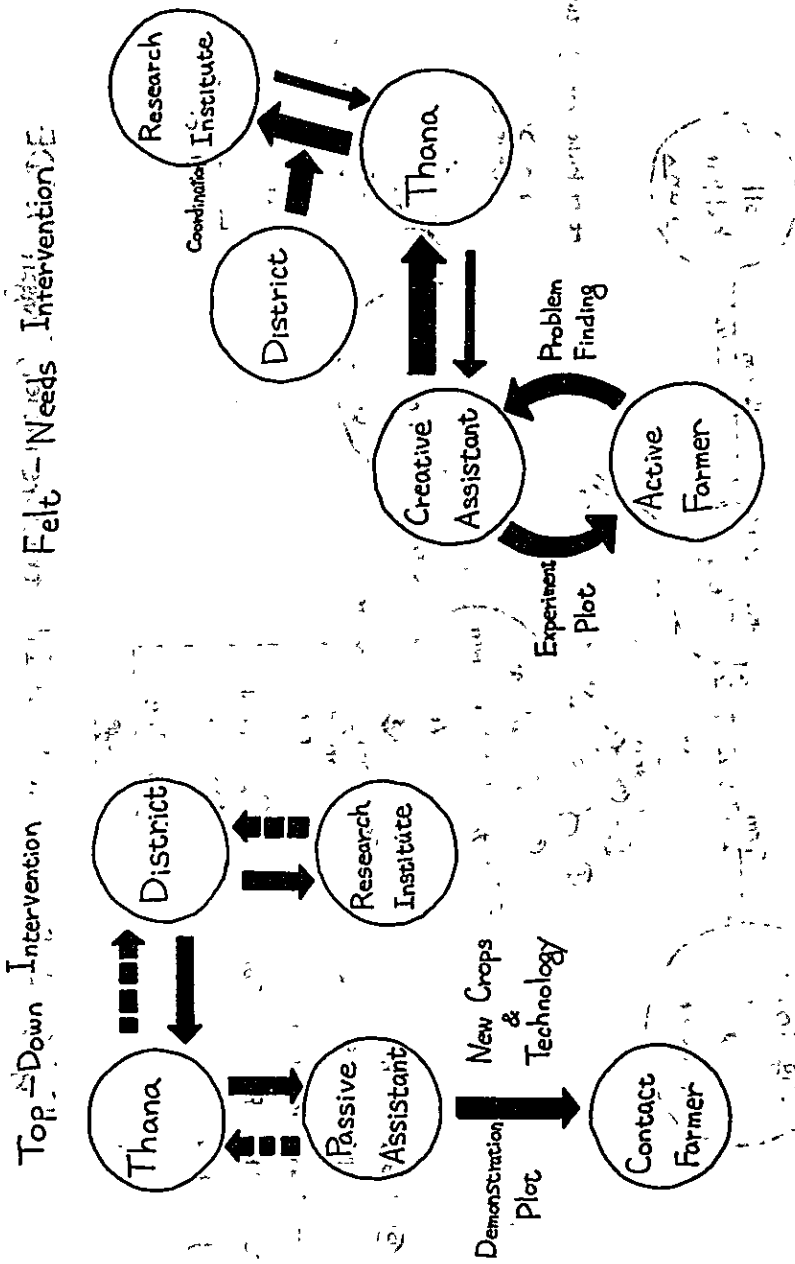


Fig.7 Present Technological Intervention

Fig.8 Alternative Technological Intervention

## Discussion on the papers

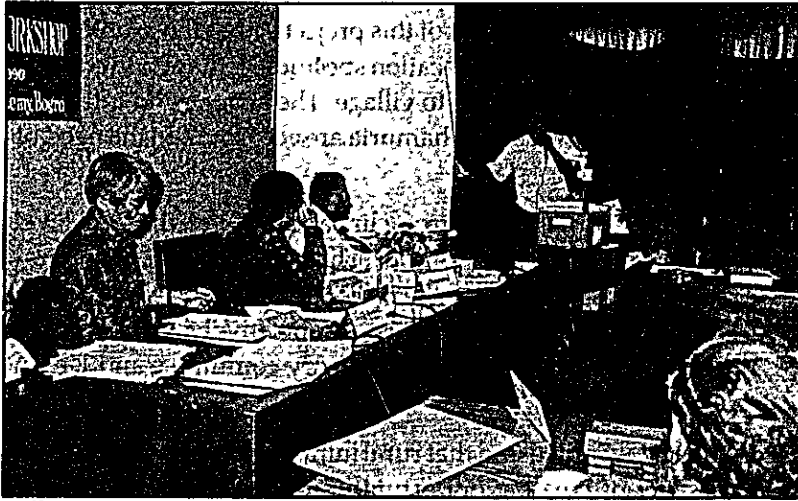
After presentation of the papers the following discussions were held and views were expressed by the participants:

- a. The name of the Tangail village will be Daskin Chamuria instead of "South Chamuria".
- b. The important hypothesis of this project is that the problems of the rural Bangladesh are location specific. So, the action components vary from village to village. The actions and interventions as made in Daskin Chamuria are according to the need of the village.
- c. It was discussed that the strong linkage between the local level Govt. and Non-govt. institutions, Thana and Union administration can play a vital role in the project activities. Present system of linkage cannot serve the purpose effectively. Therefore the necessity of Thana and union advisory committee and Union service centres at ward level was felt.
- d. Further, it was discussed that rural infrastructure has much to do in respect of creating opportunities of employment through non-farm and off farm activities like earth of roads, construction work of other structure etc. Moreover, these infrastructures would facilitate quick movement of the villagers to the growth centres and nearby town. This will also reduce urban migration of the villagers.
- e. At the present system resource for rural infrastructure is very limited. If fund cannot be allocated from Govt. source, how can it be meet up. Then discussion was held to conduct study whether means of raising local funds can be arranged to implement the minor infrastructures of common interest of the villagers on a sustainable basis.

### 7.2. Business Session-2

This session was chaired by Dr. S. M. Altaf Hossain, Professor, BAU, while DR. Muhammed Salim, Associate Professor, BAU and Ms. Itagaki, long Term JICA Expert took the responsibility of the Rapporteurs.

Mr. Shiro Akamatsu, General Manager, JSRDE and Mr. Swapn Kumar Dasgupta presented the village reports on Austodona, Comilla and Mr. Mizanur Rahman presented the village report on Panchkitta, which was jointly prepared by Dr. M. Solaiman, Director, BARD and Mr. Mizanur Rahman, Asstt. Director, BARD, Comilla.



*Mr. Kazuo Ando, Short Term JICA Expert is presenting the village report on Daskhin Chamuria, Tangail in the Mid Term Review Workshop. Prof. Y. Kaida, Japanese Team leader is seen to look at the paper*



# REPORT ON AUSTODONA VILLAGE

Shiro Akamatsu

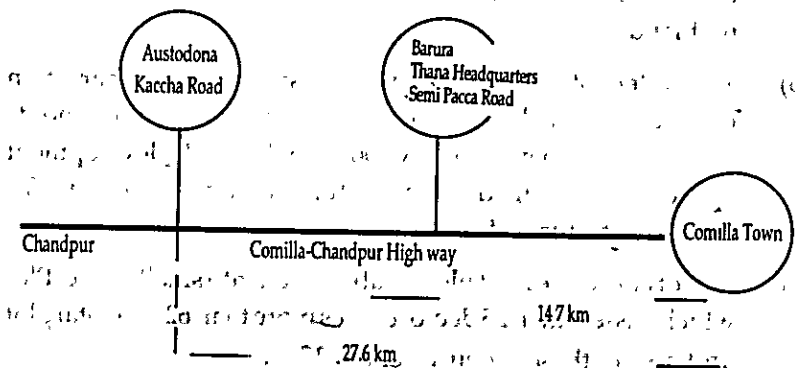
Swapan Kumar Dasgupta

## I. Introduction to the Project Village

### I-1. location of the Village

According to administrative unit of Bangladesh, Austodona Village (gram) is located under South Poyalgacha Union, Barura thana, Comilla District.

In terms of transportation as well as communication, the village is located at about 30.1 Km south west to Comilla District Headquarters. As shown on the chart attached, the distance between the village and Barura Thana Headquarters is about 22.6 Km. Comilla-Chandpur Highway is passing near the village. There is 3.8 Km long "feeder B" type road passing through the village to link with the highway. Therefore the village seems to be comparatively well connected but the distance to Thana Head Quarter is too far the villagers for any contact.



Comilla Town- Barura Thana Headquarters	22.6 km
Comilla Town- Austodona Village	38.1 km
Austodona Vill- Barura Thana Headquarters	23.3 km

## 1-2. Population of the village

Population pattern and actual figures as of December, 1992 are shown in (Table 1 & 2). Pyramidic population structure of the village is almost similar to those of other villages of Bangladesh.

As same with the structure mentioned above, the figures of average age of both male and female (25.6 years for male and 23.3 years for female) give us an important implication. Especially, average age of female (23.3 years) is regarded as the most reproductive age in the context of Bangladesh.

## I-3. Land-holding Pattern.

Land-holding patterns were surveyed in respect of type of land, land-level, location, plot number and area. Basic figures are shown in (Table 3/1 to 3/3).

Several implications were found as follows;

- a) Distribution of area according to land-level category: 61% of the total land belong to middle-land, 28% to high land and only 11% to low-land. Out of 28% of high land, nearly a half is occupied as homestead land (Bita Bari), which means that agricultural production of the village depends on this vast portion of middle land or in combination of middle land and highland.
- b) The pattern of cultivable land (NAL) shows clear demarcation between those below 200 dec. and above 90% of households belong to those having below 200 dec. Obviously, development approach in the field of agriculture should be different for those two features (Table-4).
- c) Size of cultivable land plot is subdivided into smaller size. Plot which has less than 25 dec. occupies more than 62% of total plot and area of those is equivalent to 37%.
- d) Size of homestead land plot is also sub-divided. Total homestead land is 999.5 dec. in 135 pieces of plot. Average size per

- d) Plot is 7.4 dec. and 78% of total plot is categorized as plot below 10 dec.
- e) Size of each plot of garden is also small. Total area of garden in the village is 346.5 dec, which are subdivided into 56 pieces of plot. Average size is 6.19 dec. and 86% of total plot is categorized as plot below 10 dec.
- f) Number of tanks and ditches is 52. Out of the total, only 4 tanks are grouped as those of above 20 dec. 41 tanks and ditches (79%) are those of below 10 dec.
- g) Land which is located outside the village is 2434.7 dec. which occupied 33% of total land-holding of the villagers and is mostly cultivable land.

#### **1-4. Occupation and labour force**

Basic feature of labour force of the village is shown in (Table 6). Total population of labour force is 230 of which 118 are male and 112 are female. One of the significant features is that all of the female labour force are engaged as household labour. Another characteristic is that 49 persons (21.3%) are engaged in service sector all of whom are literate. Agriculture sector provides job opportunities only to 17.8% (41 persons).

#### **1-5. Livestock**

Livestock holding of the villagers is shown in (Table 7) which illustrates that chicken and duck are most popular domestic birds as they are raised in 57 and 34 households respectively. Twenty four households keep Oxen/Bullocks and Cows. Number of pigeon is very few.

#### **1-6. Literacy and Education**

Some figures relating to literacy and education of the villagers are shown in (Table 8, 9, 10, 11). A total of 137 persons (35% of total

population) of the village are literate of whom 106 are male (47% of male population) and 37 persons are female (20% of female population), Out of literate population, 16 persons (11% of total literate population) have not obtained any formal education and 47 persons (33% of the same) have secondary education upto SSC or equivalent.

### **I-7. Sanitation**

Survey results on sanitation arrangement is shown in Table 12). All of the households use hand-tubewell as the source of their drinking water of which 19 households (28%) have their own facilities and 49 households (72%) depend on common facilities. Twenty six households (38%) use ring latrine for toilet in this village. The rest own latrines without ring structure or use open latrine in bush.

## **II. Activities Undertaken**

Activities in the village Austodona were undertaken in regard to four basic approaches of the project. Basic approach-wise activities, their institutional set up, progress, problems and prospect are discussed as follows:

### **Basic Approach: 1**

"To unite all the groups in the village including the traditional and the economically motivated under one broad-based organisation of the villagers"

#### **Activity-1-1**

Organisation of a Comprehensive Village Development Co-operative Society in the Village.

##### **a) Institutional Set-up**

A Co-operative society titled Austodona Comprehensive Village Development Co-operative Society Ltd. has been established by the

villagers. All classes of people of the village are eligible to become members. Thana Nirbahi Officer, Barura registered the cooperative Society on 7.7. 1993. Villagers and a nine member Managing Committee (M. C.) of the cooperative society are sitting together every week in a meeting to identify the problems of development of the village and solutions thereof. They are accumulating capital and building up common assets through thrift deposits on weekly basis.

**b) Progress of this activity.**

Coverage of bari	: 16 (100%)
Coverage of households	: 62 (86%)
Total number of members	: 133 (32% of the total population)
Male	: 89 (67% of the male population)
Female	: 31 (29% of the female population)
Children (8 to 17 years) (Associate)	: 13 (08% of the children population)
Total savings of all members	: Tk. 21844.00
Savings of the Female members	: Tk. 2042.00
Savings of the Male members	: TK. 1834.00
Savings of the Children	: Tk.1168.00
Total share of all members	: Tk. 14600.00
Share of male members	: Tk. 12960.00
Share of female members	: Tk. 1640.00
Number of weekly meetings	
(April. 92- Sept.93) held	: 59
Number of special general meetings	
held (April' 92-Sept. 93)	: 3
Number of meeting of M. C.	
held (April' 92-Sept.' 93)	: 29

**c) Problems**

- i) Villagers were organised under the cooperative society to install a DTW mainly. It was their core demand from the first phase of the JSARD project. After about two Years of the 2nd phase of JSRDE, no DTW could be installed. As a result villagers are a bit frustrated and have become a little non-cooperative with the activities of the JSRDE.

- ii) Majority of the M. C. members are illiterate. As a result their management efficiency level is low.
- iii) Most of the villagers are poor. As a result it is very difficult for them to deposit share and savings regularly.

**d) Prospect of this activity**

Some development works have been initiated by the Cooperative Society established in Austodona. Functional linkages have been developed with the local government institution and thana and union level offices of some of the nation building departments and NGOs. The village institutions can contribute permanently in the process of development of the village if the present development works continue and new initiatives for development follow.

**Activity- 1-2**

Construction of an office building of the cooperative was completed jointly by JSRDE and the villagers.

**a) Institutional Set-up**

The office building of 15'x 30' size was constructed at a total cost of Tk. 67,781. Out of this total cost, Tk. 50,000 (74%) was financed by JSRDE and the rest Tk. 17,781 (26%) was financed by the villagers in cash, kind and labour. One of the villagers donated 0.02 acre of land to the cooperative through registration for the construction of the office building.

Villagers are using this building as office and meeting hall of the cooperative. Community leaders are using this building as the venue for conciliation of conflicts and settling disputes. This building is also being used by the Austodona office of JSRDE project.

**b) Progress of this activity**

This office building has strengthened the institutional foundation of the cooperative. This permanent structure will help to attain sustainability of the village organisation even in the absence of the JSRDE project as it has become a community asset of the village.

### **Activity-1-3.**

Training on cooperative leadership, management, accounts keeping and documentation.

#### **a) Institutional Set up of this activity**

The managing committee members are learning the processes of community leadership, management, accounts keeping and documentation of the activities of the cooperative by trial and error method under the guidance of the counterparts of JSRDE and the TCCA officials. Besides, the villagers are nominated to various agencies for training on different aspects.

#### **b) Progress of this activity:**

Two members of the samity received a two days training at BARD on accounts keeping and two had an orientation of one day in KTCCA Ltd., Comilla on annual planning of the activities. The progress in cooperative leadership, management, accounts keeping and documentation is not satisfactory.

#### **c) Problems of this activity**

Because of the low level of education, the villagers cannot assimilate training at the required level.

#### **d) Prospect of this component**

Training of the M.C. on cooperative leadership, management, accounts keeping and documentation will ensure efficient management in future.

### **Basic approach: 2**

"To identify and use of ecologically sustainable appropriate farming technology".

## **Activity - 2-1**

Test boring of a DTW:

### **a. Institutional Setup of this activity**

An experienced and BADC approved first class contractor was given the responsibility of test boring of a DTW. The test boring was done under the technical supervision of the engineer of BARD. Everything was done under control and intensive supervision of both Japanese and Bangladeshi Counterparts and the Regional Manager of the project. Irrigation committee of the cooperative helped the implementation at work site. Soil, sand and water samples from different layers were collected to test the quality of water. JSRDE office, Dhaka arranged laboratory test of these samples. The contractor himself tested the sample first at the work site and then in the laboratory of the Department of Public Health, Comilla. All the cost of test boring was financed by JSRDE project.

### **b. Progress of this activity.**

According to the findings of the laboratory tests in Dhaka and Comilla, ground water under 490 feet was found suitable for irrigation purpose. There was much salinity in the upper layers.

### **c. Prospect of this activity**

The Institution Building Specialist of JSRDE project conducted an observation study on economic and management feasibility for the installation of DTW in Austodona. The results of the study are yet to be known.

## **Activity-2-2**

Fund mobilization for the installation of a DTW.

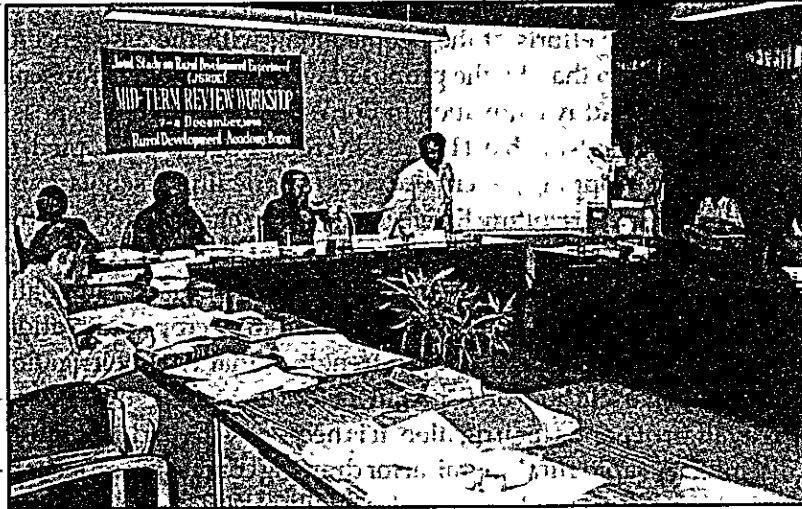
### **a. Institutional Setup of this activity**

The managing committee and the irrigation committee of the cooperative are trying to mobilize fund for this purpose from the villagers and the JSRDE project. They are also trying to get assistance in this regard from BADC, BRDB and TCCA.



**b. Progress of this activity:**

The villagers themselves mobilized a capital of Tk. 1,30,000 for the installation of a DTW. This amount was greater than the subsidised price of a DTW of BADC. The present market price of a DTW varies from Tk.2.5 lakhs to Tk. 6 lakhs with respect to quality of the materials.



*Dr. S. M. Altaf Hossain is Looking to a Workshop paper as Chairperson of a business session while paper is Presenting by Mr. Shiro Akamatsu, Long Term JICA Expert.*

**c. Problems of this activity:**

- i. As the cost of installation of a DTW has increased considerably, the villagers cannot afford that.
- ii. Encouraging result of the test boring of DTW, preparation of the proposed irrigation scheme, mobilization of local resources, participation of the villagers in all the activities, increased awareness and motivation of the villagers, etc., stimulated the villagers in development activities. Failure in the installation of a DTW may retard the tempo already created.
- iii. Uncertainty in the installation of a DTW affected the mobilization of fund to buy a DTW. Relevant villagers have taken back Tk.100000 from the fund of DTW.

**d. Prospect of this activity:**

Field agriculture is the core sector of the village economy of Austodona. Development of field agriculture is largely dependent on the improvement of irrigation. If DTW could not be installed because of various reasons 14 ponds of Austodona village might be transformed into water reservoirs for irrigation. To transform the ponds into water reservoirs, re-excavation of them would be necessary. Voluntary efforts of the people along with the assistance of JSRDE might do that. By the proposed water reservoirs large scale irrigation for paddy cultivation in Boro season might not be possible. In that case, suitable HYV cash crops might be adopted to diversify the cropping pattern. Advices of agricultural scholars and services of the Agriculture Extension might be channelized for crop diversification. In this way the cropping intensity in Austodona might be increased. It is interesting to mention here that traditionally the villagers use pond water irrigation in 'rabi' crops cultivation. Proposed water reservoirs might strengthen that type of irrigation and intensive culture of fish. But before switching over to re-excavation of ponds for irrigation, it is necessary to conduct a multi-disciplinary rapid rural appraisal for drawing conclusion on technological, managerial and economic feasibility of a DTW in Austodona.

**Activity- 2-3**

**Cultivation of Soyabean**

**a. Institutional Set up of this activity**

It was self-financed initiative of the cooperative. Seeds were collected by the cooperative from Comilla town and were distributed to 10 farmers. Marketing of the harvested soyabean was done to the agents of MCC. There was no training programme for the soyabean cultivation.

**b. Progress of this component.**

Ten farmers cultivated soyabean in 3.00 acres of land in last winter. Per acre and total production of soyabean were 416 Kg. and 1248 Kg. respectively. Farmers got a good price of their harvested soyabean. It did not affect cultivation of other crops.

- c. Problems of this component;**
- i. Quality seeds of soyabean are not available locally.
  - ii. Marketing channel of soyabean is not so developed.
  - iii. Water logging of rain water affected the cultivation of soyabean.

**d. Prospect of this component;**

It is a very good step towards crop diversification in Austodona. Future prospect of soyabean cultivation in Austodona seems encouraging. Many farmers expressed their desire for soyabean cultivation in the coming winter. They are requesting the MC of the cooperative to procure more seeds of soyabean than last winter. With soyabean cultivation a third crop in between Aus and Amon can be grown. This will increase cropping intensity in the village.

**Activity-2-4**

Land mortgage in and out.

**a. Institutional Set-up of this activity.**

Always some of the villagers mortgage out a part or whole of their cultivable land to other cultivators. The MC of the cooperative mortgage in that land and rents out to the landless farmers. It is self-financed initiative of the cooperative.

**b. Progress of this activity**

Till today 0.45 acre of land was mortgaged in and rented out to two landless farmer members of the cooperative. The cooperative earned a rent of Tk. 1210 and Tk. 2,000 in aus and amon seasons respectively.

**c. Problems of this activity**

Demand for such land is high related to supply.

**d. Prospect of this activity:**

Employment, production, income, savings and investment of the landless farmers would increase by this activity. The cooperative might also get some income.

**Activity-2-5**

Operation of a mini-poultry farm.

**a. institutional Set-up of this activity:**

This was a joint initiative of the JSRDE project and the cooperative society. It was set-up at the north side of the office of the cooperative. Manager of the cooperative was taking care of this mini-farm of 17 high breed poultry. He used to prepare the balanced feed for the poultry. A male and a female member were oriented in vaccination of the poultry. MC used to procure vaccine from thana level office. Eggs were sold to the villagers for producing chicks by their hens. Some of the eggs were sold to other villagers and middlemen. The aim of introducing high breed poultry has been fulfilled. Due to uneconomic scale of operation of the poultry farm, the society closed down its operation.

**b. Progress of this activity:**

About 40 high breed poultry have been added in the village by this activity. Many of them are at matured stage now.

**c. Problems of this activity:**

- i. Due to lack of knowledge of the villagers about the rearing of high breed poultry, they were rearing them in traditional way.
- ii. There was scarcity in the supply of vaccine.
- iii. Price of poultry feed was high.
- iv. Absence of electricity was a hindrance to poultry farming.
- v. There was high mortality of the new born chicks.

**d. Future prospect of this activity**

High breed poultry will increase in Austodona through cross breeding.

**Activity-2-6**

Credit operation for poultry rearing.

**a. Institutional Set-up of this activity**

This is a self-financed initiative of the cooperative. An amount of Tk.300 is given to each member as loan from the cooperative's own fund.

**b. Progress of this activity**

A total of Tk. 2100 was disbursed to 7 landless households as loan for poultry rearing. They bought 70 birds for rearing and paying the instalments regularly.

**c. Problems of this activity.**

Many members are asking for such loan. But most of them do not qualify for that because of irregular share and savings deposit by them in the cooperative.

**d. Prospect of this activity**

This activity might increase the number of poultry of the poor which might contribute in the increase of their family income.

**Basic Approach: 3**

"To encourage and promote non-farm employment and income opportunities".

**Activity- 3.1**

Rickshaw purchase and renting out on hire purchase basis.

**a. Institutional Set-up of this activity**

This is a self-financed initiative of the cooperative. Five rickshaws were purchased by the cooperative society from its own fund. These were given to 5 landless members on hire purchase basis. Rickshaw-pullers repay the amount on daily installment to the cooperative. After an agreed period of time rickshaw-pullers will pay the full amount charged by the cooperative and become owners of these rickshaws. The cooperative will get back the invested money of this activity including some profit.

**b. Progress of this activity:**

Five landless members of the cooperative got self-employment as rickshaw pullers. Each of them earns about Tk. 50 per day. During the reporting period two of them became the owners of respective rickshaws. Other three will become owners very soon. Upto September 1993 the cooperative got back Tk. 22,995 from its investment of total Tk. 26,206 in this activity.

**c. Problems of this activity:**

One of the two new owners sold his rickshaw just after the payment of last instalment to the cooperative. His ownership could not be sustained. Now he is pulling a rented rickshaw. It happened because he had to repay his previous loan.

**d. Prospect of this activity**

It is a well managed activity of the cooperative. Therefore, this can be extended further.

**Basic Approach: 4**

"To fill the gap and link two prime institution i.e., the village and the local government institutions".

**Activity-4-1**

Identification of approaches to the services and resources available from local government, i. e. Union and Thana.

**a. Institutional Set up of this activity**

This is a joint initiative of JSRDE project and the cooperative. Demand for services and resources available from local government agencies are being created among the villagers through the introduction of various development activities. More linkages have been established with these agencies through development activities in the village.

**b. Progress of this activity**

- i. The cooperative was registered by the office of TNO, Barura.
- ii. A HTW has been sunk in Austodona by the Union Parishad as a result of pursuit of the cooperative.
- iii. TRDO visits Austodona regularly
- iv. TCCA affiliated the cooperative and manager of the cooperative is visiting TCCA regularly.
- v. Manager of the cooperative visited TCCA, Barura 32 times.
- vi. Area Inspector of TCCA visits the cooperative regularly.
- vii. PBS surveyed the village for electrification after the application of the cooperative.
- viii. Thana livestock office is providing vaccine.
- ix. Sonali Bank, Payalgacha is maintaining regular transaction with the cooperative.
- x. A health visitor vaccinating the children regularly.
- xi. A lady health visitor visits the village occasionally.
- xii. A FWA is visiting the village regularly.
- xiii. A member of the cooperative visited Dhaka, Comilla and Barura for getting a DTW from BADC or from other sources. But he failed.

**c. Problems of this activity**

- i. The public servants behave like public masters. Therefore the gap between the public servants remained unbridged.

- ii. Villagers usually hesitate to go to any nation building agency for service because of the lack of education and awareness.
- iii. Number and dimension of development activity in the village are few. As a result functional linkage with the nation building agencies is developing very slowly.
- vi. Sometimes we try to create linkage without functional relationship. Without functional relationship such linkage will not sustain.

### **III. Recommendations for the improvement of project performance at Austodona.**

- 1. Participants of this workshop should recommend how the villagers can develop irrigation facility in Austodona because irrigation is a vital component for agricultural development and agriculture is the core sector of the village economy.
- 2. Training on cooperative management and accounts keeping is very necessary for the MC of the cooperative of Austodona.
- 3. Every activity in the village should be implemented after prior discussion with and consensus between Japanese and Bangladeshi Counterparts of the project site.

### **IV. Few observations on the action research at Austodona**

- 1. Action components initiated by the villagers themselves work better than the imposed ones. The reason behind such behaviour is that the villagers initiate only those activities in which they have prior experience. They can assimilate new ideas very slowly.
- 2. Learning by doing is the most effective method of human resource development in Austodona. It is because of illiteracy of most of the villagers.
- 3. Demonstration effect of every activity of JSRDE on the villagers of Austodona is very responsive.

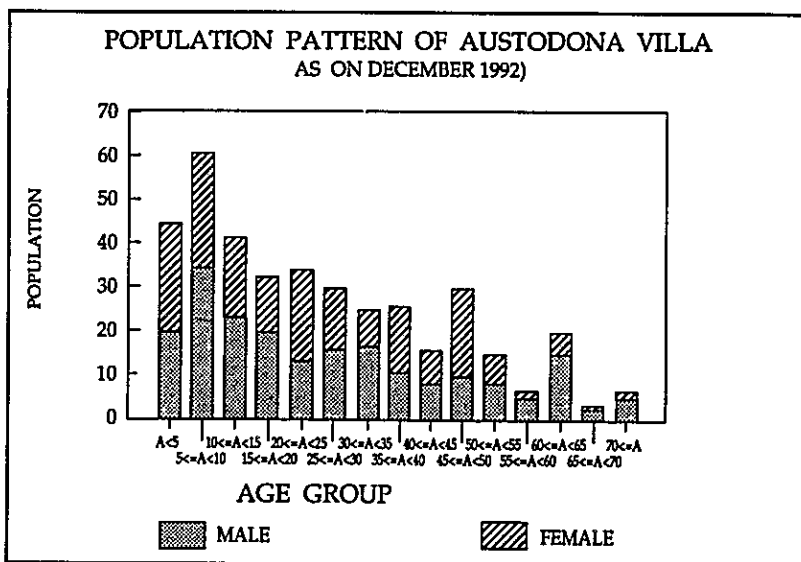


**Table-1. Some Data on Population of Austodona Village (As on December, 1992)**

Total Population	413	psn
of male	224	psn
of female	189	psn
AVG. Age of T. Population	24.5	yrs
of male	25.6	yrs
of female	23.3	yrs
Number of Family	98	
Number of Household	68	
AVG. Number of Family Member	4.2	psn
AVG. Number of Household Member	6	psn

**Table-2: Age group wise Population Pattern of Austodona Village (as on December, 1992)**

Age group	Male		Female		Total	
	Pop	%	Pop.	%	Pop.	%
A<5	22	9.8	26	13.8	48	11.6
5<=A<10	38	17	27	14.3	65	15.7
10<=A<15	25	11.2	21	11.1	46	11.1
15<=A<20	22	9.8	12	6.33	34	8.2
20<=A<25	15	6.7	21	11.1	36	8.7
25<=A<30	16	7.1	17	9	33	8
30<=A<35	17	7.6	10	5.3	27	6.7
35<=A<40	12	5.4	16	8.5	28	6.8
40<=A<45	9	4	8	2.2	17	4.1
45<=A<50	11	4.9	13	6.9	24	5.8
50<=A<55	9	4	8	4.2	17	4.1
55<=A<60	5	2.2	1	0.5	6	1.5
60<=A<65	16	7.1	6	3.2	22	5.3
65<=A<70	2	0.9	1	0.5	3	0.7
70<=A	5	2.2	2	1.1	7	1.7
<b>Total</b>	<b>224</b>	<b>99.9</b>	<b>189</b>	<b>98</b>	<b>413</b>	<b>99.8</b>



**Table-3/1 : Land Asset Profile of Austoona Village (Plot No. BASE)  
(As on December, 1992)**

	Land Type	N	BB	T	G	Total	%
<b>Total Plot No.-</b>		256	135	52	56	499	
<b>Condition Type</b>	BG/0	2	-	-	-	2	-
	BK/0	19	-	-	-	19	4
	KK/0	-	-	-	-	-	-
	K/0	-	-	-	-	-	-
	NC	235	135	52	56	478	96
	%	51	27	10	11	100	-
<b>Land Level</b>	HL	44	109	11	39	203	41
	ML	171	10	2	2	185	37
	LL	29	-	-	-	29	6
	N.A	12	16	39	15	82	16
<b>Location wise</b>	Outside	79	10	5	1	95	19
	Inside	174	107	36	39	356	71
	N.A	3	18	11	16	48	10

**Table-3/2 : Land Asset Profile of Austodona Village (Area Base)  
(As on December, 1992) (Area (Dec. Base).**

	Land Type	N	BB	T	G	Total	%
<b>Total Area (Dec.)</b>		5991	1000	391	347	7727	
<b>Condition Type</b>	BG/0	13	-	-	-	13	-
	BK/0	497	-	-	-	497	6
	KK/0	-	-	-	-	-	-
	K/0	-	-	-	-	-	-
	NC	5481	1000	391	347	7217	93
	%	78	13	5	4	100	
<b>Land Level</b>	HL	860	777	74	236	1947	25
	ML	4012	130	24	53	4218	55
	LL	752	-	-	-	752	10
	N.A	367	94	293	58	810	10
<b>Location Wise</b>	Outside	2346	71	15	3	2435	32
	Inside	3572	821	317	311	5021	65
	N.A	73	108	59	33	272	4

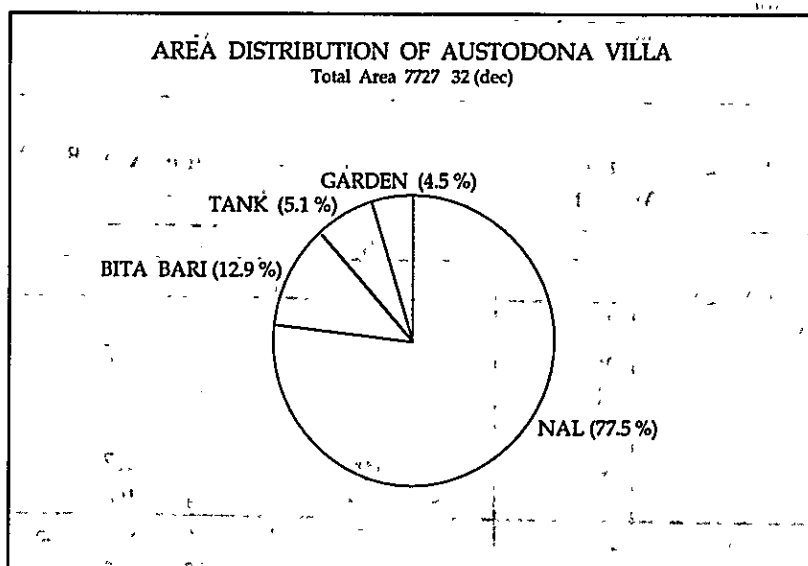
**Table-3/3 : Some Data of Land Asset of Austodona Villa.**  
(As on December, 1992).

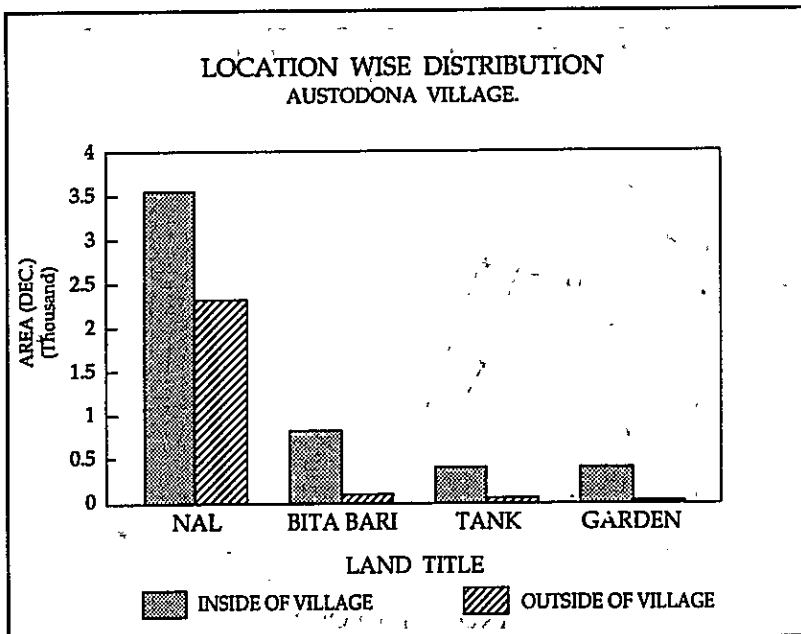
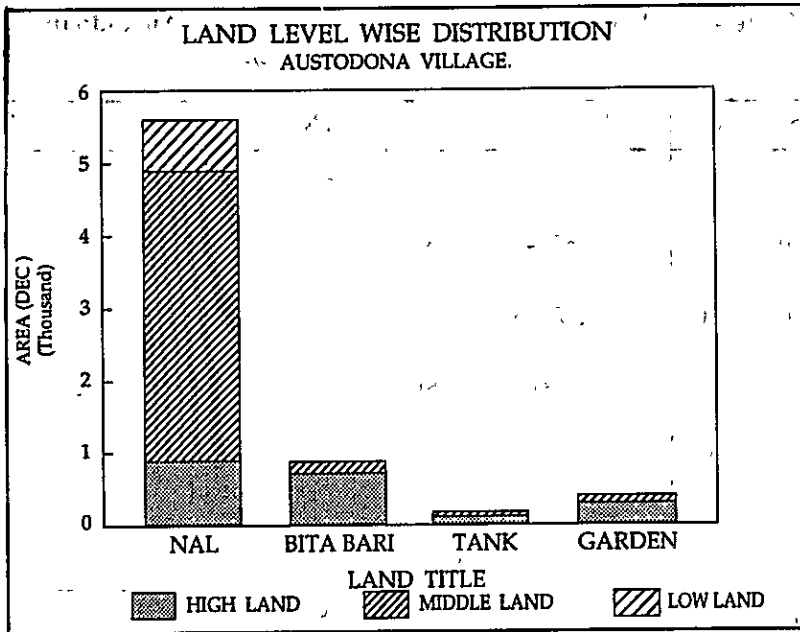
Land Type	N	BB	T	G	Total
Max. Size of Plot (Dec.)	78	48	38	54	78
Min. Size of Plot (Dec.)	1	1	1	1	1
Average Plot size (Dec.)	23	7	8	6	15
Total Plot number	256	135	52	56	499
Total Area (Dec.)	5991	1000	391	347	7727

Remarks;

(a): BG/0=Borga out, Bk/0=Bondok out, KK/0=Khai Khalashi out, K/0=Kazna out

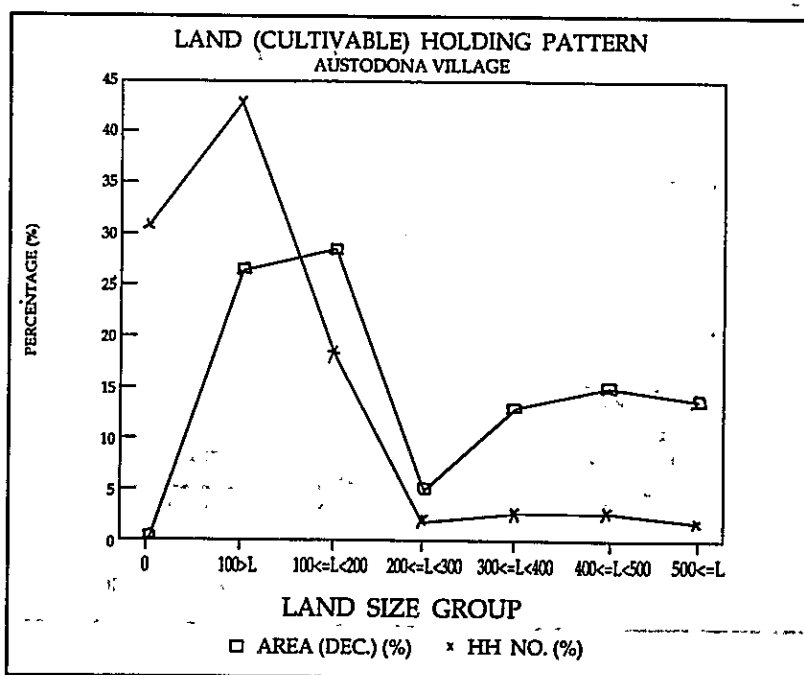
(b): BB=Bitu Bari, N-NAL, T=Tank & Ditch, G=Garden





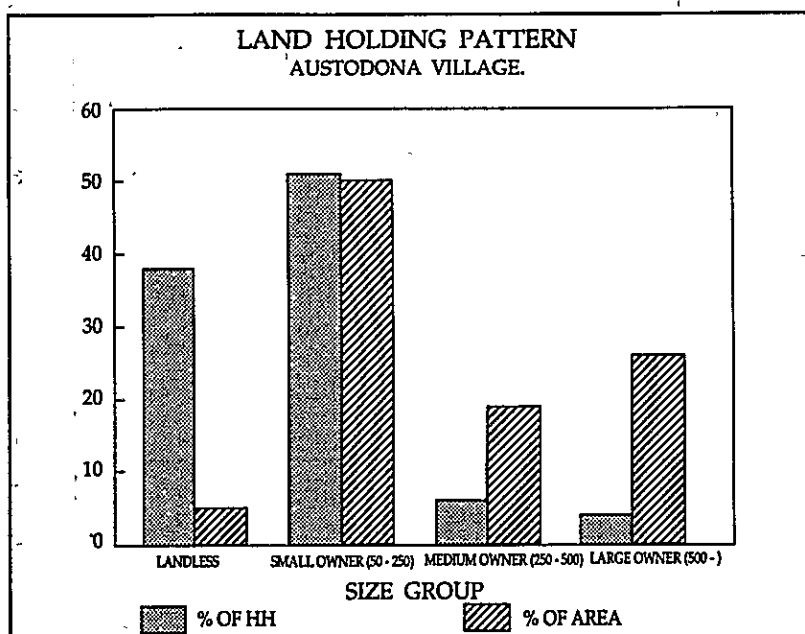
**Table-4 : Land (Cultivable) Holding Pattern of Austodoan Village. (As on December, 1992).**

Size Group	T. Area (Dec.)	%	T. HH No.	%	Avg size/HH
-	-	-	21.00	30.88	-
100<L	1578.42	26.35	29.00	42.65	54.43
100<=L<200	1675.70	27.35	12.00	17.65	139.64
200<=L<300	288.00	4.81	1.00	1.47	288.00
300<=L<400	745.00	12.44	2.00	2.94	372.50
400<=L<500	922.50	15.40	2.00	2.94	461.25
500<=L	781.20	13.04	1.00	1.47	781.20
<b>Total</b>	<b>5990.82</b>	<b>100.00</b>	<b>68.00</b>	<b>100.00</b>	<b>88.10</b>



**Table-5: Land Holding Pattern of Austodona Village  
(As on December, 1992).**

Size Group	HH no	%	Dec.	%
Landless (0-50)	26	38	351.42	5
Small owner (50-250)	35	51	310.2	50
Medium owner (250-500)	4	6	1515	19
Large Owner (500-)	3	4	2027.7	26
<b>Total</b>	<b>68</b>	<b>99</b>	<b>7804.32</b>	<b>100</b>



**Table: 6 Work Force Distribution by occupation and literacy (Austodona Village, December, 1992)**

Category	Sub-Category	T. Pop.				Population				Literacy			
		%	%	%	%	Male	%	Female	%	Literate	%	Illiterate	%
Agri Culture	Agriculture	41	18	41	35	-	-	20	20	21	16	-	-
	Fisherman	-	-	-	-	-	-	-	-	-	-	-	-
	Livestock Farming	-	-	-	-	-	-	-	-	-	-	-	-
	Tree Plantation	-	-	-	-	-	-	-	-	-	-	-	-
	Sub-Total	41	18	41	35	-	-	20	20	21	16	-	-
Business	Agri. Business	2	1	2	2	-	-	-	-	-	2	-	2
	Non Agri. Business	8	3	8	7	-	-	3	3	5	4	-	4
	Sub-Total	10	4	10	9	-	-	3	3	7	5	-	5
Service/ Worker	Govt. Service	12	5	12	10	-	-	12	12	-	-	-	-
	Private Service	37	16	37	31	-	-	37	37	-	-	-	-
	Sub-Total	49	21	49	42	-	-	49	49	-	-	-	-
Labour	Daily Labour	12	6	12	10	-	-	3	3	9	7	-	7
	Household Labour	114	50	2	2	112	100	26	26	88	68	-	68
	Transportation Labour	4	2	4	3	-	-	-	-	4	3	-	3
	Skilled Labour	-	-	-	-	-	-	-	-	-	-	-	-
	Sub-Total	130	58	18	15	112	100	29	29	101	78	-	78
Total		230	-	118	112	-	-	101	-	129	-	-	-

Remarks : Population ranging 10 years and above and below 65 years is Categorized as work force.



**Table-7 : Asset (Livestock) Holding Profile of Austodona Village (As on December, 1992)**

Kind of Animal Particulars	Ox/Bullock			Cow			Buffalo			Goat		
	HH No	Animal No	T. Value (Tk.)	HH No	Animal No	T. Value (Tk.)	HH No	Animal No	T. Value (Tk.)	HH No	Animal No	T. Value (Tk.)
Total	24	41	175000	24	35	131700	3	3	5700	19	44	21600
Mode of Acquisition												
IH	-	-	-	2	3	9000	-	-	-	2	2	2100
PR	20	35	162500	19	29	112900	2	2	4500	14	39	18300
OT	3	5	10500	2	2	8000	1	1	1200	3	3	1200
GT												
NA	1	1	2000	1	1	1800	-	-	-	-	-	-
Non-Availed No. of HH	44	-	-	44	-	-	65	-	-	49	-	-
Total No. of HH	68	-	-	68	-	-	68	-	-	68	-	-

Kind of Animal Particulars	Chicken			Duck			Pigeon		
	HH No	Animal No	T. Value (Tk.)	HH No	Animal No	T. Value (Tk.)	HH No	Animal No	T. Value (Tk.)
Total	57	638	25045	34	144	7807	2	8	320
Mode of Acquisition									
IH	5	31	1165	1	4	200	-	-	-
PR	45	427	16435	30	114	6287	2	8	320
OT	2	3	120	-	-	-	-	-	-
GT	-	-	-	-	-	-	-	-	-
N.A.	5	177	7325	3	26	1320	-	-	-
Non-Availed No. of HH	11	-	-	34	-	-	66	-	-
Total No. of HH	68	-	-	68	-	-	68	-	-

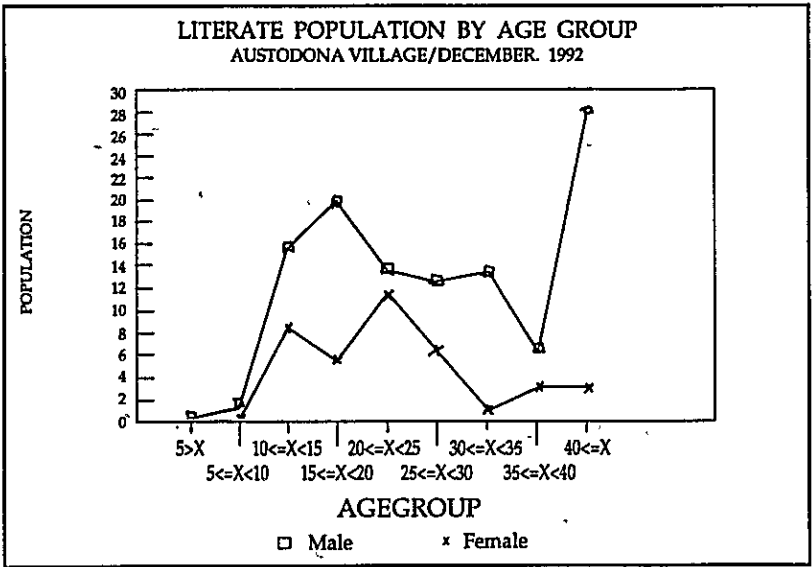
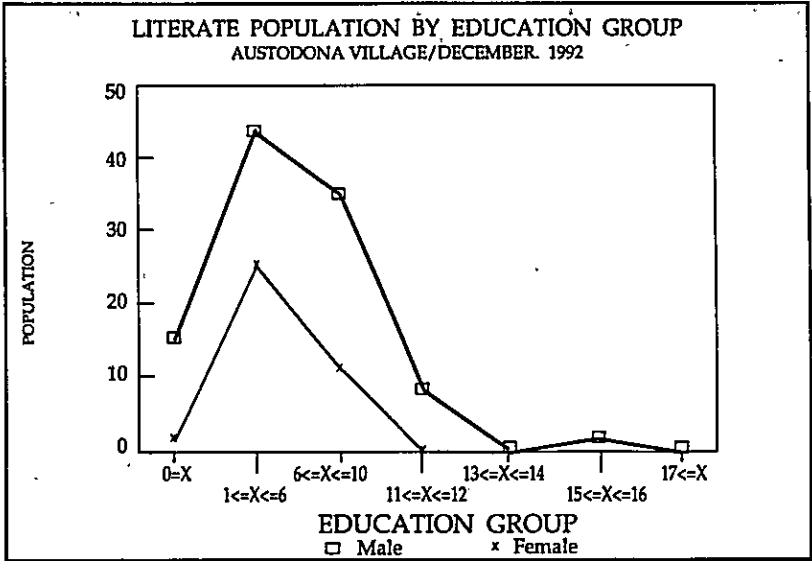
Remarks: Value (Tk.) shown on the table are all owner's estimation.

**Table-8 : Literacy Rate by age Group of Austodona Village  
(As on December, 1992).**

Age Group	T. Pop	Male	%	Female	%	Total	%
5<X	48	-	-	-	-	-	-
5<=X<10	65	1	0.9	-	-	1	0.7
10<=X<15	46	15	14.2	8	21.6	23	16.1
15<=X<20	34	19	17.9	5	13.5	24	16.8
20<=X<25	36	13	12.3	11	29.7	24	16.8
25<=X<30	33	12	11.3	6	16.2	18	12.6
30<=X<35	27	13	12.3	1	2.7	14	9.8
35<=X<40	28	6	5.7	3	8.1	9	6.3
40<=X	96	27	25.5	3	8.1	30	21
<b>Total</b>	<b>413</b>	<b>106</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>143</b>	<b>100</b>
<b>% of T. Pop</b>		<b>25.7</b>		<b>8.9</b>		<b>34.6</b>	

**Table-9 : Literacy Rate by Education of Austodona Village  
(As on December, 1992).**

Education	Male	%	Female	%	Total	%
0=X	15	14.2	1	2.7	16	11.2
1<=X<=5	46	43.4	25	67.6	71	49.7
6<=X<10	36	34	11	29.7	47	32.9
11<=X<12	8	7.5	-	-	8	5.6
13<=X<14	-	-	-	-	-	-
15<=X<=16	1	0.9	-	-	1	0.7
17<=X	-	-	-	-	-	-
<b>Total</b>	<b>106</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>143</b>	<b>100</b>
<b>% of Literate Pop</b>	<b>74.1</b>		<b>25.9</b>		<b>100</b>	

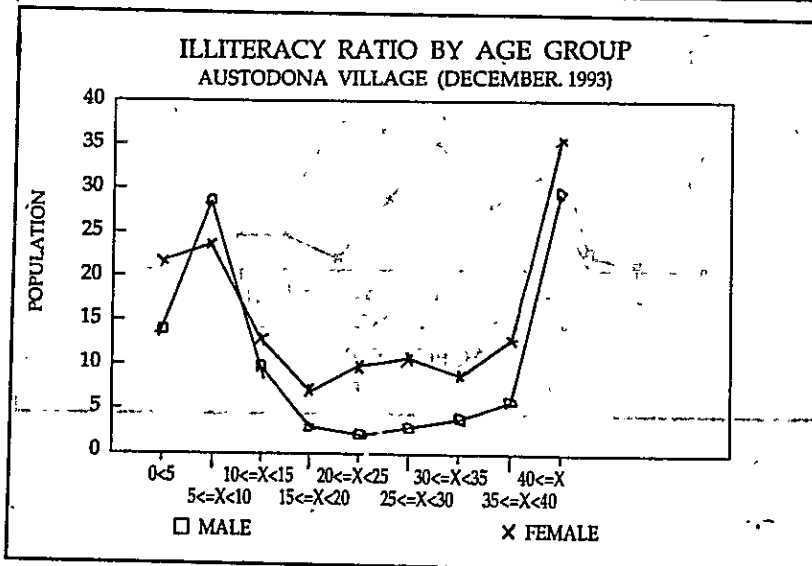


**Table-10: Illiteracy Rate by age Group of Austodona Village  
(As on December, 1992).**

Age Group	Male		Female		Total	
	Pop	%	Pop	%	Pop	%
5<X	14	14	22	15	36	15
5<=X<10	29	29	24	17	53	22
10<=X<15	10	10	13	9	23	9
15<=X<20	3	3	7	5	10	4
20<=X<25	2	2	10	7	12	5
25<=X<30	3	3	11	8	14	6
30<=X<35	4	4	9	6	13	5
35<=X<40	6	6	13	9	19	8
40<=X	30	30	36	25	66	27
Total	101	100	145	100	246	100

**Table-11: Illiteracy Rate by education of Austodona Village  
(As on December, 1992).**

Edu. Level	Male		Female		Total	
	Pop	%	Pop	%	Pop	%
1. No Education	69	68	143	99	212	86
2. X<=5	32	32	2	1	34	14
Total	101	100	145	100	246	100



**Table-12: Sanitation Arrangement of Austodona Village  
(As on December, 1992)**

**<Source of Drinking Water>**

Source	Own Facility	Common Facility	Total
From Pond	-	-	-
From open well	-	-	-
From Hand Tubewell	6	65	71
Total	6	65	71

**<Type wise Toilet Facility>**

Type	Number of Household
Latrine with ring Structure	23
Latrine without ring structure	15
Bush or open space	33
Total	71



**Short Term JICA Experts and Field Staff of the site villages are seen as participants of the workshop**