

FIGURES

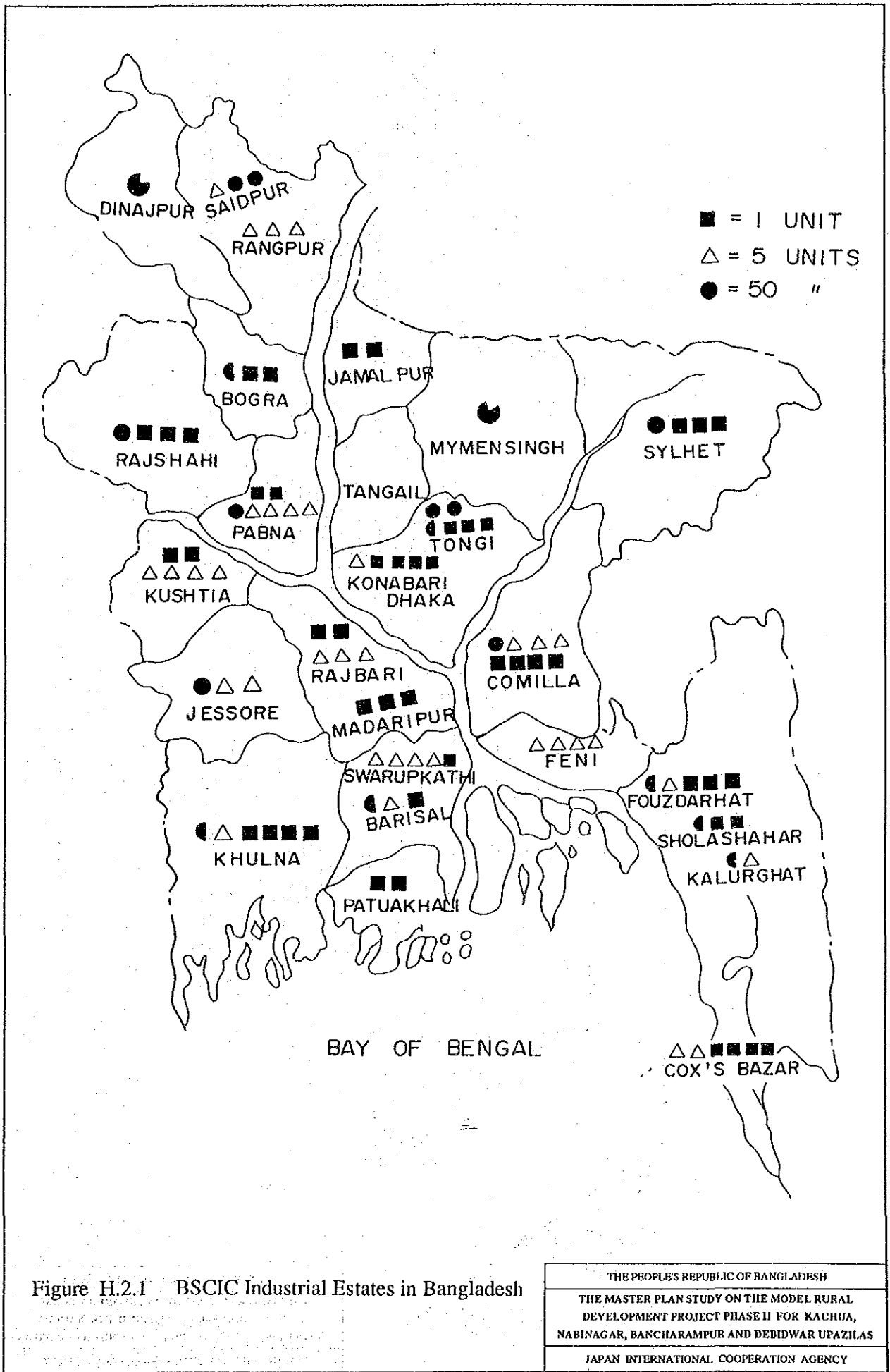


Figure H.2.1 BSCIC Industrial Estates in Bangladesh

THE PEOPLE'S REPUBLIC OF BANGLADESH
 THE MASTER PLAN STUDY ON THE MODEL RURAL
 DEVELOPMENT PROJECT PHASE II FOR KACHUA,
 NABINAGAR, BANCHARAMPUR AND DEBIDWAR UPAZILAS
 JAPAN INTERNATIONAL COOPERATION AGENCY

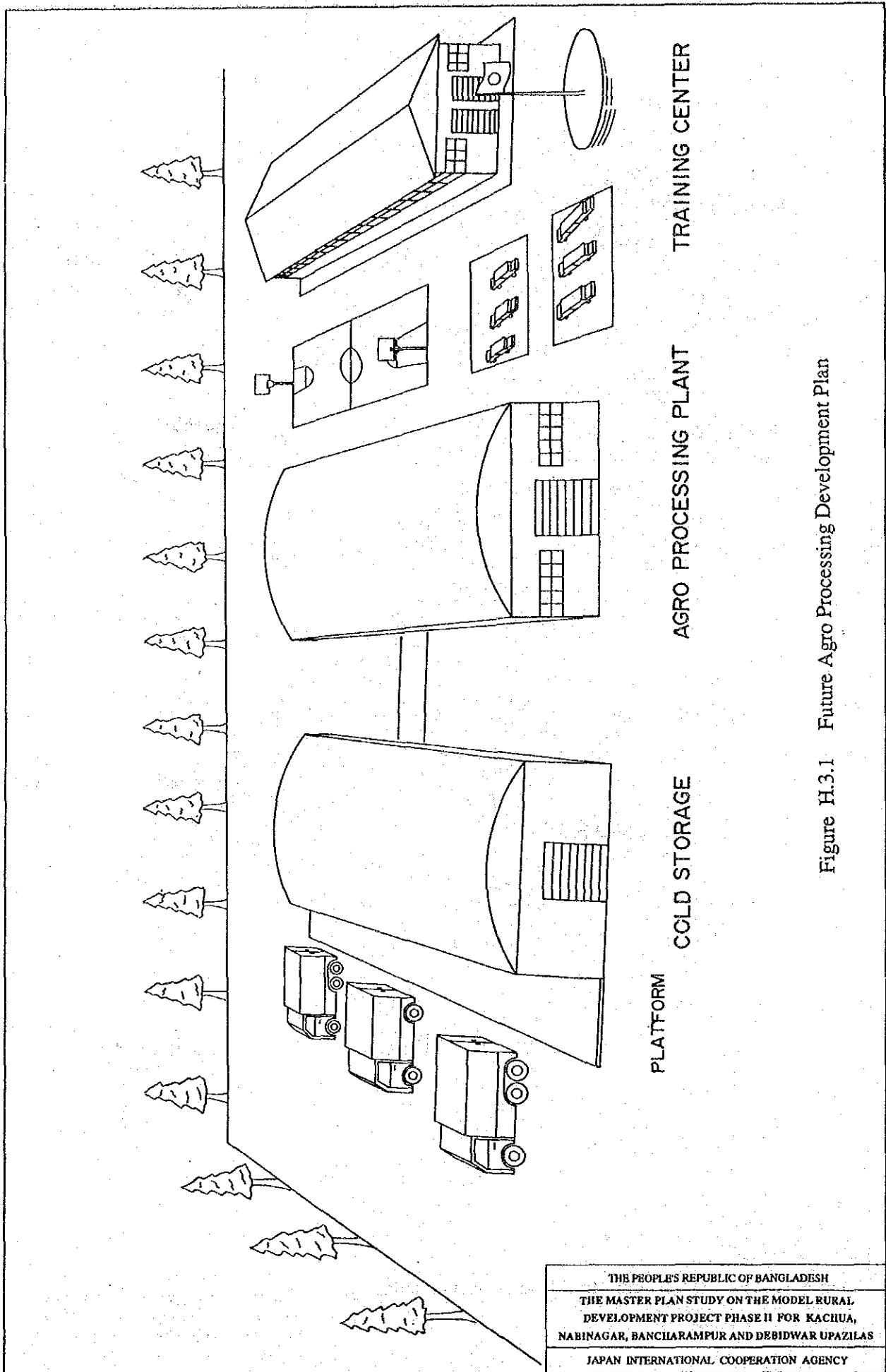


Figure H.3.1 Future Agro Processing Development Plan

ATTACHMENT

Attachment H.A.1
SAMPLE
QUESTIONNAIRE FOR RURAL INDUSTRIAL UNIT
Model Rural Development Project for Comilla District (JICA/BRDB)

District : _____ Sheet No. : _____
 Upazila : _____ Date of Interview : _____
 Union : _____ Respondent : _____
 Village : _____ Interview by : _____

I. **INDUSTRY-TYPE: Rice-mill/Oil-mill/Flour-mill/Others**

Q1. What is the category of your business? _____

Private Cooperative Government NGO Others (BSS, MBSS)

Q2. When was established? 19_____

Q3. Please describe the record of business during last 10 years:

Quantity Year	Raw Materials Purchase (Tk)	Production		Marketing Amount (Tk)	Employment (Person)	Operational Problems
		Product	Unit			
1880/81:						
1981/82:						
1982/83:						
1983/84:						
1984/85:						
1985/86:						
1986/87:						
1987/88:						
1988/89:						
1989/90:						

Q4. Your purchase sources of raw materials and problems:

Sources	Problems
Through local dealers	_____
Dealers in Dhaka/_____	_____
At local markets	_____
Other: _____	_____

Q5. Your marketing routes and problems:

Routes	Problems
Direct to local markets	_____
To local dealers	_____
To dealers in Dhaka/_____	_____
To industrial units	_____
Other: _____	_____

Q6. Your workers and employment conditions:

Workers	Conditions	Problems
Full-time : _____ (Male : _____ Fem : _____)	Salary : _____	_____
Part-timers : _____ (Male : _____ Fem : _____)	Salary : _____	_____
Others : _____ (Male : _____ Fem : _____)	Salary : _____	_____

Q7. Your firm-organization:

Q8. Please describe the record of share of capital investment and utilization:

Year	Number of Shares	Share per Unit	Shareholders	Capital Investment	Utilization purposes
1980/81:					
1981/82:					
1982/83:					
1983/84:					
1984/85:					
1985/86:					
1986/87:					
1987/88:					
1988/89:					
1989/90:					

Q9. What is your understanding on the purposes and problems in capital - and utilization?

II. CONSTRAINTS AND MEASURES

Q10. Please check your constraints. Please indicate the numbers in order.

- Lack of Raw Materials
- Lack of Production Machinery
- Lack of Electric Power/Fuel
- Lack of Skilled Workers
- Lack of Storage
- Lack of Market
- Lack of Finance
- Lack of Spare
- Surplus of Raw Materials
- Labour Problems (Strike, Wage-Increase)
- Accumulative Debts

Q11. Please check your expecting measures. Please indicate the numbers in order.

- Supply of Raw Materials
- Installation of Efficient Production Machinery
- Constant Supply of Electric Power/Fuel
- Training of Skilled Labour
- Installation of Storage-facilities
- More Development of Market
- More Supply of Finance
- Supply of Share-Parts
- Cutting the Surplus of Raw Materials
- More Strict Laws for Controlling Labour Problems
- Proper Credit System

III. CREDIT OPERATION

Q12. Please specify main financial sources for your industry

Source, Value and Objectives (utilization)

Source		Value	Objective Conditions	
<input type="checkbox"/>	Bangladesh Krishi Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Bangladesh Samabaya Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Sonali Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Grameen Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lending

Problems:

Q13. If industry is not willing to avail the above financial sources what are main reasons?

IV. TRAINING

Q14. Please describe the training activities by institutions related to your industry business.

Institution	No. of Trainees	Subject of Training	Duration/Place	Year

Q15. What subjects of training are more attractive and useful for your industry? Please select five (5) and indicate the numbers in order.

- Farm Management & Plant Protection
- Homestead Production
- Poultry Raising and Duck Farming
- Fish Culture
- Post-harvest and Marketing
- Cottage Industries
- Handicraft/Embroidery
- Adult Literacy
- Health Care & Family Planning
- Credit System
- Others

Q16. Do you have any request on the training subjects, materials and facilities for your industry?

Attachment H.A.2

RD12 Training Programme

General

Training is an important component of RD-12 project to support and implement project activities. The Training Component will be implemented by the BRDB. BRDB will create a sustainable training system within the BRDB for this project (PEP Cell). Implementation of this component will require the following activities:

Research Training Needs and Evaluate Training Results

Assessment of Training Needs and Evaluation of Training activities and Curricula will be an on-going integral part of the Training process. The activity will include conducting:

- + Training Review Workshops
- + Classroom Reaction Evaluation
- + Impact Study
 - Staff and Clientele
 - Private Mechanics

Develop Curricula and Produce Materials

The entire spectrum of PEP training for Mobilization, Credit Operation as well as Training itself curriculum requirements is included in this activity. The result of this activity will be the regular and systematic development and upgrading of curriculum and materials for Training at all levels - related to the needs of Trainees, varying Training environments and the resources available. The activity will include:

- + Identifying curriculum and materials requirements implicit in the Annual Training Plan, Mobilization efforts and Credit operation.

- + Assigning or contracting out curriculum and materials preparation.
- + Field Testing, revising and validating results.
- + printing and Production of curriculum and materials.

Implement Training

Required Training will be provided to all levels of staff and society members and leaders. Following training activities will be implemented:

Training for the Clientele Groups

- + Three-day Member Education.
- + One-day Monthly Training for Society Managers and Chairpersons (frequencies and other features of this training will be determined by the field staff as per priority and monthly training budget provision.
- + Technical Skill Development and Training: The implementation and follow-up of skill training for the Societies members on various income generating activities in the task of Technical Resource Teams (TRT) in collaboration with UBCCA functionaries. Six Technical Resource Teams consisting of one leader and five members in each team will be set up at six greater districts. Each Team will operate from a District Technical Resource Centre at the greater district level.

The primary result of this activity will be that the members receive practical skill training directly related to existing or proposed IGAs. Major tasks included are:

- Training at Upazila
- Inter-society visits
- Training at outside institutions and organisations.

- + **Private Mechanics Training:** This activity constituting a distinctive element in the Training Component for RD-12 since it entails the direct delivery of Skill Training by BRDB using their own facilities and staff at the four Private Mechanic Training Centres (PMTCs). The activity includes:
 - Equipping, staffing and managing 4 PMTCs
 - Organising three-month basic training
 - Organising 1-month advance training
 - Field follow-up

- + **Training of UBCCA Chairpersons:** One hundred thirty-nine UBCCA Chairpersons will be trained on management and leadership development to carry out specific responsibilities of their position. They will be trained in groups of 20-25 over a five-day period.

Training to the Project Staff

- + **Training of Upazila Level Functionaries:** The upazila is the strategic management Unit of RD-12 project and the URDOs, ARDOs Accountants and Organisers are key personnel in implementing and managing RD-12 activities. As such, their training is the vital activity of RD-12 Training. Training activities for the Upazila Level Functionaries include:
 - Basic Training for the URDOs, ARDOs, Accountants, Accounts Assistants and Field Organisers.
 - Three-day Annual Refresher Workshops for the URDOs, ARDOs, Accounts Personnel and Field Organizers.
 - Exchange visits within and outside RD-12 project.
 - Orientation exercises for the field functionaries on social development and collaborative activities.

To develop effective training strategy for RD-12, tested approaches like "Apprentice" training model will be implemented for the training of Field Organisers.

- + **Training of Trainers:** To develop a competent cadre of RD-12 trainers, a batch of twenty field staff (DPD, URDO, ARDO) will be trained annually in the Training of Trainers course. The result of this activity will be a network of Trainers within RD-12 equipped and available to service the special training requirements of the project.
- + **Train District Level Functionaries:** This activity will include:
 - Providing Management Development Program for Deputy Project Directors.
 - Training Technical Resource Teams (this includes in addition to local training, regional orientation for six team leaders).
 - Providing Trainers Orientation.

The result of this activity will be:

- Better management provided by DPDs;
 - Relevant Skill Training and Technical Assistance to the Bittaheen;
 - Field staff, nation building departments and NGOs cooperating in the delivery of Technical Training and extension services to the rural poor;
 - A cadre of Trainers specially oriented to conduct BRDB staff and target group training will be formed.
- + **Provide Training for PEP Cell Staff:** The BRDB and CEA will plan for the project supported training and upgrading for PEP/HQs staff of RD-12. BRDB and CEA will jointly approve training activities and the selection of trainees.

The result of this activity will be appropriately selected and trained members of the PEP Unit - planning, implementing and further developing credit, training and management system for the RD-12 project of BRDB.

Manage the Training Program

The Management of the RD-12 Training Program is the responsibility of PEP Training Unit assisted by CEA Training Team. Activities included are:

- + **Preparation and production of annual training plan**

- + Resource Mobilization
- + Implementation and monitoring of training activities
- + Implementation and monitoring of training activities
- + Evaluation of training effectiveness
- + Coordination and collaboration with appropriate persons, agencies and institutions.

The Training Unit is to manage and administer various training activities of the RD-12 project. The Unit will be headed by a Joint Director at the PEP Cell Headquarters who will work for RD-12 only. Details of various training activities are presented in the following Table (Details of Training Activities).

INSTITUTIONAL STRENGTHENING - ACTION REVIEW FOR MANAGEMENT SYSTEM

During the Project the AR/M System will be established within the REM Unit of the PEP Cell to provide monitoring, review, evaluation and reporting to the Societies and to other levels of management. Institutional Strengthening of the RD-12 project and BRDB as a whole will be achieved through the design and implementation of a project information system. This system, referred to as the Action Review for Management (ARM), will provide for the continuous flow and analysis of information at all levels of the project. It will increase the capacity for self-direction among the societies and enable management to respond to the realities and lessons learned in the field and will allow Societies to make informed choices and to manage their own activities more effectively. At other levels it will allow BRDB to continuously assess the needs of the Rural Poor, track the performance and impact of the Project, identify the strengths and weaknesses of the project delivery system and take (self) corrective action accordingly.

The activities required to support the achievement of a stronger management review system within the REM Unit include:

- + Training the REM staff;
- + Planning and implementing Management of Information System (MIS);

- + Obtaining and analysing project data;
- + Providing feedback within the project - at all levels.

A Research, Evaluation and Monitoring (REM) unit has been established at the RD-12 headquarters which will be headed by a Joint Director. In addition a Deputy Director and two other Research Officers and a no less than 2 Data Entry Operators will be appointed for the Unit. REM staff will be selected from within BRDB or recruited from outside BRDB on the basis of their relevant professional training and experience. The ARM Component of the CEA will provide advisory services to the REM in relation to the tasks to be accomplished by the REM unit. The ARM system of the REM Unit is expected to result in:

- + a systematic and continuous flow of information from the communities with respect to bittaheen needs, opportunities and constraints; programme effectiveness and corresponding organisational requirements;
- + on-going interpretation of the information and application of learning at all levels of the project resulting in:
 - timely corrective action,
 - creative adoption of programme activities,
 - modification of organisational structures, procedures and resources.
- + an open and dynamic development system with an institutional capacity to source, process and utilise action data to increase programme effectiveness and efficiency, expand servoces and build organisational capability.
- + evaluation of project activities and procedural aspect and impact assessment. BRDB's REM unit will continually monitor the progress of field activities.

The valuable data obtained through the MIS and the ARM system will be of importance and used in the two major evaluations which are planned to determine the impact of the Project -- the Mid-Term Evaluation in 1991-1992 and the Terminal Evaluation in 1993-1994. Both of these evaluations will be carried out by the Project engaging external Consultants to assess the project in the areas of financial performance, and the effectiveness and efficiency of the project as against the objective verifiable indicators identified in the Logical Framework Analysis and against the baseline and monitoring data collected on the project.

The Mid-Term Evaluation will assess the efficiency of implementation of each of the project activities in terms of schedules and budgets, including the effectiveness and efficiency of project management and administration, the validity of the original objectives and assumptions, and the problems encountered to date, with possible solutions.

The Terminal Evaluation will measure the degree to which the project purpose was attained and its effectiveness in promoting the project goals. The evaluation will compare the end of project status to the measures obtained at the beginning, and will evaluate the impact the project has on the members of the Societies.

The following table summarises the activities and costs for all ARM activities.

RURAL DEVELOPMENT PROJECT - 12 PRODUCTION AND EMPLOYMENT PROGRAMME
DETAILS OF TRAINING ACTIVITIES

Costs are in Lakh Taka

Name of Activity	Total Provision Six Year Physical	Year I 1988-1989		Year II 1989-1990		Year III 1990-1991		Year IV 1991-1992		Year V 1992-1993		Year VI 1993-1994		Comments and Explanations
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	
GRAND TOTAL FOR ALL TRAINING ACTIVITIES: (ELEMENT 30A - DEVELOPING TRAINING SYSTEM)	449,104 (2,299,663)	19,113 (79,043)	68.38 (120,437)	27,497 (120,437)	94.31 (323,183)	175,298 (323,183)	286.27 (550,905)	69,995 (550,905)	427.60 (465,995)	77,685 (465,995)	440.58 (820,265)	79,496 (820,265)	454.01 (820,265)	Figure in Parenthesis indicate Person-Days of Trainings Cost is adjustable within Activity in the Annual Plan All costs include Institutional Fees, if applicable
Total for Activity 301: RESEARCH TRAINING NEEDS AND EVALUATE RESULTS	526 (2,218)	110 (180)	1.51 (248)	116 (248)	1.23 (280)	180 (280)	5.06 (540)	200 (540)	5.91 (75)	170 (510)	5.55 (75)	120 (360)	5.90 (360)	5.90 Allowances, Fees and Charges will be clearly outlined annually in the Implementation Plan.
- Mobilization Review Workshops/Experience Sharing Meetings/Workshops/Seminars	60 (60)	0 (0)	0 (0)	0 (0)	0 (0)	30 (30)	1.00 (30)	30 (30)	1.00 (30)	0 (0)	0 (0)	0 (0)	0 (0)	Duration: 1 day; Venue: Dhaka or any other District Honorary: As outlined in Annual Implementation Plan.
- Regional Credit Review Workshops/Experience Sharing Meetings/Workshops/Seminars	480 (1,180)	0 (0)	0 (0)	0 (0)	0 (0)	120 (100)	1.20 (360)	120 (360)	4.00 (360)	120 (360)	4.00 (360)	120 (360)	4.00 (360)	Duration: 1 to 3 days; Venue: Regional District Hqs. Honorary: As outlined in Annual Implementation Plan.
- Training Review Workshops/Experience Sharing Meetings/Workshops/Seminars	188 (489)	55 (90)	0.35 (174)	58 (174)	0.86 (75)	25 (75)	0.56 (75)	25 (75)	0.65 (75)	25 (75)	0.65 (75)	25 (75)	0.65 (75)	Duration: 1 to 3 days; Venue: Any convenient place Honorary: As outlined in Annual Implementation Plan.
- Training Impact Studies/Diagnostic Surveys	40 (40)	10 (10)	1.16 (10)	8 (10)	0.37 (10)	8 (10)	2.30 (10)	6 (10)	0.35 (10)	7 (10)	0.90 (10)	1 (10)	1.80 (10)	Assignments will be contracted out as per rule.
Total for Activity 302: DEVELOP CURRICULA AND PRODUCE MATERIALS	37.53	7.86	8.67	8.67	8.40	8.40	7.50	4.60	7.50	4.60	7.50	2.50	2.50	0.00 Revision and Printing Cost included. 1.00 Revision and Printing Cost included. 1.50 Assignments will be contracted out as per rule.
- Development/Revision of FO Hand Books	2.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00 Revision and Printing Cost included.
- Development/Revision of COP and Pass Books	11.59	0.33	7.10	7.10	0.15	0.15	0.00	0.00	3.00	0.00	0.00	0.00	0.00	1.50 Assignments will be contracted out as per rule.
- Development/Revision of Training Manuals	23.95	7.53	1.57	1.57	5.25	5.25	4.50	4.50	4.50	3.60	3.60	4.50	4.50	1.50 Assignments will be contracted out as per rule.
Total for Activity 303: IMPLEMENT TRAINING	447,018 (2,336,365)	19,032 (78,283)	57.01 (119,501)	27,281 (119,501)	84.03 (322,828)	175,093 (322,828)	274.41 (550,290)	68,770 (550,290)	413.49 (451,833)	77,450 (451,833)	429.71 (806,030)	79,351 (806,030)	444.56 (806,030)	Allowances, Fees and Charges will be clearly outlined annually in the Implementation Plan.
- Train Bittahen Weavers and Leaders	436.64 (2,281,605)	17,505 (74,022)	39.42 (110,564)	26,929 (110,564)	63.38 (284,543)	173,165 (284,543)	192.93 (554,255)	65,951 (554,255)	346.96 (451,833)	75,165 (451,833)	400.89 (806,030)	77,526 (806,030)	421.95 (806,030)	Allowances, Fees and Charges will be clearly outlined annually in the Implementation Plan.
+ Member Education and Human Development for Bittahen Society Weavers	56,122 (159,228)	8,046 (12,450)	7.17 (18,201)	8,046 (18,201)	11.59 (25,200)	8,400 (25,200)	16.43 (36,450)	8,925 (26,775)	16.43 (36,450)	22.36 (40,800)	22.36 (40,800)	13,050 (39,150)	24.00 (176,43)	Duration: 1 to 3 days; Venue: Upazilla and Society.
+ Technical Skill Development Training for Bittahen Society Weavers	159,650 (573,720)	0 (0)	0 (0)	0 (0)	7.59 (70,320)	17,280 (70,320)	52.69 (167,800)	40,800 (167,800)	158.26 (296,296)	167.58 (296,296)	167.58 (296,296)	176,43 (167,800)	176.43 (296,296)	Duration: 3 to 21 days; Venue: Weavil/Society. For Training Institute e.g. ESCLC, BACC, etc.
+ Private Mechanics Training for Society Members (Basic and Advanced Courses)	1,459 (101,614)	324 (11,954)	20.62 (16,650)	241 (16,650)	22.81 (11,500)	196 (11,500)	26.57 (20,500)	296 (20,500)	26.57 (20,500)	28.59 (20,500)	28.59 (20,500)	296 (20,500)	30.61 (20,500)	Duration: 1 to 3 months; Venue: PHC Workshops (BROB).
+ Leadership Development Training for Bittahen Chairpersons and Managers	238,650 (797,353)	444.29 (149,614)	15.00 (49,614)	18,642 (76,003)	24.72 (177,373)	147,135 (177,373)	63.59 (189,000)	15,750 (189,000)	88.20 (26,963)	122.86 (26,963)	122.86 (26,963)	129,52 (26,963)	92.00 (26,963)	Society Manager & Chairperson: 1 day monthly at UBCCA. UBCCA Chairperson: 7 days every other year at UPUS.
+ Mobilization and Conducting Bittahen Railies for Bittahen Empowerment	850,890 (650,690)	0 (0)	0 (0)	0 (0)	0 (0)	150 (150)	2.25 (150)	150 (150)	7.50 (150,180)	9.50 (200,180)	9.50 (200,180)	11.00 (300,180)	11.00 (300,180)	Annual 139 One-day Railies in 139 Upazillas. One-day Workshops at Regional-District Hqs. To be determined during implementation.
+ Need Based Training Activities (to be identified during implementation)	150.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	To be determined during implementation.
Total for Activity 304: TRAIN PROJECT STAFF AT ALL LEVELS	10,377 (115,360)	1,128 (4,841)	17.59 (9,010)	352 (9,010)	20.65 (38,285)	1,928 (38,285)	81.51 (36,037)	2,819 (36,037)	66.53 (75)	2,325 (13,417)	28.82 (75)	1,825 (13,417)	23.00 (75)	Allowances, Fees and Charges will be clearly outlined annually in the Implementation Plan.
+ Train Upazilla Level Functionaries : (URDO/ASDO/Accountant/FO/Asst. Accountant)	9,827 (111,105)	1,024 (4,485)	15.10 (8,776)	291 (8,776)	14.00 (35,630)	1,795 (35,630)	61.49 (120,265)	2,692 (120,265)	60.38 (517)	23.67 (517)	23.67 (517)	1,825 (13,417)	23.00 (75)	Duration: 3-30 days; Venue: UPUS, BARO, RDII, RDA etc. Allowances as per rule outlined in Annual Imp. Plan.
+ Train District Level Functionaries (COP/TRI Weavers/Trainers/Others)	3,895 (380)	164 (352)	1.49 (174)	174 (174)	0.75 (8.00)	129 (120)	12.00 (120)	120 (120)	2.65 (7)	2.65 (7)	2.65 (7)	0 (0)	0 (0)	Duration: 1-15 days; Venue: Institutes/Regional (abroad). Allowances as per rule outlined in Annual Imp. Plan.
+ Train PEP Cell Staff (ASB/Director/JO/ASB/AB)	19 (380)	0 (0)	0 (0)	0 (0)	8.00 (120)	4 (120)	0.37 (75)	25 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	Cost includes Printing and Duplication Charges.
Total for Activity 304: INCREASE THE TRAINING PROGRAM	150 (490)	0 (0)	0 (0)	0 (0)	0.37 (75)	25 (75)	0.70 (75)	25 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	Cost includes Printing and Duplication Charges.
- Annual Training Plan Workshops and Printing/Duplication/Distribution	150 (490)	0 (0)	0 (0)	0 (0)	0.37 (75)	25 (75)	0.70 (75)	25 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	0.70 (75)	Duration: 3 days; Venue: Dhaka or any Institute. Allowances as per rule outlined in Annual Imp. Plan.

Attachment H.A.3

BSCIC-RDI (Rural Development Industry) Training Programme

1. General

The economy of Bangladesh is basically based on agriculture with 85% of its population living in the rural areas and 92% of the people are directly or indirectly depend on agriculture for their income generation and social survival. But only dependence on agriculture is not prospective. It cannot absorb the raising additional labour of the country. An alternative employment program has been undertaken through industrialization as a solution for solving the problem of employment and poverty of the people.

2. Objectives

- * To promote rural industries and to boost up for rural economic development.
- * To control urban migration from rural areas.
- * To create employment opportunity within the area by identifying the rural resources exploitation.
- * To enliven conventional and non-conventional handicrafts for more employment opportunities.
- * To raise general income of the rural mass to maintain social inequalities.

3. Project Activity and Strategy :

To identify potential of industries and solution for skill development and to provide different kinds of cooperation as :

- a) To assist the highly qualified entrepreneur to establish industry.
- b) To recruit the school and college drop-outs for modern technical know-how.
- c) To establish 3 types of service :
 - Bamboo
 - Metallic
 - Wood work
- d) To provide credit to village or rural professional handicraft manufactures to standardize their products.
- e) To innovate marketing of the products

- f) To provide consultancy service for UNDP/ILO aided projects.

4. Credit Facility :

Organize credit from UNDP channeled through BKB and other subsidiary to be used as revolving credit funds.

Minimum Tk 10,000 to 20,000 credit allowed.

To be paid by instalment after 12 to 18 months of the receipt of the credit and must be paid in full on basis of prices production or cash by one year.

Skill development Centre in Narsingdi/Pabna/Feni/Comilla/Saidpur/Dinajpur/Rajshahi/Barisal

Institutional Training Centre for dropouts are as follows :

Tangail/Dhaka/Sonaipuri and Noakali

The following courses are arranged in the above institutes :

- a) Filling Cum Machine Shop Practice (Knitting) Wool
- b) Electrical House Wiring
- c) Amature Welding
- d) Radio/TV Repair Training
- e) Carpentry/Wood Inlay
- f) Knitting Wool
- g) Motorcycle Repair
- h) Fridge and Air-conditioner Repair
- i) Carpentry
- j) Garment Making
- k) Foundry
- l) Welding & etc.

5. Production - Based Training

- a) Socks Making
- b) Skill and Batik Printing
- c) Embroidery

- d) Dress Making
- e) Radio/TV Repair
- f) Sheet Metal
- g) Shallow Machine Repair
- h) Chalk (for Black Board) Making
- i) Flower Making
- j) Spices for Better leaves
- k) Candle Making
- l) House Wiring
- m) Doll Making
- n) Pottery
- o) Rope Making
- p) Net Making
- q) Mat Making
- r) Motor Repair
- s) Bicycle Repair
- t) Palm Fibre Production

The above training is arranged on the basis of area demand of its speciality.

Intensive Activity Areas :

1. Greater Dinajpur : Dinajpur/Thakurgaon/Panchgor
2. Greater Rangpur : Rangpur/Gaibandha/Nilphamari/Lalmanirhat/Kurigram
3. Greater Comilla : Comilla/Chandpur/Brahmanbaria
4. Greater Noakhali : Noakhali/Feni/Lascmipur

There are Project extension Offices in 4 (four) Greater Districts. In each District there is one Extension Officer (Project Coordinator)

At Upazila base there is one Assistant Extension Officer.

Other Divisional Officers are as follows :

Dhaka Division : Mymensingh/Jamalpur/Faridpur/Tangail

Chittagong Division : Chittagong/Sylhet

Rajshahi Division : Pabna/Bogra/Rajshahi

Khulna Division : Khulna/Jessore/Kushtia/Barisal

Achievement (1985-90)

Activity	Target	Achievement
Identify of entrepreneur	12800	18345
Enrollment of Project	22238	17037
Project Profile	1296	11258
Project Implementation and Evaluation	39401	19961
Credit Arrangement	1960	9471
Entrepreneurs Development	19755	14629
Skilled Development	20642	21166
Problem Identify & Suggestion	19046	18919
Employment Creation	41000	37616

Attachment H.A.4

BSCIC-Women Entrepreneur Development Programme

1. General

In Bangladesh, 49% of the total population are female. Only 15 % of them are involved in gainful economic activities. According to a BIDS report, it is seen that during 1972-80 about 82,000 women received training on skill development. But, under these training activities no simultaneous or post extension activities were undertaken. In 1981, a project namely "Women Entrepreneurs Development and Extension of Family Business" was undertaken under a joint agreement between USAID and BSCIC. The main objectives of this project were to identify potential entrepreneurs among rural poor women and making them self-reliant through employing them into economic and production-oriented activities, and thus enhance their social status. These women live in Bangladesh, a male dominated society with all religious and social superstitions and dogmas. Because of their illiteracy, they are not socially conscious. But historically these females have been working along side the males in producing cottage industries items, and thus increasing the income of the families.

The above project has emphasized 4 objectives for achievement :

2. Programme

- (a) Creating employment opportunities for the women in rural and underdeveloped areas
- (b) Entrepreneurship development through participation of women in small and cottage industries activities
- (c) Development of women entrepreneurs' technical and management skill
- (d) Motivation women entrepreneurs in compulsory saving
- (e) Improving making them economically self-reliant.

In order to achieve the above objectives, the women with the mentality to establish small and cottage industries are identified. The women with more risk bearing capabilities, innovative and eager to establish these industries are given priority.

This project has been assisting the women mainly in the following 5 extension activities :

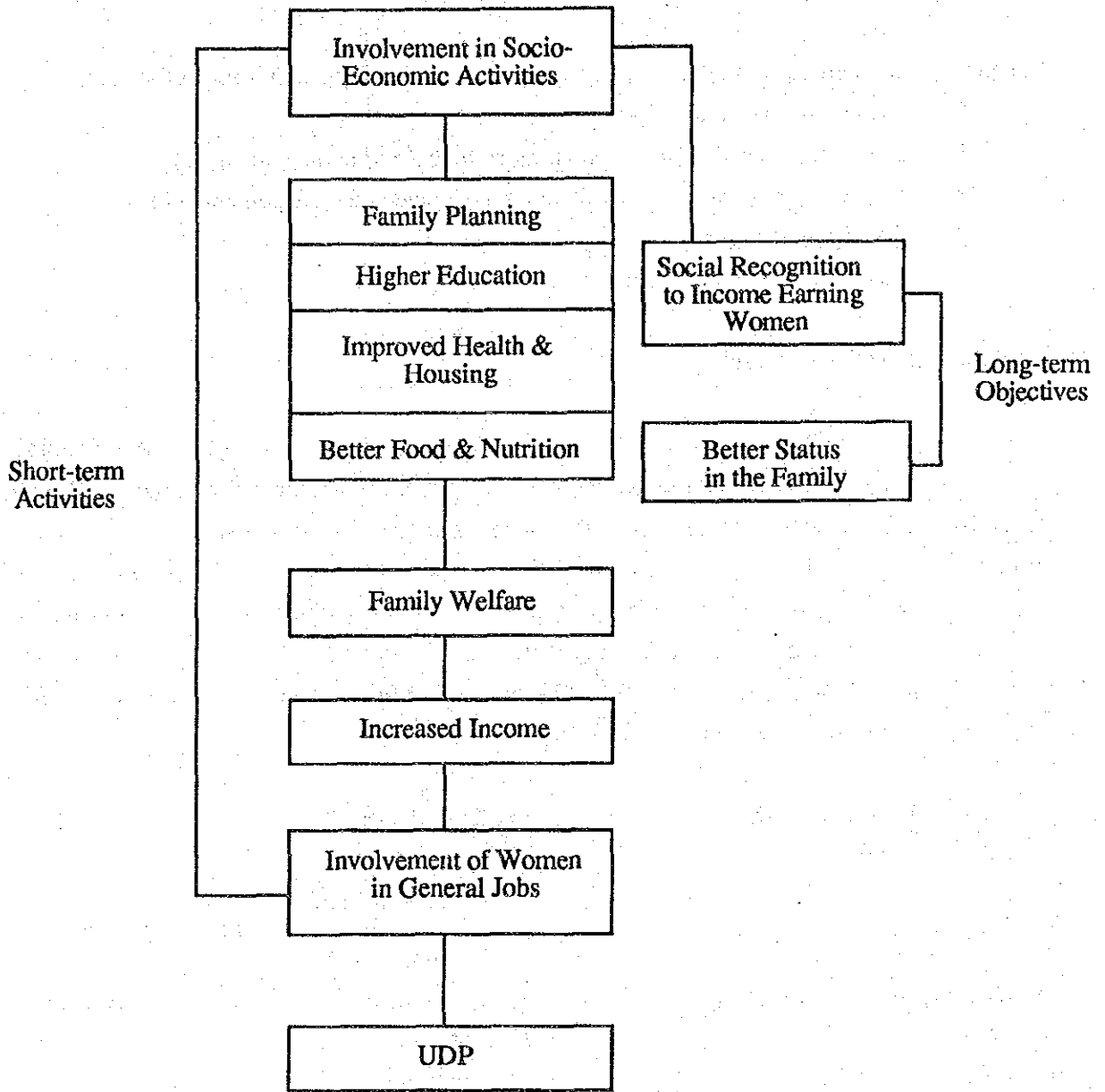
- * Arranging fixed and working capital
- * Providing advise for development of technical and management skill
- * Providing training for development of technical and management skill
- * Supplying designs
- * Helping in marketing of products

3. Credit Arrangement Activities :

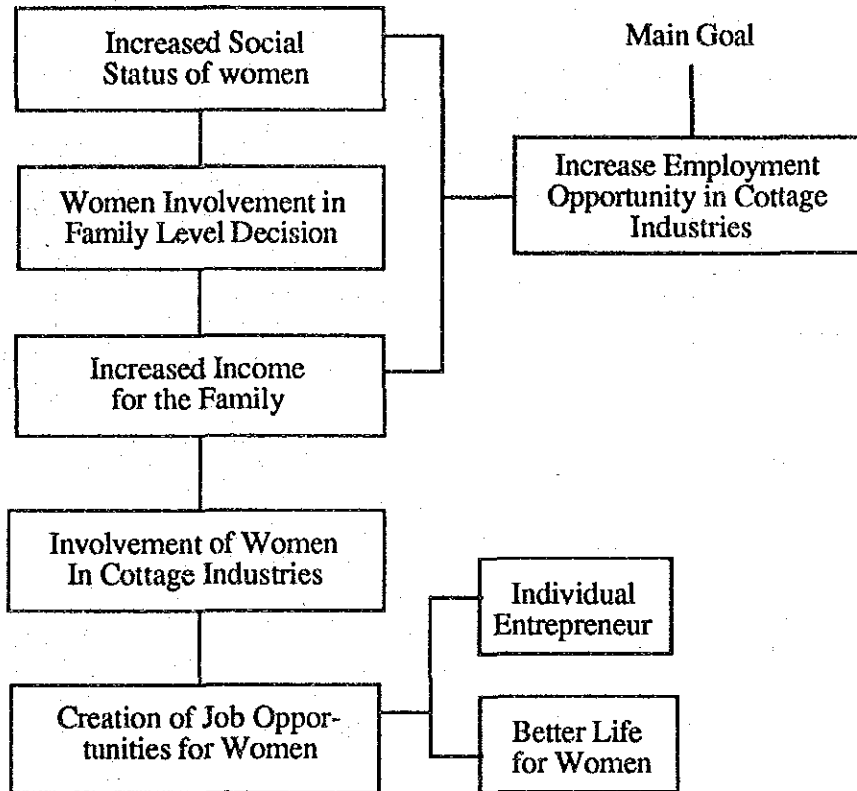
In order to provide the entrepreneurs with credit, Tk. 3.5 crore were arranged , of which Tk. 1.17 crore were for USAID and the rest were arranged from Bangladesh Krishi (Agriculture) Bank (BKB). The interest rate was 16% . The working capital component and the fixed capital component were to repay within 1 year and 5 years respectively. No compulsion was there for putting mortgage against those loans, but the machines and equipments were o put under hypothecation. The maximum loan ceiling were Tk. 10,000/=. The loaners used to get loan from BKB on recommendation from BSCIC Extension Officers. The economic activities for which the loaners could get loan were as follows :

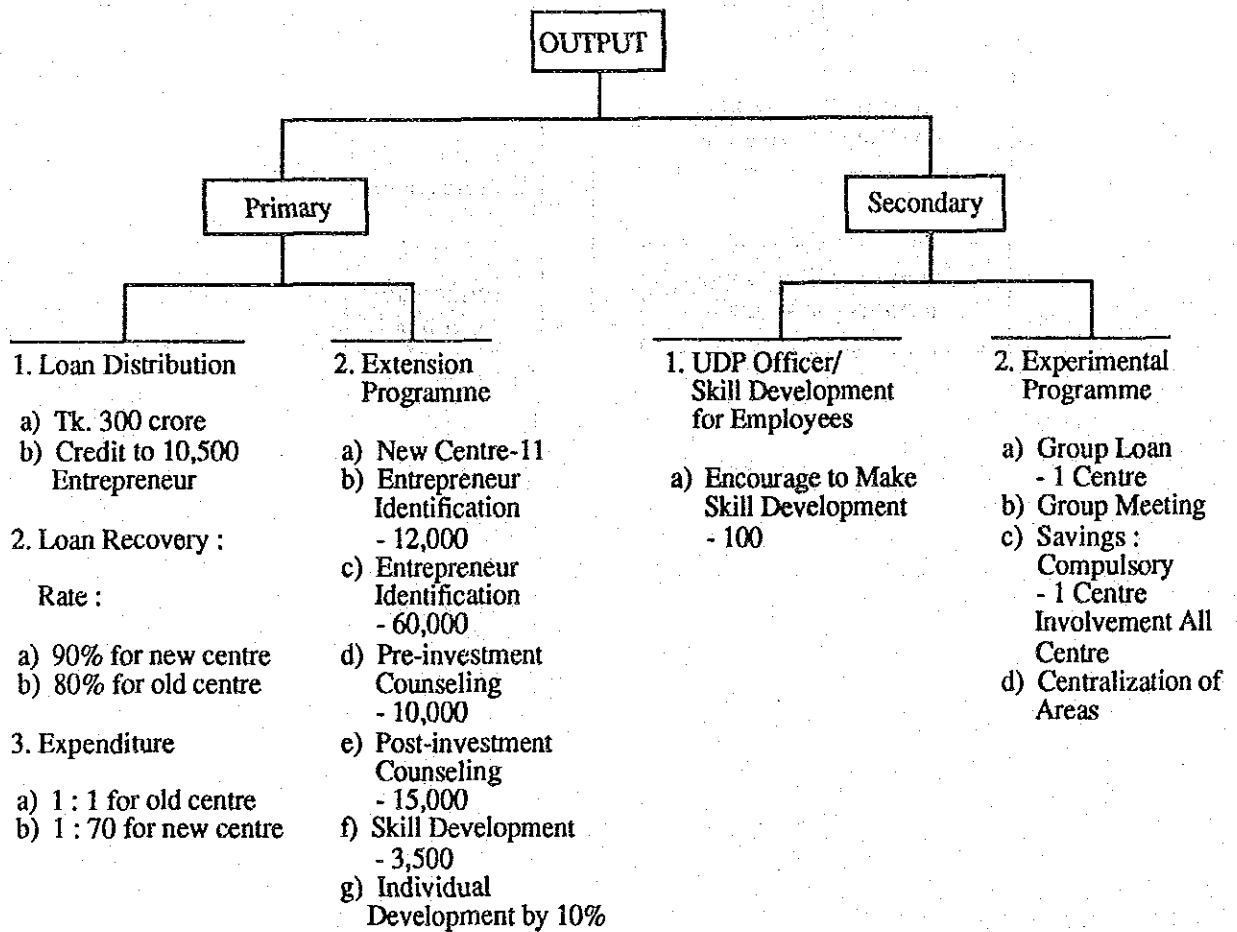
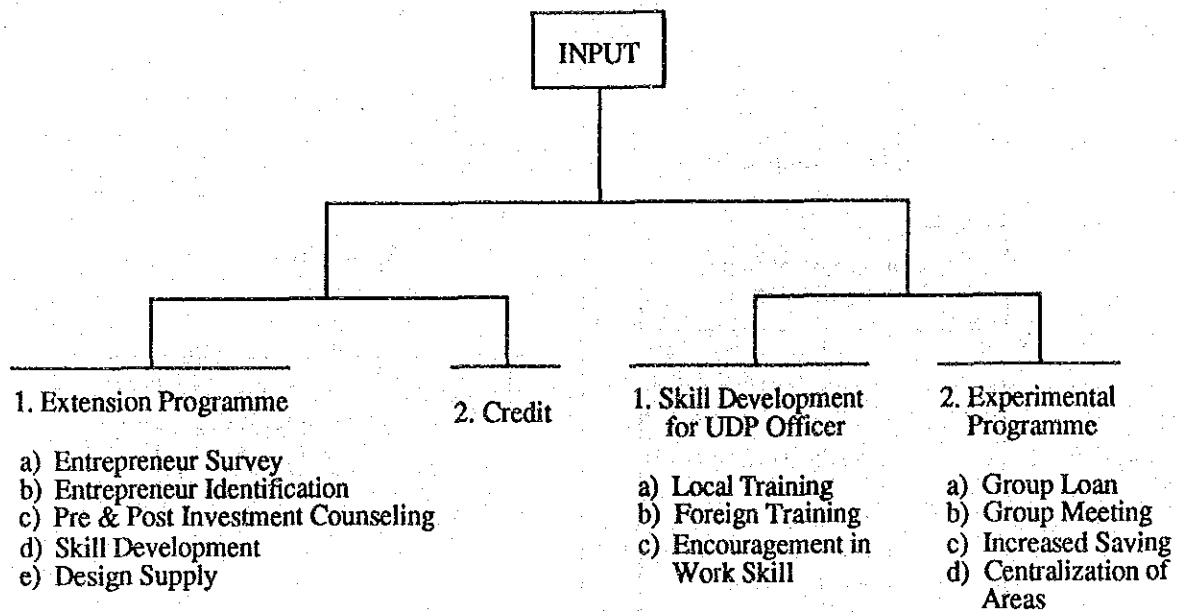
- | | |
|----------------------------------|--|
| 1. Cane and bamboo products | 16. Doll Making |
| 2. Coir products | 17. Pati Making |
| 3. Garments | 18. Hogla/Mat Making |
| 4. Net making | 19. Cheera, Muri, Chanachur, Sweet etc. Making |
| 5. Dheki (paddy housing) project | 20. Medicine Making (from forest products) |
| 6. Weaving | 21. Tannery |
| 7. Ghani | 22. Blacksmith |
| 8. Poltry | 23. Small Workshop |
| 9. Tobacco Processing | 24. Ceramic Factory |
| 10. Food Processing | 25. Bag Making |
| 11. Specie Making | 26. Spinning |
| 12. Poultry Farming | 27. Coconut Oil Making |
| 13. Dairy Farming | 28. Printing (Cloth) |
| 14. Fish Drying | 29. Salt and Lime Making |
| 15. Imitated Jewelry | |

Objectives of the Women Entrepreneur Development Programme



UDP (Approach)





Attachment H.A.5

Future Agro-Processing Development Plan

The future agro-processing development plan would consist of 2 following parts:

- (1) The Agro-Processing Center
- (2) The Institutional Development Programme

(1) Agro-Processing Center

An agro-processing center at Upazila-base is subjected to be established as the base for agro-processing activities.

This consists of 3 following installations:

- * Training Center
- * Cold-Storage
- * Food Processing Plant

Training Center:

The Training Center is for purpose of training farmers, especially young people (males and females) i.e. after their graduation from junior high school, for their making of living earnings by creating job-opportunities and for making a higher valued production.

This Center, therefore, is considered as a farmer's supporting institution for this purpose.

The Center would carry out various training programs in which Food Processing Training is a main subject for basically operating the Food Processing Plant in this Agro-Processing Center. Its organization and management should be proposed in the project organization schema.

This Training Center, therefore, would be formed in a proper land area for a new construction, with sufficient spaces for two 50-student classrooms ($300\text{m}^2 \times 2$), a workshop (100m^2) and an office.

This Training Center will be considered as the core part for creating job-opportunities for local farmers, especially young people, male and females, as well as promoting a modern life-style at the grass-root class regarded as the most important part for implementing the rural development programme.

All local young people are subjected to be trained in the Training Center for being skilled workers.

Equipment for Training Center :

(1)	Word Processor	×	5	units
(2)	Personal Computer	×	2	units
(3)	TV Video-set	×	3	units
(4)	TV Camera	×	1	unit
(5)	Camera	×	2	units
(6)	Workshop-Tools	×	1	unit
(7)	Laboratory-Tools	×	1	unit
(8)	Office-Furnitures & Tools	×	1	unit
(9)	Air Conditioner	×	3	units
(10)	Ceiling Fan	×	20	units
(11)	Furnitures for Classroom	×	2	units
(12)	Refrigerator	×	2	units
(13)	Incubator	×	2	units
(14)	Mechanics	×	5	units
(15)	Sewing Machine	×	25	units
(16)	Ceramic Tool	×	20	units
(17)	Training Materials & Equipment	×	1	unit
(18)	Miscellaneous Items	×	1	unit

The cost for these equipment would be estimated at approximately Tk 15,000 000.

Cold Storage :

In each Upazila a cold storage of at least 1,000 ton, is subjected to be established for mainly storing potato, vegetables etc. of these fresh products for delivering in off-season and for processing in the Food Processing Plant.

The equipment cost for this cold storage is estimated at Tk 5,000,000.

Food Processing Plant :

Based on above premises a Food Processing Plant to be used for training purposes and for producing following products is subjected to be established in the Agro-Processing Center for mainly processing legumes, vegetables and fruits.

This factory, therefore, should be installed with equipments which are able to treat all these products up to a production-schedule based on available raw materials and marketing demands. This factory would possess a treatment-capacity of maximum 3 tons per day for this production-schedule of one item or mixed production of various items in one day.

Equipment for one Food Processing Plant would be as follows :

(1)	S.S. Processing Table	×	5	units
(2)	S.S. Washing Basin	×	5	units
(3)	Double-Jacket Treatment Tank (with Agitator)	×	4	units
(4)	Semi-auto Canning Machine	×	1	unit
(5)	Semi-auto Potting Machine	×	1	unit
(6)	Autoclave	×	2	units
(7)	Drying/Smoking Room	×	2	units
(8)	Boiler	×	1	unit
(9)	Chiller	×	1	unit
(10)	Piping & Electric Installation	×	1	unit

The cost for these equipments is estimated at approximately Tk 60,000,000.

Besides, in case of necessity, a water treatment installation for treating water collected from nearby water source(s) to be used in the Food Processing Plant.

Also, for the treatment of waste water, the lagoon aeration type is recommended.

(2) The Institutional Development Programme

This programme is aimed at training young farmers, especially newly graduated males and females from junior high schools, for being skilled workers. Courses of 3 ~ 6 months will be formulated for corresponding trainings as follows :

- Secretary skill
- Accounting
- Typing/Word Processing
- Industrial Drafting
- Dressmaking
- Ceramics Making
- Food Processing

Each course would consist of average 30 trainees. Trainers are experts on corresponding fields. After being trained they can work as private business or workers of these necessary fields.

ANNEX I
MARKETING

THE MASTER PLAN STUDY ON
THE MODEL RURAL DEVELOPMENT PROJECT PHASE II
FOR KACHUA, NABINAGAR, BANCHARAMPUR AND DEBIDWAR UPAZILAS

ANNEX I MARKETING

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1. GENERAL

Marketing development is crucial for increase in farmers' income through strengthening of farmers' bargaining powers, reduction of intermediaries, timely marketing operations to get higher sale prices, etc. and activation of rural economy by promotion of agro-processing industry and increase in commodities' inflow and outflow, etc. This Annex comprises (i) present marketing system in the study area, (ii) demand and supply of farm product, (iii) prices and marketing cost, (iv) direction for marketing improvement, (v) a model marketing development plan, and (vi) priority projects for marketing development.

2. PRESENT CONDITION

2.1 Marketing of Farm Products

2.1.1 Markets

Markets in Bangladesh are classified to primary, secondary, regional and terminal markets. Primary markets, normally termed "hats", locate at village/union level. The hats are operated on specific days, usually selected two (2) days a week. They serve as principal centers for exchange of commodities in rural area. Secondary markets, termed "growth center", locate at upazila headquarters and at strategic geographic places commanding several villages/unions. They serve as assembly centers for the surplus supplies moving from primary markets and as wholesale outlets for reallocation of products back to primary markets in deficit areas and forward to regional markets or major urban consumption centers.

There are four (4) growth centers and 16 to 22 hats in each upazila as shown in Table I.2.1. Present conditions of the local markets in the study area is shown in Table I.2.2 and summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Growth Center				
- Number	4	4	4	4
- Average area (ha/center)	1.7	0.4	0.3	0.5
- Storage capacity (t/center) /_1	369	302	657	888
- No. of shops (No./center)	81	44	134	94
- No. of rice mills (No./center)	2.0	1.3	4.8	1.8
- No. of flour mills (No./center)	1.3	0.8	1.5	1.8

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
II. Hat				
- Number	15	16	22	20
- Average area (ha/hat)	0.7	0.2	0.2	0.3
- Storage capacity (t/hat) /_1	83.3	3.0	7.0	2.5
- No. of shops (No./hat)	85	26	34	50
- No. of rice mills (No./hat)	1.2	0.5	0.5	0.4
- No. of flour mills (No./hat)	0.5	0.4	0.3	0.1

_1: Including government godown

Hats usually locate at each union in the study area and most of growth centers locate at accessible places. Accessibility of local markets in Debidwar and Kachua is better than the rest two upazilas. There are nine hats accessible by river in Nabinagar, six in Bancharampur and one in Debidwar. The location and accessibility of the local markets are as shown in Table I.2.3 and summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. No. of Local Markets by Distance from Upazila Headquarters				
0 - 5 (km)	3	12	9	12
5 - 10	9	7	7	1
10 <	7	1	10	11
II.No. of Local Markets by Type of Accessibility from Upazila Headquarters				
- Paved road more than half	4	2	11	8
- Unpaved more than half	8	12	14	16
- River more than half	7	6	1	0

Storage and processing facilities mainly locate at vicinity or around local markets. Number and capacity of existing storage and processing facilities are shown in Table I.2.4 and I.2.5. Capacities of the private facilities are summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Godown/Private (t)				
- Total capacity	224	133	282	102
- Per godown	1	1	7	2
- Per growth center	44	21	32	13
- Per hat	3	3	7	2
II. Rice Mill (t/hour)				
- Total capacity	36.1	8.9	12.5	15.3
- Per mill	1.4	0.7	0.7	1.0
- Per growth center	3.2	0.8	1.5	1.8
- Per hat	1.5	0.4	0.3	0.4
III. Flour Mill (t/hour)				
- Total capacity	15.7	5.8	10.3	6.3
- Per mill	1.3	0.6	0.8	0.7
- Per growth center	2.7	0.3	1.1	1.0
- Per hat	0.3	0.3	0.3	0.1

Secondary markets at each district headquarters i.e. Brahmanbaria, Comilla and Chandpur have marketing functions as a regional market which collects specific products such as paddy/rice, vegetables, fish, jute, etc. from surrounding secondary markets and supply to terminal markets. There are two regional markets out of the related districts collecting farm products from the study area which are Bhairab Bazar in Greater Mymensing District and Narsingdi in Greater Dhaka District. Both markets locate at the right bank of the Meghna River opposite Nabinagar and Bancharampur respectively.

Terminal markets locate at the major urban centers like Dhaka, Chittagong. They collect commodities from secondary and regional markets and re-distribute them to consumption areas in urban regions or export.

2.1.2 Traders in the Markets

The major traders in the marketing system are summarized as follows :

1) Ferry-walas (Peddler)

They visit farmers door to door to collect grains. The trade of oils, fruits, clothes and other household goods in exchange of grains is common. They sell rice to **forias**.

2) Forias (Village-based middlemen)

They are small-volume (several maunds of grains at a time) traders at village/union level collecting grains mainly from farmers and selling to **beparis** in the hats. They are usually non-licensed full-time or occasionally, part-time traders.

3) Beparis (Village-level middlemen)

There are two types of beparis. One is local beparis who buy products from farmers or forias and sell them to **aratdars** in the growth centers or to the other beparis who come from outside of villages. Paddy beparis handle 10 - 50 maunds a day and several thousand maunds in a year. The other is bideshi (outsider) beparis from the secondary, regional or terminal markets. They have a network of marketing information and come to aratdars of the growth centers or regional markets to buy a truckload grains with three to four Takas per maund in commission to the aratdars.

4) Aratdars (Upazila-based broker)

They are a godown owner and act as a commission agent at the upazila level. They mainly deal grains on their own account and link the local markets with national distribution system.

5) Wholesalers

They are traditional wholesalers in regional or terminal markets, buying supplies from aratdars, store them temporarily, and selling it to local retailers. They get profits from the difference between their purchase prices and their sale prices.

6) Retailer

They are traditional retailers, buying commodities from the aratdars and wholesalers, and selling them at retail in local shops. Government stocks are retailed through special ration shops run by commissioned agents.

Number of farm output traders classified by the above criteria and processors in the study area are shown in Table I.2.6. More than a half of traders is dealing with grains like rice, paddy and wheat. Number of retailers per local market is 18 to 31 as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Number of Traders by Farm Outputs				
(1) Paddy, Rice, Wheat	522	546	692	475
(2) Fruits, Vegetable, others	150	148	226	137
(3) Livestock	114	351	256	143
(4) Fish	147	296	287	218
Total	933	1,341	1,461	973
II. Number of Traders per Local Market				
(1) Foria	6.6	6.7	8.4	7.5
(2) Beparis	6.9	18.7	13.0	8.1
(3) Aratdar	0.5	1.0	0.6	0.5
(4) Wholesaler	0.3	0.5	0.4	0.4
(5) Retailer	24.1	34.6	24.9	18.1
(6) Processor	1.6	2.3	2.1	1.8

Number of participant traders per market day is 126 to 214 at a growth center and 38 to 63 at a hat as shown in Table I.2.7. Average number of local markets covered by one dealer is estimated at less than two (2) except fruits,vegetables and others as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Number of Traders per Market Day				
(1) Growth Center	126	160	214	148
(2) Hat	52	63	48	38
II. Number of Local Market covered by One Dealer				
(1) Paddy, Rice, Wheat	1.4	1.6	1.9	1.8
(2) Fruits, Vegetables, Others	4.4	4.4	4.9	6.1
(3) Livestock, Poultry	1.3	1.3	1.9	1.7
(4) Fish	1.2	1.0	1.6	1.2

2.1.3 Marketing Flow of Farm Products

(1) Linkage between Upazilas and Regional/Terminal Markets

The growth centers in the study area are distinctly under the sphere of two regional marketing channel. Nabinagar and Bancharampur Upazilas are located along the Meghna River under the influence of Brahmanbaria, Bhairab Bazar and Narsingdi regional markets. Debidwar and Kachua Upazilas are linked with Comilla and/or Chandpur regional markets. The former regional markets are assembling products to Dhaka terminal markets and the latter mainly to Chittagong terminal markets as follows :

Upazila/Market	Regional Market	Terminal Market
Nabinagar	Brahmanbaria	Dhaka
	Bhairab Bazar	
	Narsingdi	
Bancharampur	Brahmanbaria	Dhaka
	Narsingdi	
Debidwar	Comilla	Chittagong
Kachua	Comilla	Chittagong
	Chandpur	Chittagong, Dhaka

Bancharampur and Nabinagar Upazilas are famous for handloom products which are assembled mainly in Narsingdi regional market, from where they are supplied to Dhaka terminal market. Both upazilas supply paddy, fish, vegetables and jute during those peak harvest seasons to respective regional markets as shown in Fig.I.2.1.

Debidwar and Kachua upazilas are principally under the domain of Comilla regional markets. Chandpur regional market is another assembling center from Kachua upazila. Both upazilas provide mainly paddy, fish, vegetables and poultry during peak harvest or production seasons to the respective regional markets. Commodities from Kachua Upazila reaches to the terminal markets in Dhaka or Chittagong mainly through Chandpur regional

market. Fish, betel leaf and jute from Kachua to Chittagong are mainly for export purpose. Dhaka receives fish and paddy for metropolitan consumption. Commodities produced in Debidwar upazila such as paddy, jute, vegetables and handicrafts are assembled at Comilla regional market. Jute, vegetables and handicrafts are transported to Chittagong by truck and railway, which are transhipped for exportation.

The marketing of agricultural products from the study area to the outside markets is limited during peak production seasons. Beside this exportation of the products, food grains are supplied during lean seasons from other surplus areas under the Public Foodgrain Distribution System (PFDS) detailed in Chapter 2.4.1.

Along with the expansion and improvement of road, direct procurement of products from the growth centers, not through regional markets is increased. In fact, wholesalers from Dhaka and Chittagong terminal markets are procuring not only from regional markets but also from secondary markets. This trend is remarkable in Debidwar Upazila due to its good accessibility to the national road to Dhaka and Chittagong.

(2) Internal Upazila Marketing Flow

At the village level, barter or payment in kind of paddy and rice still prevail. Cash trading is predominant in the local markets. Farmers' participation to the marketing system of grains is limited up to primary market at village/union level in general.

Some of local markets in the study area, mainly the growth centers, are linked with the regional markets for assembling and transshipment of the products. These upazila assembling markets (UAM) usually locate at important places where are along rivers for water transportation or along feeder road A connected to the national road. The UAMs are procuring the products from the surrounding areas and the other local markets. The local markets are grouped under each UAM from the internal marketing point of view. Internal upazila marketing flow is shown in Fig.I.2.2

2.2 Marketing of Farm Inputs

The Bangladesh Agricultural Development Corporation (BADC) has been carrying out procurement, production, distribution and sale of agricultural inputs such as improved seed, chemical fertilizers and irrigation equipment. The BADC continues to be the exclusive procurer of fertilizers from both internal and external sources. Under the new marketing

system introduced in 1978, the number of Primary Distribution Points (PDPs) has been reduced and all of upazila sale centers have been closed in order to give a greater role to private traders. Fertilizers are now sold to private dealers including the UCCAs at a fixed ex-PDP rate. Since 1982 there has been no fixed retail price and retailers are free to sell at any price.

In the study area, marketing of farm inputs i.e. seeds, fertilizers, agro-chemicals and farm tools are basically done under commercial channel. Cooperative channel mentioned after is limited. Fertilizers are usually procured by wholesalers from the nearest PDPs in Chandpur, Ghorashal (Greater Dhaka District) and Comilla. Agro-chemicals are usually marketed by the multinational companies; CIBA-GAIGY, BAYER, Hoeht etc. and some local firms; Datta Enterprise, Setu Corporation, etc., through the networks of their own distributors, agents and retailers. Dealers and producers such as carpenters and blacksmiths as well as wholesaler deal with agricultural implements.

There are two to four traders for seed, fertilizer and agro-chemicals and one for agricultural implements by local market in the study area. Number of participant farm input traders are estimated at 2 to 12 at a growth center and 2 to 4 at a hat. Existing farm input traders in the study area are shown in Table I.2.8 and summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Number of Farm Inputs Traders per Local Market				
- Seed, Fertilizer, Agro-chemicals	3.6	1.9	2.9	4.0
- Farm Tools	1.1	0.8	0.2	0.8
II. Number of Participant Farm Inputs Traders per Market Day				
- Growth Center	9.0	2.2	7.0	12.3
- Hat	4.2	2.7	2.4	3.3

2.3 Management of Local Markets

The growth centers have been selected from existing hats on the basis of internal and external accessibility and quantity traded in the markets into consideration. The growth center is expected to function as a regional social service center which includes post office, banks, dispensary, drinking water supply and sanitation facilities, etc.

Most of existing hats as well as growth centers in the study area are owned by union and upazila councils. Every local market is parceled and leased to private bidders who have a right to manage daily activities in the market for one year from July to June. The lessee

collects tolls in cash from vendors. Normal bid procedures in accordance with the set rules and formalities of the Ministry of Local Government are summarized as follows :

- 1) Tenders are invited by the upazila council through its engineering section by written announcement hung on the notice board or through public announcement at public places,
- 2) The tenders are generally invited by early June, i.e. one month before the start of fiscal year (July - June),
- 3) The interested bidders purchase the prescribed tender forms, fill these up and drop the forms in the tender box kept under strict surveillance in the upazila council office. The bidders should deposit earnest money amounting to 5 % of their proposed bid amount.
- 4) All submitted tenders are opened by the tender committee in the presence of the interested bidders. The highest bidder is selected.
- 5) The successful bidder should pay in full the remaining portion of the bid money by the 25th of June, i.e. 7 days before the bid contract actually comes into effect.

There are temporary (wooden or bamboo made without wall) or permanent (C.I.sheet or brick made with wall) shops in local markets. These shops are constructed under the contract of leasing out market land to the individuals or organizations for a period of 99 years. These shopkeepers pay commercial permission fee (Tk 400 to 1,500 /m²) to the council and installed their shops by own expenses. In addition, these shopkeepers have to pay some rent (Tk 100 to 350 /m²/year) to the bidder. They organized a private market committee or cooperative to protect their own income through the price controlling. Ownership and the amount of bid money of the local markets are summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Ownership				
(1) Growth Center				
- Upazila council	4	4	4	4
(2) Hat				
- Upazila council	8	6	14	9
- Union council	7	10	8	10
- Private	-	-	-	1
II. Average of Bid Money (Tk'000/year)				
- Growth center	135.7	51.6	150.6	129.6
- Hat	5.0	4.6	15.5	6.6
- All	32.5	14.0	36.3	27.1

Overall management including operation and maintenance of the local markets is done by the upazila and union councils. Bid money collected is spent for upazila funds, market development and national taxes. Leasing of local markets is a major source of income for the upazila administration. While the fund is too short to carry out necessary market development.

There are several constraints to the appropriate management such as unfair and inconvenient bidding system, internal negotiation among bidders, bidder on behalf of a mosque or an educational institute considered as social work, lower bidding money. It is reported that the bid money was less than 20 % of the total amount of tolls collected.

The present bidding system should be improved in order to promote the participation of potential bidders. The proper bidding amount on the basis of the annual volume of marketing transaction as well as present tolls collected, daily expenses for market management, vendors' capacity to pay tolls and bidder's profits should be examined before bidding.

2.4 Government and Cooperative Marketing Activities

2.4.1 Government Marketing Activities

Procurement and distribution of food grains through public sector aims at offering fair price to growers, securing normal supplies throughout the country, stabilizing of consumers' prices, and suppling to rural poor and the vulnerable. The Ministry of Food operates storage facilities with the total storage capacity of around 1.9 million tons consisting of 5 silos, 12 Central Supply Depots (CSDs), 625 Local Supply Depots (LSDs), and 176 godowns under Ministry of Local Government and Rural Development (LGRD) or hired from private sector. The CSDs locate either in or near the major consuming centers or at strategically important places from where the grains are distributed to LSDs. The LSDs locate at or near smaller towns or Upazila Headquarters and serve as both procurement centers from the covering areas and distribution points for food grains imported or brought from other depots. One CSD or LSD point have several units of storage facilities. One unit of CSD, LSD and the LGRD godown has the capacity of 500 - 1,000 tons, 500 tons and 250 tons respectively.

The Ministry of Food handles about 10 - 15 % of food grains consumed in the country through the following 10 major channels under the Public Foodgrain Distribution System (PFDS) :

- 1) Statutory Rationing ; food grain distribution in the six major cities i.e. Dhaka, Narayanganji, Chittagong, Khulna, Rajshahi and Rangamati,
- 2) Modified Rationing ; rations to the lowest income group in the rural area outside the SR areas,
- 3) Essential Rationing ; rations to polices, hospitals, jail, students,
- 4) Other Priority ; rations to employees of the Government, Railways, Nationalized Banks, Insurance Companies,
- 5) Large Employers ; rations to large establishment with more than 50 employees outside SR areas,
- 6) Open Market Sales
- 7) Flour Mills
- 8) Vulnerable Group Development ; free food distribution programme to destitute, pregnant and lactating women
- 9) Food for Works
- 10) Gratuitous Relief ; provision of immediate aid to people affected by natural calamities

The MOF's marketing support activities of food grain in the study area is limited to the distribution of rice and wheat through the seven (7) LSDs and four (4) LGRD godowns. There are no government procurement of food grains. The Chittagong MOF Central Warehouse supply the food grains to the LSDs and the LGRD godown in four upazilas. In addition, Brahmanbaria CSDs supply to Nabinagar and Bancharampur, the Comilla CSD to Debidwar and the Chandpur CSD to Kachua. Food grain distribution is mainly done during lean seasons, i.e. December to February and May to September, through the modified rationing system and the food for works programme. The LGRD godowns in the study area are operating under each upazila council for support of the above rationing. Conditions of the LGRD godown structures are very poor without adequate ventilation for the long term storage as well as no assembling and drying floor of the food grains. The MOF's marketing activities are summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
(1) Number	3	2	2	4
(2) Location				
- LSD	Nabinagar(W) Srirampur	Ujanchar(E)	Debidwar	Goghat Kachua(S) Pathair
- LGRD Godown	Srirampur	Bancharampur(N)	Debidwar	Kachua(S)
(3) Capacity of Storage Facilities (t)	2,500	1,125	2,500	3,500
(4) Quantity procured (t/1989-1990)	1,650	850	1,750	2,000
- Origin (CDS)	Chittagong Brahmanbaria	Chittagong Brahmanbaria	Chittagong Comilla	Chittagong Chandpur
- Destination	Upazila	Upazila	Upazila	Upazila

In the food grain surplus areas, the government procurement services are not widely utilized by farmers. Most of paddy/rice procured by the LSDs are from traders due to the following problems :

- 1) higher market prices in local markets than ceiling prices,
- 2) delay in receiving payment from the local banks,
- 3) substantial reductions made by the centers for various grade factors,
- 4) difficulties for transportation, and
- 5) difficulties in management of many small - volume from individual farmers

2.4.2 Cooperative Marketing Activities

The UCCAs in the study area have contributed a limited role in the marketing supports to the primary societies which are distribution of seed and fertilizers. Improved/certified seed distribution programme has been implemented under the support of BADC, while its coverage is very limited at 4 % on the basis of the interview survey to KSSs in the study area as shown in Table I.2.9. Seed procurement from retailers is predominant in the study area.

Fertilizer marketing was one of the successful cooperative marketing programmes in the study area. Agro-chemical distribution was also a good business for UCCAs until the early 1980's when the multinational pharmaceutical companies scrapped the UCCAs' distribution licenses and established their own channel. Fertilizer procurement from private dealers accounts for 76 % and the rests are from retailers in hats or growth centers. There are no sample KSSs procured fertilizers from the UCCAs. The UCCAs' fertilizer marketing was discontinued due mainly to delayed distribution, which results from time-consuming procedures from request to delivery and shortage of the UCCAs fund, and direct competition with the other commercial dealers.

The UCCAs in Debidwar and Kachua participate cooperative potatoes trading activities under the Comilla Industrial Cooperative Society (CICS) organized by 17 UCCAs. The CICS collects potatoes from cooperative member farmers and stores in own cold storage warehouse (3,000 tons) located in Comilla to get a higher sale price. In addition, the said UCCAs have implemented a paddy marketing project named "Mukta Prokalpa.". The marketing procedures are summarized as follows :

- 1) The UCCAs collect paddy from member farmers and pay 80% of the amount by cash at a marketing price.
- 2) The paddy collected are stored in the UCCAs' own godowns.
- 3) During the off-season, stored paddy are sold to get a higher price.
- 4) The sold amount is shared at 75% for the farmers, 20% for the concerned KSSs and 5% for the UCCAs.

Initially the " Mukta Prokalpa " was expected as a very successful programme. While this programme was terminated by deterioration of stored paddy, shortage of fund and storage facilities, poor marketing operation, etc. There is an investment limitation for commercial activities under the cooperative society ; if paddy procurement cost will amount to more than Tk 50,000, the UCCA has to get a investment permission from the Deputy Registrar of Cooperative Societies (DRCS) under the DOC through the District Cooperative Officer. This procedure is time-consuming in general, hence the cooperatives lose the chance to invest. Several support activities on finance and technologies are necessary for cooperative marketing activities.

3. DEMAND AND SUPPLY OF FOOD

3.1 Food Balance of the Country

The country has suffered from chronicle shortage of major food commodities like rice, wheat, edible oils etc. Actual per capita food availability is still lower than the ideal per capita food intake recommended by the Bangladesh National Nutrition Institute as follows :

Item	Recommendation	(Unit : kg/capita/year)
		Actual Availability (1987-89 Average))
Rice	135.0	93.3
Wheat	30.0	23.9
Vegetable	36.5	17.5
Edible Oil	6.0	3.8
Meat	4.5	3.0
Fish	14.0	6.0

Compared with the net domestic supply of food grains and edible oil and the potential food demand based on the recommendation, there are significant shortfall which has been met through aid and commercial imports. The self-sufficiency rates for rice, wheat and edible oil through 1987 to 1989 are estimated at 89%, 38% and 20% respectively. The need for further acceleration of their production is recognized from the nutritional point of view. The major food balance of the country is shown in Table I.3.1.

3.2 Food Balance of the Study Area

Per capita available food grains in the study area is estimated at 126 kg in Nabinagar, 112 kg in Bancharampur, 156 kg in Debidwar and 107 kg in Kachua, which are lower than recommended requirement of 165 kg per capita. In fact, there are a food grain inflow through the MOF channel during the lean seasons. The rate of food grains self-sufficiency is around 70% in Bancharampur and Kachua, 76% in Nabinagar and 95% in Debidwar.

The study area, especially Debidwar and Kachua, is producing vegetables as a cash crop sold to the regional or terminal markets, hence the self-sufficiency of two upazilas is indicated more than 100 %.. Mustard oil is in shortage in the study area. Imported soybean oil is introduced through the terminal and regional market channels. Nabinagar and Bancharampur Upazilas are exporting fish, livestock and poultry to the regional markets, while the rates of self-sufficiency as well as per capita availability of these items are insufficient. This phenomenon is resulted from low purchasing powers of the local people,

inaccessibility within the upazila areas and seasonal fluctuation of the production. The food balance condition in each upazilas is shown in Table I.3.2 and summarized as follows :

Item/Upazila		Nabinagar	Bancharampur	Debidwar	Kachua
I. Food Grains(Rice and Wheat)					
1) Net Production	('000 t)	50.4	29.1	53.3	31.7
2) Availability	(kg/capita)	125.7	112.2	156.3	106.5
3) Potential Demand	('000 t)	66.2	42.8	56.2	49.1
4) Self-Sufficiency (1)/(3)	(%)	76	68	95	65
II. Vegetable					
1) Net Production	('000 t)	8.2	9.8	20.3	13.0
2) Availability	(kg/capita)	20.4	37.8	59.6	43.7
3) Potential Demand	('000 t)	14.9	9.5	12.4	10.9
4) Self-Sufficiency (1)/(3)	(%)	58	103	164	119
III. Edible Oil					
1) Net Production	('000 t)	0.9	0.5	0.5	0.3
2) Availability	(kg/capita)	2.2	1.9	1.5	1.0
3) Potential Demand	('000 t)	2.4	1.6	2.0	1.8
4) Self-Sufficiency (1)/(3)	(%)	38	31	25	17
IV. Meat					
1) Net Production	(t)	372	237	485	414
2) Availability	(kg/capita)	0.8	0.8	1.3	1.3
3) Potential Demand	(t)	1,805	1,166	1,534	1,338
4) Self-Sufficiency (1)/(3)	(%)	21	20	32	31
V. Fish					
1) Net Production	('000 t)	5.4	1.7	0.6	0.6
2) Availability	(kg/capita)	13.5	6.6	1.8	2.0
3) Potential Demand	('000 t)	5.6	3.6	4.8	4.2
4) Self-Sufficiency (1)/(3)	(%)	96	47	13	14

For the clarification of the internal balance of food grains in each upazilas, food grain production and per capita availability are studied by union as shown in Table I.3.3. Based on the average per capita availability of food grains in each upazila, surplus and deficit unions are identified as shown in Fig.I.3.1. The population at the food grain deficit unions is estimated at around 45% in Bancharampur, 50% in Nabinagar and Debidwar and 60% in Kachua of the respective total population. In order to supply food grains constantly at reasonable price, establishment of internal marketing system in each upazila is essential, especially for assetless and marginal farmers.

Transport quantity comprising inflow and outflow by union is estimated taking the balance of food grains availability as well as other marketing commodities into consideration as shown in Table I.3.4. The transport quantity at the food grains deficit unions to the total quantity transported is around 50% in Nabinagar and Bancharampur, 60 % in Debidwar and 68% in Kachua of the respective total quantity. The necessity of improvement of feeder and

rural roads will be given to all unions equally in Nabinagar and Bancharampur and to the deficit unions in Debidwar and Kachua.

3.3 Food Grain Storage

3.3.1 Farm Level Storage

On-farm grain storages are classified into bamboo type and pot type. The Dole locally called is made of bamboo with 20 - 100 kg capacity. The Gola is made of C.I. sheet, wood, bamboo or combination of these items with 1 - 5 tons capacity. The Cola(Mati), Motka and Dabor are made of clay with the capacity of less than 500 kg. The bamboo type is usually used for storing raw or parboiled paddy and wheat and the pot type for milled rice and seed.

Marginal and small farmers holding below one hectare of farm land have a limited storage capacity with 200 to 500 kg of food grains. They have to sell the harvest at a lower price excluding the home consumption for three to four months immediately after harvest, because most of them have a debt and need cash money. The storage period of Boro, Aus and Aman is at most each four months from April to July, July to October and November to January respectively. The marginal and small farmers should purchase back the food grains at a much higher rate in the lean season.

The medium (1 - 3 ha) and large farmers (more than 3 ha) have a bigger storage with 1 - 2 tons and more than 3 tons respectively. They can store food grains for 6 months at most after each harvest season in order to sell them at higher prices in the lean seasons.

According to the Study on Food Grain Marketing Trade and Operation, June 1988, under MOF, farm level quantitative storage losses range from 2.9 % in Motka, 5.0 % in gunny bags and 8.3 % in Dole on the average. The maximum storage loss reported is 13.2 % for Dole. The storage losses are caused by insect, disease, rats, birds, natural hazards, pilferage, etc. Around 40 % of the storage damage is due to attack from rats.

3.3.2 Public Sector Storage

Public sector storage at Local Storage Depots (LSDs) in the study area is done by bag pilling. The standard bag of 85 kg is instructed, while actual weight of bag is ranging between 80 and 100 kg. The LSD godowns with a unit capacity of 500 tons is an inverted shoe-box with rendered brick walls and a concrete flat, lime-terraced roof. Sheet metal sliding doors are fitted at each end of the wall, and an inner or outer security and vermin-proofed grill door is incorporated to assist with ventilation and the godown remaining locked.

The storage and handling losses in the public sector are reported at around 3% on the average through 1981/82 to 1986/87, while the field survey results on storage losses at the LSDs in the study area are at around 7 - 10% due to poor maintenance of warehouse facilities as well as improper storage management. The storage losses arise mainly from rat damages followed by handling losses and quality deterioration due to long storage period.

4. PRICES AND MARKETING COSTS

4.1 Prices of Farm Products

Prevailing marketing prices of farm products are surveyed in the study area by different marketing stages i.e. farm gate, local markets and retail in the regional markets and in Dhaka and the survey results are shown in Table I.4.1.. The price differences among the study upazilas by each marketing stage are small. While the seasonal price fluctuation is significant in every study upazila. The farm gate prices of paddy, rice and wheat in the lean seasons are increased at around 63 %, 55% and 41% of the prices in the peak harvest seasons respectively. In case of vegetables and fruits, the prices of lean season become more than two times of the peak harvest prices. The average prices of major products in the study area are summarized as follows :

Products	Farm Gate	Hat, Growth Center	(Unit : Tk/kg)	
			Local	Dhaka
Paddy	5.2	5.6	5.9	6.2
Rice	8.9	9.3	9.7	10.1
Wheat	4.4	4.9	5.2	5.6
Jute	5.7	6.4	7.9	8.1
Potato	2.2	2.8	3.5	3.9
Mustard (Oil)	9.7	10.0	10.6	11.0
Vegetable	3.9	4.3	6.0	6.5
Pulses	12.6	13.0	13.4	14.2
Fruits	7.1	7.8	10.5	12.3
Livestock (Tk/head of cattle)	3,580	3,730	3,940	4,140
Poultry	32.6	37.3	43.9	51.0
Fish	30.2	35.0	46.6	53.5

4.2 Prices of Farm Inputs

There are no significant differences of local market prices of farm inputs among the study upazilas. Those prices are clearly higher than declared prices by the government as follows :

Inputs	Unit	Local Market Price	Government Declared Price
I. Fertilizers	Tk/kg		
Urea		5.2	5.0
TSP		5.7	5.5
MP		5.2	5.0
II. Agro-Chemicals			
Granular	Tk/kg	800	700-800
Liquid	Tk/lit.	1,650	1,500-1,650
III. Seed	Tk/kg		
Paddy(local)		8.0	-
Paddy(HYV)		8.3	8.2
Wheat		6.6	6.5
Potatoes		10.8	10.0
Pulses		34.6	-
Mustard		15.3	-

4.3 Marketing Costs

Marketing costs are defined as differences between farm gate prices and retail prices and comprise traders' profits and costs for packing, loading and unloading, transport, processing, storage, and costs occurred from several losses. Based on the marketing survey, the farm gate prices are around 94 to 65 % of the retail prices at the local market level and 88 to 56 % at Dhaka level. The storage ability of farm products positively reflects to the share of farm gate price. In other words, the share farm gate prices for food grains, oils, pulses, livestock and poultry are comparatively higher than those for vegetables, fruits and fish due to the easiness for keeping the quality during transportation and storage as follows :

Products	Share (%) of Farm Gate Price to	
	Local Retailer	Dhaka Retailer
Paddy	88	84
Rice	92	88
Wheat	85	79
Jute	72	70
Potato	63	56
Mustard	92	88
Vegetable	65	60
Pulses	94	89
Fruits	68	58
Livestock	91	86
Poultry	74	64
Fish	65	56

According to " A Benchmark Study of Rice Marketing in Bangladesh " by Bangladesh Rice Research Institute with assistance of USAID, the study on rice marketing cost concluded as follows :

- (1) The farmer received from 71 to 80 % of the amount of the consumer paid for rice. This is the highest in the world ; the equivalent rate for Thailand is 60 to 65 % and for the United States 50 %.
- (2) The marketing competition among traders was so intense that net returns to each trader in the system were relatively low.
- (3) There was no indication of excessive profits earned by the various traders.

The above study results on the share of farmers' gains to the retail prices are similar trend with our data. It is considered that the traders' profits from farm products are limited. While it should be noted that the functions of traders to farmers are not only buying of farm products but also money lending as well as sales of farm inputs. The profits from other economic activities will compensate the less profits from marketing activities.

The harvested crops are carried by head load or shoulder load from fields to farmers' gardens in general. Motor roads' access from fields to villages is in rare cases, hence manpower loading is predominant. After processing and storage of the farm products in the village, the products are transported to local markets by head or shoulder load in case of a small quantity (less than 40 kg) and by bullock cart, van or boat in case of a large quantity. The traders transport commodities between local markets or to regional and terminal markets by boat or vehicle.

Transportation costs by several means in the study area were estimated on the basis of the market survey. Costs in cases of gravel road or canal transport are higher than those of paved or river transport respectively. The transportation costs investigated in the study area are summarized as follows :

Means	Transportation Cost (Tk/ton/km)	
	Paved Road	Gravel Road
(1) Land Transportation		
Head / shoulder load	113-129	121-134
Rickshaw / rickshaw van	62 - 78	83 -102
Bullock cart	48 - 51	48 - 56
Motor vehicle	13 - 19	21 - 27
(2) Water Transportation	River	Canal
Motor launch	3	3
Country boat	3 - 5	5 - 13

5. MODEL MARKETING DEVELOPMENT PLAN

5.1 Development Constraints

(1) Poor Accessibility for Transportation of Commodities

Nabinagar and Bancharampur upazilas are isolated from the national road networks. Agricultural commodities like paddy, vegetables, jute, fish and handloom are transported by boat to the outside regional markets like Brahmanbaria, Narsindi and Bhairab Bazar. Assembling of the agricultural commodities within each upazila area is also difficult due to weak internal road networks comprising of feeder and rural roads. Especially in Bancharampur, motor launch or country boat are major means for the internal transportation.

On the other hand, Debidwar and Kachua upazilas locate at easy accessible area to the national road between Dhaka and Chittagong. While the internal road accessibility of each upazila are still poor, hence transportation of agricultural commodities face difficulties on timely and proper means at a reasonable cost.

(2) Indirect Farmers' Participation to Marketing Activities

The marginal and small farmers holding below one ha of farm land have a limited marketable surplus, especially of food grains. They are basically still subsistence level compared the total products with the requirement of home consumption. While they need to sell the products at a lower price immediately after harvest for repayment of a debt and purchase back the food grains at a much higher rate in the lean seasons. Their bargaining powers as well as the storage ability up to lean seasons are very weak.

The local markets ; growth centers and hats, are not managed democratically, especially for farmers, whose participation is limited due to the market management as well as the rate of toll fees collected from farmers solely decided by the market lessee. There are no support for producers' marketing participation and no instruction to the lessee from the upazila councils.

Paddy storage losses for three to six months in case of bamboo type storage structures like Dole are estimated at least around 10%. Shortage of proper storage facilities as well as transportation means at village level is one of the constraints for promotion of farmers' participation to marketing activities. Except the potato trading under the Comilla Industrial Cooperative Society, there are no cooperative marketing activities to sell the products jointly.

(3) Lack of Marketing Support Activities for Farmers

Farm input distribution for seed, fertilizers and agro-chemicals at the upazila level is done by private dealers. The BADC distribution is limited to the Primary Distribution Points (PDPs) and not to the upazila level. The UCCAs' farm input marketing support is discontinued mainly due to delayed distribution, which results from time-consuming procedures from request to delivery and shortage of the UCCAs fund, and the direct competition with the other commercial dealers as well as no support from the BADC. There has been no fixed retail price since 1982, hence prevailing retail prices in the study area are higher than the government declared prices.

The MOF's marketing support activity of food grain in the study area is limited to the distribution through the seven (7) LSDs and four (4) MLGRDC godowns. There are no government procurement activities in the study area.

There is a successful potato trading activities using the cold storage facility under the Comilla Industrial Cooperative Society. The Debidwar and Kachua UCCAs participate to this activity. While a paddy trading done by the Debidwar and Kachua UCCAs ceased due to deterioration of stored paddy, shortage of fund and storage facilities, poor marketing operation, etc. In addition, the UCCAs' business activities are affected by the time consuming and troublesome procedure to get an investment approval from the Deputy Registrar of Cooperative Societies (DRCS) under the DOC.

5.2 Basic Concepts for Marketing Development

A marketing development plan of the study area should be formulated to increase farmers' bargaining powers as well as create employment opportunities for assetless and marginal farmers through the effective countermeasures. The groups' formation and members' coordination for joint activities will be a key element in a marketing development plan. The promotion of cooperative marketing activities is based on the government cooperative development policy and considered the most effective approach

Marginal and small farmers occupied around 86% of the total population in the study area become buyer consumers of food grains in the lean harvest seasons. Their capacity to store products is low and unfair trading is prevailing. Stabilization of rural livelihood, especially for rural poor, could be realized by the establishment of proper food grains

procurement and distribution system in the study area. The following direction should be chosen in order to formulate a model marketing development plan in the study area :

(1) Establishment of Upazila Based Food Grains Marketing System under the UCCAs' organization through ;

- Organization of member farmers by primary societies as a suppliers' groups and consumers' groups at village level under the coordination of the UCCAs,
- Provision of marketing facilities such as storage facilities at village and local market levels and transportation means together with necessary processing facilities,
- Promotion of village level food grains storage and handling activities between suppliers' groups and consumers' groups, for establishment of secure food grains supply system,
- Increase in farmers' bargaining powers and their income through the village level joint-marketing activities both peak harvest and lean seasons,
- Promotion of food grains processing, storage and trading activities for marketed surplus from the member farmers at local market level, which will be directly managed by the UCCAs,
- Preparation of necessary credit schemes for the promotion of cooperative marketing activities, especially for operation expenses as well as initial investment costs, and
- Provision of training on marketing operations to the member farmers at village level as well as the staff in the UCCAs.

(2) Establishment of Joint Marketing System for Cash Crops, Livestock and Fish under the UCCAs' organization ;

- Selection of prospective cash crops like vegetables, fish, livestock, etc. for the cooperative marketing activities in the study area,
- Organization of producers in the primary societies,
- Development of the markets in the big consuming cities or for exportation through the coordination with cooperate private dealers,
- Supply of necessary farm inputs as well as technical guidance, and
- Promotion of processing industry using cash crops.

- (3) Strengthening of the Marketing Service Functions in the Local Markets through ;
- Rationalization of bidding system for the lease of the hats and growth centers,
 - Creation of more marketing participation for farmer producers, especially for cooperative member farmers, through establishment of the UCCAs' own marketing facilities in and around the local markets, and
 - Improvement of local market infrastructures such as water supply, sanitation, drainage, electricity, etc. to improve the functions of markets, and
 - Increase in local markets' functions through the establishment of cold storage facilities, ice plant, packing and processing facilities, etc. under the UCCAs' management, if required in the future.

5.3 Model Marketing Development Plan

5.3.1 Upazila Food Grains Marketing Programme

(1) Organization

1) Village Level

The existing primary societies comprising the KSS, MSS, BSS and MBSS at village level will be organized into the following groups as a Village Marketing Group (VMG) on the basis of their different participation to the village level food grains storage and handling activities :

(a) Food Grains Suppliers' Group

This group could be organized with the medium or large scale member farmers in the KSS and MSS which can store some products until lean seasons. They can get the following benefits through the operation of storage facilities owned by the UCCAs :

- Reduction of storage losses,
- Increase in the members' bargaining power to food grain dealers and farm income through the joint - marketing activities both in peak and lean seasons,
- Reduction of transportation costs from the village to the local markets through the joint - handling and transportation arrangement using the VMGs' common transport means such as a bullock cart, country boat, etc. operated by the BSS members which will be organized as the consumers' group.

(b) Food Grains Consumers' Group

This group will be organized with the assetless, marginal and small farmers in the KSS, MSS, BSS and MBSS which have no own products or can't store any products until lean seasons. They have to purchase the food grains always or purchase back at a higher price, especially in lean seasons. They can get the following benefits :

- Increase in the bargaining powers through the joint - marketing activities, in case of producers,
- Reduction of transportation costs,
- Stabilization of livelihood through reduction of the expenses for food grains in lean seasons, the consumers' group could get the food grains at a lower prices than the local markets through the arrangement of the VMG, and
- Increase in employment opportunities through the joint - handling and transportation of the products under the VMG.

2) Local Market / Upazila Level

The UCCAs ' managing body need to be strengthened for the promotion of the food grains processing, storage and trading activities, especially for the marketed surplus during the peak harvest seasons from the member farmers of the VMGs as follows :

(a) One manager, operators and record keepers and laborers at required numbers for :

- Operation of the UCCAs' marketing facilities ; godowns, per-boiling and rice milling facilities, to be installed at some strategic local markets, and
- Coordination activities with the VMGs under the service area of the UCCAs' marketing facilities.

(b) The existing UCCAs' managing staff need to be strengthened in terms of numbers and abilities for :

- Proper management of own marketing facilities at some strategic local markets,
- Formation of the VMGs, and
- Market development to collect market informations and find good buyers.

The above organizations at the village, local market and the UCCA' Headquarters levels are interlinked as shown in Fig. I.5.1.

(2) Requirement of Storage Facility

1) Storage Capacity

The marketed surplus of food grains is defined sale both in peak harvest and lean seasons excluding village level storage for home consumption. For the estimation of required storage capacity, maximum production season by union is identified. The village level storage capacity and marketed surplus are estimated as shown in Table I.5.1 and the procedures are summarized as follows :

- (a) Net production estimation excluding seed, waste and losses by scale of farm size consisting medium and large farmer (more than one ha) and marginal and small farmer (below one ha),
- (b) Use of net production consisting of home consumption till the next harvest season, sold quantity in the peak harvest and lean seasons by the above farm size,
- (c) Marketed surplus consisting of the quantity sold by scale of farmers in the peak harvest season, which is considered as the storage capacity at local market level, and
- (d) Storage capacity at village level consisting of the quantity stored for home consumption till the next harvest season and sales in the lean season

Storage capacity at village and local market levels at present is estimated as shown in Table I.5.2. and summarized as follows :

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Village Level Storage (t)				
- Average per village	240	170	260	110
- Total	37,000	13,600	36,600	19,500
II. Local Market Level Storage (t)				
- Total	12,000	2,700	10,900	3,200

The future food grains production target in the year of 2000 for the study area will be 1.6 times of the present level with the annual production growth rate of 5.0%. Based on the assumptions that the per capita consumption level will be the recommended intake of 165

kg together with increase in farmers' income, the demand growth of food grains will be estimated as follows :

Item/Upazila	Annual Growth Rate (%)			
	Nabinagar	Bancharampur	Debidwar	Kachua
1. Population	2.2	2.2	2.2	2.2
2. Per Capita Consumption	2.8	3.9	0.5	4.5
3. Total Food Grain Demand	5.0	6.1	2.7	6.7
4. Balance (5.0% - (3))	0	-1.1	2.3	-1.7

Nabinagar upazila could be self-sufficient on the food grains and Debidwar be surplus, while Bancharampur and Kachua be still deficit. For the future increase in food grain production, the storage capacities should be expanded at least 50% of the present requirement.

2) Type of Storage Facilities

(a) Village Level Storage Facilities

Based on the requirement for storage at village level, godown type facilities with the unit capacity of 100 tons or metallic " Dole " and " Gola " made of plain tin sheet under a simple store house with roof and wall made of local materials is recommended. Beside storage facilities, concrete or brick paved drying floor is necessary for assembling and drying purposes. Available land at villages is usually limited, hence administration arrangement from the union council will be required.

(b) Local Market Level Storage Facilities

Based on the requirement for storage at the local market level, godown type facilities with the unit capacity of 500 tons is recommended. The godown will be constructed in and around the area of growth centers or hats together with the processing plant. Concrete or brick paved drying floor is also required.

(3) Plan for Establishment of Storage Facilities

The target storage requirement under the Upazila Based Food Grains Marketing Programme up to the year of 2000 is set at around 10 % of the net food grain production in 2000, which account around 25 % of the total storage requirement in the peak season at present. The following number and capacity of godowns are required for the realization of

the target as shown in Table.I.5.3. The location of the local market godowns is shown in Fig.I.5.2.

Item/Upazila	Nabinagar	Bancharampur	Debidwar	Kachua
I. Village Godown				
- No. of godown	93	34	91	50
- Total storage capacity (t)	9,300	3,400	9,100	5,000
II. Local Market Godown (t)				
- No. of godown	7	3	6	3
- Total storage capacity (t)	3,500	1,500	3,000	1,500

(4) Management Procedure

1) Village Godown

The village godown with the capacity of 100 tons will be managed by one Village Marketing Group (VMG). One VMG could comprise 100 member suppliers and 200 member consumers. Each member supplier can store one ton of food grains equally. For the reduction of grain trading risk when the lean season price is not profitable, a half of the total storage should be consumed by the member consumers. The 50 tons of food grains could support the member families at least for two months in a lean season. The other half of storage could be sold at the highest price in the lean season. It is recommended that the sale price to the member consumers should be set at lower than the sale price in the lean season.

The grain storage could function as a kind of grain bank at village level. If the savings of primary societies are utilized or a kind of grain storage credit is applied, the marginal and small farmers could be suppliers. It is recommended that the UCCA or a bank should arrange a credit in order to increase the member suppliers from marginal and small farmers.

2) Local Market Godown

The godowns in the local markets will be directly managed by the UCCA as well as the processing facilities for per-boiling, rice and flour milling. Food grains will be procured from the VMGs during peak harvest seasons. The UCCA management procedures are summarized as follows :

- (1) The UCCA informs a buying price of food grains to the VMGs before harvest. The price should be higher than a prospect local market price.
- (2) The UCCA informs a sale price of rice or flour to the consumers' groups of the VMGs and non-member consumers in the area. The sale price for the VMGs should be lower than a prevailing price in the markets, and cover expenses for raw grains procured, storage, handling, processing and the UCCA service charges, which should be set at a proper rate to the net profit from these grain processing and trading activities.
- (3) The UCCA contracts with the buyers on the quantity for sale as much as possible in order to reduce the risk of open market business.
- (4) The processing facilities is operated not only for procured food grains but also for the outside customers like private traders, government agencies, informal farmer groups.
- (5) Milled rice and flour as well as wheat grains is stored in the godowns until the lean seasons when a price will increase.
- (6) The UCCA operates the godowns and processing facilities effectively through the scheduled procurement of food grains, distribution of milled rice and flour, and custom milling services.

The financial viability on the management of village and local market godowns is examined by the balance sheets under three conditions shown in Table I.5.4. The first case is under no bank financing and no load of depreciation cost for godown replacement. The second case is under bank financing with 8% interest and no depreciation cost. The member farmers get a credit for 90% to the amount of stored paddy valued at the price of harvest season. The third case is under the above financing and depreciation cost. The two types of godown will be financially managed in any cases when the prices in the lean season will be increased more than 25% of those in the harvest season as follows :

Price Increase/Case	(Benefit / Farmer)		
	Case I	Case 2	Case 3
I. Village Godown			
60 %	2,170	1,860	1,690
40%	1,270	960	790
20%	470	160	-10
II. Local Market Godown			
60 %	2,150	1,840	1,640
40%	1,250	940	740
20%	450	140	-60

5.3.2 Joint Marketing Promotion Programme for Cash Crops, Fish and Livestock

Production of cash crops such as vegetables and oil seeds is seasonal and usually produced once a year. The storage of these crops is difficult and costly. Fish and livestock production is mainly traded and consumed within the upazilas areas. Compared with the food grains, marketability of those products is still low due to low purchasing power of majority of people, hard accessibility to outside markets, lack of proper storage facilities as well as limited and unstable electric supply.

On the basis of the Agricultural Production Plan up to the year of 2000 in the study area and the easiness for keeping the quality of products, priorities for the improvement of marketing system will be given to potatoes, oil seed, fish and poultry. Organizations for marketing of these products will be made same as the Upazila Based Food Grains Marketing System. The member farmers and fishermen could be organized by village as the Village Marketing Group (VMG).

The UCCAs' role is mainly coordination between the member producers and consumers within the upazila areas, and good dealers in terms of price. The local markets will be utilized for the assembling place procured from the member producers. The collection yard with shed will be needed for this purpose. Scheduled cropping with application of improved seed and farming practices by the member producers is recommended for improvement of the quality of products, decrease in over supply and reduction of unfair trading with dealers.

For the processing of the these products, oil mill is most applicable in the study area because oil seed is comparatively easy to store and the study area is short of edible oil. The existing private oil mills located at the local markets are operated for a few hours at most for two months' harvest season. These mills are mainly operated for custom milling. Procurement of oil seed by the millers is difficult due to shortage of oil seed. Under the UCCAs' management of oil mill, multi-utilization of oil extraction machine for the other commodities as well as electric motors, if possible, could be considered. The member producers should be encouraged by favorable buying prices to increase their production.

The following marketing facilities should be installed at the location of the Local Market Godowns selected and managed under the UCCAs :

- (1) Shed for assembling and trading,
- (2) Storehouse for vegetable, edible oil, fish and poultry, separate from the godowns for food grains, and
- (3) Oil mill together with rice and flour mills by multi-utilization of electric motors under the same plant house

5.3.3 Strengthening of Local Markets' Functions

(1) Assembling, Processing and Storage Functions

Local markets under the management of upazila and union councils are inferior to the other part of private shops around the above public markets in terms of facilities concerned. It is needed for more up-grading of the marketing facilities. In order to construct new marketing facilities for assembling, processing and storage, the available area at the public local markets is limited in general, varied from 0.01 to one ha and 0.4 ha on the average of the twelve(12) growth centers in the study area. The market road in the area of the local markets is very narrow and poor and hard to access from the outside area. There are no place for loading and unloading for bulky commodities. The drastic renovation including the private market area should be considered in order to increase the function of the local markets in the future.

The infrastructures in the local markets should be improved properly on the basis of the present condition of market road, water supply, sanitation, drainage, electricity, etc. The strategic local markets in terms of the quantity traded as well as the present condition of the market facilities should be given the priority for the improvement. The local markets selected for the construction of UCCA godowns will be given the priority.

In addition to the improvement of market infrastructures, the public shed for individual vendors should be constructed to improve the present market functions. The rice, flour and oil mills under the processing house, the local market godown with assembling and sun-drying floor, paved assembling yard with shed and store for cash crops, fish and poultry should be constructed in or around the area of public local markets selected. These facilities will be managed by the UCCAs' market management staff.

(2) Management and Administration Functions

The bidding system for the lease of public local markets to the private or group bidders should be rationalized as follows :

- (1) The UCCAs' facilities in the markets mentioned above should be excluded from the bidding. The UCCA should operate and maintain the facilities by the own cost.
- (2) The UCCA should be exempt from any kinds of permission fee, taxes, tolls, etc.
- (3) The bidding system should be rationalized as following manners :
 - A Bidding Committee comprised the public representatives, government officials, the UCCA representative should be organized for the execution of proper bidding.
 - The bidding of the local markets should be open to any bidders.
 - The lowest bidding amount should be estimated on the basis of the annual volume of marketing transaction in respective local market.
 - The Committee should inform condition including the lowest bidding amount and specification for bidding. Sufficient time should be given the bidders.

6. PRIORITY PROJECT FOR MARKETING DEVELOPMENT

6.1 Selection of the Priority Marketing Projects

6.1.1 Selection Criteria and Conditions

The programs in the Model Market Development Plan comprised (i) Upazila Food Grains Marketing Programme and (ii) Joint Marketing Promotion Programme for Cash Crops, Fish and Livestock, and (iii) Strengthening of Local Markets' Functions are related closely. The rural poors i.e. assetless, marginal and small farmers will be benefited through the establishment of marketing system for the food grains as well as the other production commodities. Their livelihood depends not only on food grains production but also on the other cash crops, fish and livestock. The higher income for the farmers will arise from the proper market arrangement for reduction of intermediates, minimization of transportation cost, increase in bargaining powers, etc. The strengthening of local markets' functions is indispensable for the above realization.

Integrated approach for the above programs is considered more effective than parallel or single program executions. To formulate an integrated market development project, the following issues prepared for the the Study are applied :

- i. Components to contribute urgently and directly to family income of small farmers and assetless people
- ii. Components to contribute to generation of employment opportunities
- iii. Components to contribute to large mass of beneficiaries directly and indirectly
- iv. Components with higher cost performance
- v. Components with high expectation of supplemental and multiplier effects
- vi. Components not covered by existing programmes, which are undertaken by other governmental agencies or NGO; In case of extremely urgent components, they are to be taken up as far as no conflicts would arise from parallel implementation.

The joint - marketing activities by organized groups are a basic key element in the marketing development to contribute directly to marginal and small farmers.. The organization of UCCA as well as primary societies should be fully utilized for this purpose. While there are no cooperative marketing activities organized by the UCCAs in the study area. The UCCAs have experienced only fertilizer distribution on marketing. The present UCCAs' staff should be trained under the proper programmes.

6.1.2 Selection of Priority Projects

The marketing development programmes should be executed step by step. The Village Marketing Groups set - up is indispensable for the programmes, while a very laborious task. Without coordinated group activities, the programmes will fail. The establishment of marketing facilities at village and local market levels should be carefully done and not at once. The programmes should be initiated as a trial basis.

The UCCA staff should concentrate the program execution works. It is also required several assistances and support services from the government institutions. The programmes should be initiated from the area near from the upazila headquarters to get the several assistances easily and timely. The priority for marketing development will be given to the following locations and facilities as a UCCA Complex Establishment Project :

- 1) The village market groups (VMG) should be organized the unions easily access to the upazila headquarters.
- 2) The VMG should be organized for the following products by village :
 - Food grains ; paddy and wheat
 - Cash crops ; potatoes, mustard
 - Fish ; fish culture, catch
 - Livestock ; poultry
- 3) The village godown is excluded from the priority projects. The local market godown should be utilized for the VMG.
- 4) The following marketing facilities is constructed at the growth center located in the upazila headquarters :
 - Godown with 500 tons capacity together with paved assembling and sun-drying yard for food grains,
 - Rice, flour and oil mills with those plant house, and
 - Storehouse and shed for cash crops, fish and livestock,

6.2 UCCA Complex Establishment Project

6.2.1 Objectives

The higher income for the farmers and fishermen will arise from the proper market arrangement for reduction of intermediates, minimization of transportation cost, increase in bargaining powers, increase in sales value, etc. Market functions should be utilized more for farmer producers. The joint - marketing activities by organized groups are a basic key element in the marketing development. This approach to access markets could benefit directly marginal and small farmers directly . The organization of UCCA as well as primary societies should be fully utilized for this purpose.

Agro-processing of food grains and oil seed can increase the value of products than the sale of raw products. Farmers' income will be increased through the joint - utilization of processing facilities. Godown operation can reduce storage losses and largely contribute to increase farmers' income through the sale in the lean seasons. Livelihood of rural poor can be stabilized through proper management of storage and distribution.

There are no joint - marketing activities organized by the UCCAs in the study area. The UCCAs' joint - marketing programmes should be executed step by set. The Village Marketing Groups set - up is indispensable for the programmes, while a very laborious task. Without coordinated group activities, the programmes will failed. It is also required several assistances and support services for the programme execution. The establishment of marketing facilities should be carefully done and not at once. The UCCA Complex Establishment Project aims at the following objectives :

- 1) Increase in members' bargaining power to food dealers,
- 2) Reduction of transportation costs from village to the local markets,
- 3) Reduction of food grains storage losses,
- 4) Reduction of transportation costs from village to the local markets,
- 5) Increase in products value through processing,
- 6) Increase in producers' income,
- 7) Stabilization of members' livelihood through stable supply of food grains and reduction of food grains expenses in the lean seasons, and
- 8) Creation of employment opportunities through joint - marketing and processing under the UCCA

6.2.2 Project Works

The UCCA Complex will be established at the growth centers in the respective upazila headquarters. The Complex will handle the following priority products using the market facilities :

1) Priority Products :

- Food grains ; paddy and wheat
- Cash crops ; potatoes, mustard
- Fish ; fish culture, catch
- Livestock ; poultry

2) The Complex Market Facilities :

- Godown with 500 tons capacity together with paved assembling and sun-drying yard for food grains,
- Rice, flour and oil mills with those plant house, and
- Storehouse and shed for cash crops, fish and poultry

The following processing facilities with appropriate capacities and specification is introduced. The electric motors can be multiutilized for milling, flouring and extraction processes by each harvest season.

1) Rice mill

- Capacity ; 0.5 t/hr (2 sets)
- Specification ; One pass mill, electric motors

2) Flour mill

- Capacity ; 0.5 t/hr (1 sets)
- Specification ;, electric motors

3) Oil mill

- Capacity ; 0.5 t/hr (1 sets)
- Specification ;, electric motors

6.2.3 Organization

The existing primary societies comprising the KSS, MSS, BSS and MBSS at village level will be organized into the following groups as a Village Marketing Group (VMG) under the UCCA :

(a) Village Suppliers' Group

This group could be organized with the medium or large scale member farmers of KSS and MSS for food grains and other crops, and marginal and small farmers of BSS and MBSS for poultry and fish. Food grains, suppliers' member can store some products at the local market godown until lean seasons.

(b) Consumers' Group

This group will be organized with the assetless, marginal and small farmers members for food grains and crops. They have no own products or can't store. In case of food grains, they have to purchase always or purchase back at a higher price, especially in lean seasons.

The Village Marketing Groups (VMG) for the Project will be organized at the unions around the location of the the UCCA Complex, the upazila headquarters, taking the accessibility to the headquarters into consideration. The VMGs should be organized as one group by village for the several commodities. The VMGs for the food grains will be organized at the unions under the marketing catchment area as shown in Fig. 4.9.2. Around 5 (five) VMGs could be organized under the godown comprising 100 member suppliers and 200 member consumers by one VMG. The godown will be initially operated for the future establishment of the village godowns (100 t).

The UCCAs' managing body need to be strengthened for the organization of the VMGs and management of the UCCA Complex as follows :

(a) One manager, operators and record keepers and laborers at required numbers for :

- Operation of the complex market facilities, and
- Coordination activities with the VMGs under the service area of the complex market facilities.

(b) The existing UCCAs' managing staff need to be strengthened in terms of numbers and abilities for :

- Proper management of complex market facilities,
- Formation of the VMGs, and
- Market development to collect market informations and find good buyers.

6.2.4 Operation and Maintenance

The godown (500 t) at the Complex will be directly managed by the UCCA marketing staff as well as the processing facilities for per-boiling, rice and flour milling. Each member supplier can store one ton of food grains equally.

The grain storage could function as a kind of grain bank for the producers. The participation of marginal and small farmers as suppliers' members could be realized by the following financial arrangement :

Food Grains Storage Loan for Marginal and Small Farmers

- Financing to the UCCA
- Term ; Six(6) months
- Loan amount ; 90% of the products valued at the government procurement price
- Interest ; 16% per annum year and 8% per six(6) months

Food grains as well as other products will be procured from the VMGs. Transportation should be jointly done by the organized transportation group at village level. The UCCA should provide the common transportation means such as a bullock cart, country boat, etc for encouragement. of joint - handling and transportation. The UCCAs' management procedures for food grains are summarized as follows :

- (1) The UCCA informs a food procurement schedule and buying price of food grains to the VMGs before harvest. The price will be set at a government support price with the loan arrangement.
- (2) The UCCA informs a sale price of rice or flour to the consumers' groups of the VMGs and non-member consumers in the upazila headquarters. The sale price for the VMGs should be lower than a prevailing price in the markets.
- (3) The UCCA contracts with the buyers on the quantity for sale as much as possible in order to reduce the risk of open market business.
- (4) The processing facilities is operated not only for procured food grains but also for the outside customers like private traders, government agencies, informal farmer groups.
- (5) Milled rice and flour as well as wheat grains is stored in the godowns until the lean seasons when a price will increase.

- (6) The UCCA operates the godowns and processing facilities effectively through the scheduled procurement of food grains, distribution of milled rice and flour, and custom milling services.

The other products, i.e. oil seed, potatoes, poultry and fish are jointly assembled at village level and transported to the Complex by the VMGs. The oil mill could be utilized effectively through scheduled procurement from the VMGs. The storehouse is used for temporary storage and bulk trading with dealers. The products can be sold to individual consumers at the shed.

The trading of the products procured as well as operation and maintenance of the Complex is done by the UCCA staff. The VMG producers should pay the service charges from the sale amount to the UCCA. The UCCA should save the charges for the O & M costs. The UCCA is required strong coordinating functions among the VMGs and high abilities for marketing and processing operations. The present UCCA staff should get the proper training programmes. The technical staff should be recruited from the private sector at the trial period, at least three (3) years.

TABLES

Table I.2.1 List of Local Markets in the Study Area

Item	Nabinagar		Bancharampur	
	Union	Name of Market	Union	Name of Market
I Growth Centre	Barikandi (N)	G1 Sreoghar	Bancharampur (N)	G1 Moulagonj
	Bidyakot	G2 Merakuti	Dariadaulat (E)	G2 Marichakandi
	Ibrahimpur	G3 Bholachong	Saifullakandi (E)	G3 Jibonganj
	Nabinagar (W)	G4 Nabinagar	Ujanchar (E)	G4 Ujanchar
II Hat	Barikandi (S)	H1 Salimgonj	Bancharampur (N)	H1 Saantirhat
	Birgon	H2 Dash Mauza	Bancharampur (S)	H2 Dashani
	Bitghar	H3 Bitghar	Dariadaulat (E)	H3 Dariadaulat
	Jinodpur (E)	H4 Jinodpur	Dariadaulat (W)	H4 Masimnagar
	Jinodpur (W)	H5 Bangura	Dariadaulat (W)	H5 Sonarampur
	Kaitala	H6 Shahpur	Rupasdi (E)	H6 Dhabiar Char
	Krishnanagar	H7 Keishnanagar	Rupasdi (E)	H7 Pratappanj
	Nabinagar (W)	H8 Khariwala	Rupasdi (W)	H8 Rupsadi
	Natghar	H9 Natghar	Saifullakandi (W)	H9 Fatepur
	Ratanpur	H10 Khagatua	Saifullakandi (W)	H10 Maddya Nagar
	Rasullabad (E)	H11 Fatehpur	Salimabad	H11 Mirpur
	Rasullabad (W)	H12 Rasullabad	Salimabad	H12 Salimabad
	Shibpur	H13 Shibpur	Tejkhali (E)	H13 Bishnurampur
	Shyamgram	H14 Syamnagar	Tejkhali (W)	H14 Joykalipur
	Sriram Pur	H15 Maniknagar	Tejkhali (W)	H15 Akanagar
		Ujanchar (W)	H16 Nimtali	
Item	Debidwar		Kachua	
	Union	Name of Market	Union	Name of Market
I Growth Centre	Bara Shalghar (S)	G1 Pirganj	Goghat (S)	G1 Rahima Nagar
	Barkamta (N)	G2 Mohanpur	Kachua (S)	G2 Kachua
	Debidwar	G3 Debidwar (Old)	Pathair (E)	G3 Sachar
	Jaffarganj (N)	G4 Jaffarganj	Shahdev-	G4 Paia Khal
II Hat	Bara Shalghar (N)	H1 Mogshair	Ashrafpur	H1 Masnigucha
	Bara Shalghar (N)	H2 Barashalghar	Bitara	H2 Magigacha
	Bara Shalghar (S)	H3 Syedpur	Goghat (N)	H3 Jagatpur
	Debidwar	H4 Debidwar (New)	Goghat (S)	H4 Nawpura
	Dhamti (N)	H5 Duaria	Kadla	H5 Kadla Maya
	Dhamti (N)	H6 Dhamti	Kadla	H6 Choumohuni
	Fatehabad	H7 Fatehabad	Kadla	H7 Raghunatpur
	Fatehabad	H8 Khalilpur	Kachua (N)	H8 Ujani
	Fatehabad	H9 Sultanpur	Kachua (N)	H9 Khidda
	Gunaighar (N)	H10 Gunaighar	Kachua (N)	H10 Sigadda
	Gunaighar (N)	H11 Separa	Karaiya	H11 Darbeshganj
	Gunaighar (N)	H12 Ujanikandi	Karaiya	H12 Nalua
	Gunaighar (S)	H13 Ponara	Pathair (E)	H13 Bayet
	Gunaighar (S)	H14 Mashikara	Pathair (E)	H14 Sauroi
	Jaffarganj (N)	H15 Borur	Pathair (E)	H15 Ragdail
	Jaffarganj (N)	H16 Begumabad	Pathair (W)	H16 Madhupur
	Jaffarganj (S)	H17 Mohammadpur	Shahdevpur (E)	H17 Bakshaganj
	Jafarganj (S)	H18 Alahabad	Shahdevpur (W)	H18 Aliara
	Rajamehar (N)	H19 Chulash	Shahdevpur (W)	H19 Fatehpur
	Subil (N)	H20 Rasulpur	Shahdevpur (W)	H20 Tulpai
	Subil (N)	H21 Natun Bazar C&B		
	Subil (S)	H22 Wahedpur		

Source : Upazila Statistical Office

Table I.2.2 Summary of Local Markets in the Study Area

Item	Nabinagar	Bancharanpur	Debidwar	Kachua
I. Growth Center				
(1) Number of centers	4	4	4	4
(2) Total area (ha/center)	1.7	0.4	0.3	0.5
(3) Open area (ha/center)	0.5	0.3	0.2	0.3
(4) Storage capacity (t/center)	369	302	657	888
(5) Number of shops (No/center)	80.5	44.0	134.0	93.6
(6) Rice mill				
- Number (No/center)	2.0	1.3	2.0	2.0
- Capacity (t/center)	3.2	0.8	1.5	1.8
(7) Flour mill				
- Number (No/center)	1.3	0.8	1.5	1.8
- Capacity (t/center)	2.7	0.3	1.1	1.1
II. Hat				
(1) Number of hats	15	16	22	20
(2) Total area (ha/hat)	0.7	0.2	0.2	0.3
(3) Open area (ha/hat)	0.1	0.1	0.1	0.1
(4) Storage capacity (t/hat)	83.3	3.0	7.0	2.5
(5) Number of shops (No/hat)	85.4	26.0	34.4	50.4
(6) Rice mill				
- Number (No/hat)	1.2	0.5	0.5	0.4
- Capacity (t/hat)	1.5	0.4	0.3	0.4
(7) Flour mill				
- Number (No/hat)	0.5	0.4	0.3	0.1
- Capacity (t/hat)	0.3	0.3	0.3	0.1

Source : Upazila Level Offices, Businessmen & Traders Committee

Table I.2.3 Location and Accessibility of Local Markets in the Study Area

Item	Nabinagar	Bancharanpur	Debidwar	Kachua
I. Number of Local Markets				
By Distance from Upazila Head Quarter				
0 - 1 (km)	1	2	2	2
1 - 3	1	2	4	4
3 - 5	1	8	3	6
5 - 10	9	7	7	1
10 - 15	1	1	8	3
15 - 20	2	0	2	8
20 <	4	0	0	0
II. Number of Local Markets				
By Type of Accessibility from Upazila Head Quarter				
(1) All paved road	3	1	5	5
(2) Paved road more than half	1	1	6	3
(3) Unpaved road more than half	1	2	9	4
(4) All unpaved	7	10	5	12
(5) River more than half	7	6	1	0

Source : Upazila Statistical Office and Upazila Engineering Office

Table I.2.4 Storage Facilities in the Study Area

Item		Nabinagar	Bancharanpur	Debidwar	Kachua
(1) Government Godown					
- Number	(No)	3	2	2	4
- Total Capacity	(t)	2,500	1,125	2,500	3,500
- Capacity/godown	(t/godown)	833	563	1,250	875
- Capacity/growth center	(t/center)	325	281	625	875
- Capacity/hat	(t/hat)	80	0	0	0
(2) Private Godown					
- Number	(No)	151	113	40	56
- Total Capacity	(t)	224	133	282	102
- Capacity/godown	(t/godown)	1	1	7	2
- Capacity/growth center	(t/center)	44	21	32	13
- Capacity/hat	(t/hat)	3	3	7	2
3 Godown Total					
- Number	(No)	154	115	42	60
- Total Capacity	(t)	2,724	1,258	2,782	3,602
- Capacity/godown	(t/godown)	18	11	66	60
- Capacity/growth center	(t/center)	369	302	657	888
- Capacity/hat	(t/hat)	83	3	7	2

Source : Upazila Statistical Office and Traders Associations

Table I.2.5 Processing Facilities in the Study Area

Item		Nabinagar	Bancharanpur	Debidwar	Kachua
(1) Rice Mill					
- Number	(No)	26	13	19	16
- Total Capacity	(t)	36.1	8.9	12.5	15.3
- Capacity/mill	(t/mill)	1.4	0.7	0.7	1.0
- Capacity/growth center	(t/center)	3.2	0.8	1.5	1.8
- Capacity/hat	(t/hat)	1.5	0.4	0.3	0.4
(2) Flour mill					
- Number	(No)	12	9	13	9
- Total Capacity	(t)	15.7	5.8	10.3	6.3
- Capacity/mill	(t/mill)	1.3	0.6	0.8	0.7
- Capacity/growth center	(t/center)	2.7	0.3	1.1	1.0
- Capacity/hat	(t/hat)	0.3	0.3	0.3	0.1
(3) Others					
- Number	(No)	6	2	6	5
- Total Capacity	(t)	4.7	1.1	4.9	3.6
- Capacity/mill	(t/Centre)	0.8	0.6	0.8	0.7
- Capacity/growth center	(t/center)	0.5	0.3	0.8	0.4
- Capacity/hat	(t/hat)	0.2	-	0.1	0.1

Source : Upazila Statistical Office and Local Businessmen & Industrialist Associations

Table 1.2.6 Number of Farm Output Traders by Kind in the Study Area

Item	Nabinagar	Bancharampur	Debidwar	Kachua
I. Farm Outputs				
(1) Paddy/Rice/Wheat	522	546	692	475
- Foria	85	78	150	120
- Beparis	52	41	100	80
- Aratdar	7	9	10	8
- Wholesaler	5	6	8	7
- Retailer	270	377	277	166
- Processor	27	34	41	32
- Others (Ferry-walas)	76	81	106	91
(2) Fruits, Vegetable, Others	150	148	226	137
- Foria	37	39	44	35
- Beparis	5	6	8	7
- Aratdar	2	3	4	3
- Wholesaler	2	4	2	2
- Retailer	59	46	120	85
- Processor	6	11	14	12
- Others (Ferry-walas)	39	39	34	29
(3) Livestock/Poultry	114	351	256	143
- Broker (Dalal)	33	29	36	44
- Beparis	81	322	220	99
(4) Fish	147	296	287	218
- Foria	17	16	24	25
- Beparis	7	4	11	9
- Aratdar	2	7	2	1
- Retailer	121	269	250	183

Source : Upazila Agriculture, Fishery Office and Market Survey Nov '90

Table 1.2.7 Number of Farm Output Traders at Local Markets per Market Day

Item	Unit	Nabinagar	Bancharampur	Debidwar	Kachua
I. Growth Center	(No./market day/center)				
(1) Paddy		15	23	23	18
(2) Rice		29	28	46	38
(3) Wheat		8	18	15	5
(4) Jute		8	13	10	7
(5) Potato		10	6	18	11
(6) Mustard		9	4	10	15
(7) Vegetables		11	12	18	12
(8) Pulses		10	3	10	4
(9) Fruits		3	5	5	9
(10) Livestock		4	8	19	4
(11) Poultry		6	26	12	12
(12) Fish		13	14	28	13
Total		126	160	214	148
II. Hat	(No./market day/hat)				
(1) Paddy		3	4	2	4
(2) Rice		17	11	10	5
(3) Wheat		1	2	4	2
(4) Jute		1	4	2	2
(5) Potato		6	3	5	5
(6) Mastard		3	1	3	2
(7) Vegetables		5	7	6	4
(8) Pulses		4	1	2	2
(9) Fruits		1	2	0	0
(10) Livestock		1	1	3	2
(11) Poultry		4	12	3	2
(12) Fish		6	15	8	8
Total		52	63	48	38

Source : Upazila Agriculture, Fishery Office and Market Survey Nov '90

**Table I.2.8 Number of Farm Input Traders
in the Study Area**

Item	Nabinagar	Bancharanpur	Debidwar	Kachua
I. Number of Farm Inputs Traders				
(1) Seed, Fertilizer, Agro-Chemicals				
- Dealer	10	5	7	6
- Retailer	13	20	36	19
- Others (Ferry-walas)	52	13	33	70
Total	75	38	76	95
(2) Agri-Implements				
- Producer (Carpenter and Blacksmith)	8	4	3	2
- Retailer	9	3	2	12
- Others (Ferry-walas)	7	8	0	5
Total	24	15	5	19
II. Number of Farm Inputs Traders per Local Market				
(1) Seed, Fertilizer, Agro-Chemicals	3.6	1.9	2.9	4.0
(2) Agri-Implements	1.1	0.8	0.2	0.8
III. Number of Participant Traders				
A. Growth Center (No./center)				
(1) Fertilizer	4.0	1.3	3.3	8.5
(2) Agro-chemicals	1.5	0.7	2.5	2.0
(3) Farm tools	3.5	0.3	1.3	1.8
Total	9.0	2.2	7.0	12.3
B. Hat (No./hat)				
(1) Fertilizer	2.1	0.9	1.8	2.2
(2) Agro-chemicals	1.4	0.8	0.6	0.5
(3) Farm tools	0.7	0.9	0.0	0.6
Total	4.2	2.7	2.4	3.3

Source : Upazila Agriculture, Fishery Office and Market Survey Nov '90

Table I.2.9 Sources of Inputs used by KSS by Upazila

Item	No. of Sample KSS				Total
	Nabinagar	Bancharampur	Debidwar	Kachua	
I. Fertilizers					
(1) Dealer	12 (75)	13 (68)	11 (73)	16 (89)	52 (76)
(2) Retailer/ Open Market	4 (25)	6 (32)	4 (27)	2 (11)	16 (24)
II. Agro-Chemicals					
(1) Dealer	11 (69)	13 (68)	10 (67)	16 (89)	50 (74)
(2) Retailer/ Open Market	4 (25)	6 (32)	5 (33)	5 (28)	18 (26)
III. Seed					
(1) Retailer/ Open Market	15 (94)	18 (95)	15 (100)	17 (94)	65 (96)
Number of Sampling KSS	16	19	15	18	68

Source : Questionnaire Note : Figures in paranthesis indicate percentage

Table I.3.1 Present Food Balance in the Country (1/6)

- Rice -

Year	Production	Seed, Waste,	Net	Importation			Total Supply	Mid-yaer Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)	
		Losses, Others ('000 t)	Production for Food ('000 t)	Aid	Commer- cial	Total					
(1)	(2)	(3)=(1)-(2)	(4)=(3) x 0.63	(5)	(6)=(4)+(5)	(7)	(8)=(6)/(7)	(9)=(4)/(6)			
1983/84	14,279	1,428	12,851	8,096	976	868	1,844	9,940	98.0	101.4	81.4
1984/85	14,390	1,439	12,951	8,159	1,441	615	2,056	10,215	99.2	103.0	79.9
1985/86	14,802	1,480	13,322	8,393	1,306	1,283	2,589	10,982	101.7	108.0	76.4
1986/87	15,163	1,516	13,647	8,598	1,087	113	1,200	9,798	104.1	94.1	87.8
1987/88	15,738	1,574	14,164	8,923	192	401	593	9,516	106.6	89.3	93.8
1988/89	15,298	1,530	13,768	8,674	1,395	265	1,660	10,334	107.8	95.9	83.9
1989/90	16,024	1,602	14,422	9,086	889	377	1,266	10,352	109.4	94.6	87.8

Note : (2) ; 10 % of production applied
(4) ; milling recovery rate of 63% applied

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics
Annual Report, 1989-90, Department of Food

Table I.3.1 Present Food Balance in the Country (2/6)

- Wheat -

Year	Production	Seed, Waste,	Net	Importation			Total Supply	Mid-yaer Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)
		Losses, Others ('000 t)	Production for Food ('000 t)	Aid	Commer- cial	Total				
(1)	(2)	(3)=(1)-(2)	(4)	(5)=(3)+(4)	(6)	(7)=(5)/(6)	(8)=(3)/(5)			
1983/84	1,192	119	1,073	117	62	179	1,252	98.0	12.8	85.7
1984/85	1,441	144	1,297	125	565	690	1,987	99.2	20.0	65.3
1985/86	1,026	103	923	27	10	37	960	101.7	9.4	96.1
1986/87	1,074	107	967	108	153	261	1,228	104.1	11.8	78.7
1987/88	1,031	103	928	1,595	734	2,329	3,257	106.6	30.6	28.5
1988/89	1,006	101	905	670	890	1,560	2,465	107.8	22.9	36.7
1989/90	1,082	108	974	330	715	1,045	2,019	109.4	18.5	48.2

Note : (2) ; 10 % of production applied

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics
Annual Report, 1989-90, Department of Food

Table I.3.1 Present Food Balance in the Country (3/6)

- Vegetables -

Year	Production	Seed, Waste,	Net	Importation			Total Supply	Mid-yaer Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)
		Losses, Others ('000 t)	Production for Food ('000 t)	Aid	Commer- cial	Total				
(1)	(2)	(3)=(1)-(2)	(4)	(5)=(3)+(4)	(6)	(7)=(5)/(6)	(8)=(3)/(5)			
1983/84	2,036	204	1,832	0	0	0	1,832	98.0	18.7	100.0
1984/85	1,985	199	1,786	0	0	0	1,786	99.2	18.0	100.0
1985/86	1,910	191	1,719	0	4	4	1,723	101.7	16.9	99.8
1986/87	1,882	188	1,694	0	5	5	1,699	104.1	16.3	99.7
1987/88	2,127	213	1,914	0	7	7	1,921	106.6	18.0	99.6
1988/89	1,955	196	1,759	0	7	7	1,766	107.8	16.4	99.6
1989/90	2,202	220	1,982	0	6	6	1,988	109.4	18.2	99.7

Note : (1) ; Vegetables consisting of 17 items ; potato, tomato, cabbage, etc.

(2) ; 10 % of production applied

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics

Annual Report, 1989-90, Bangladesh Agricultural Development Corporation

Table I.3.1 Present Food Balance in the Country (4/6)
- Edible Oil -

Year	Production	Seed, Waste,	Net	Oil	Importation			Total Supply	Mid-year Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)
		Losses, Others ('000 t)	Production for Food ('000 t)	Production for Food ('000 t)	Aid	Commercial	Total ('000 t)				
(1)	(2)	(3)=(1)-(2)	(4)=(3) x 0.29	(5)	(6)=(4)+(5)	(7)	(8)=(6)/(7)	(9)=(4)/(6)			
1983/84	266	27	239	69	0	1,263	262	331	98.0	3.4	20.8
1984/85	270	27	243	70	0	1,195	195	265	99.2	2.7	26.4
1985/86	266	27	239	69	0	1,310	310	379	101.7	3.7	18.2
1986/87	254	25	229	66	0	1,430	143	209	104.1	2.0	31.6
1987/88	249	25	224	65	0	1,456	456	521	106.6	4.9	12.5
1988/89	294	29	265	77	0	1,243	243	320	107.8	3.0	24.1
1989/90	329	33	296	86	0	1,285	285	371	109.4	3.4	23.2

Note : (1) ; Oil seed consisting of mustard (around 80% to total production), rape, till and groundnut (20%)
(2) ; 10 % of production applied
(4) ; extraction rate of 29 % applied (mustard;30%, others;26%, 30% x 0.8+26% x 0.2 = 29%)
(5) ; soybean oil only

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics

Table I.3.1 Present Food Balance in the Country (5/6)
- Meat -

Year	Production	Waste,	Net	Importation			Total Supply	Mid-year Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)
		Losses, Others ('000 t)	Production for Food ('000 t)	Aid	Commercial	Total ('000 t)				
(1)	(2)	(3)=(1)-(2)	(4)	(5)=(3)+(4)	(6)	(7)=(5)/(6)	(8)=(3)/(5)			
1983/84	349	35	314	0	0	0	314	98.0	3.2	100.0
1984/85	389	39	350	0	0	0	350	99.2	3.5	100.0
1985/86	478	48	430	0	0	0	430	101.7	4.2	100.0
1986/87	489	49	440	0	0	0	440	104.1	4.2	100.0
1987/88	329	33	296	0	0	0	296	106.6	2.8	100.0
1988/89	341	34	307	0	0	0	307	107.8	2.8	100.0
1989/90	412	41	371	0	0	0	371	109.4	3.4	100.0

Note : (1) ; Meat consisting of beef, goat, poultry, etc.
(2) ; 10 % of production applied

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics

Table I.3.1 Present Food Balance in the Country (6/6)
- Fish -

Year	Production	Waste,	Net	Exportation			Total Domestic Supply	Mid-year Population (Million)	Per Capita Consumption (kg/capita)	Self-sufficiency (%)
		Losses, Others ('000 t)	Production for Food ('000 t)	Aid	Commercial	Total ('000 t)				
(1)	(2)	(3)=(1)-(2)	(4)	(5)=(3)-(4)	(6)	(7)=(5)/(6)	(8)=(3)/(5)			
1934/84	792	79	713	0	130	130	583	98.0	5.9	122.3
1954/85	774	77	697	0	138	138	559	99.2	5.6	124.7
1985/86	794	79	715	0	131	131	584	101.7	5.7	122.4
1986/87	815	82	733	0	86	86	647	104.1	6.2	113.3
1987/88	837	84	753	0	86	86	667	106.6	6.3	112.9
1988/89	830	83	747	0	79	79	668	107.8	6.2	111.8
1989/90	822	82	740	0	122	122	618	109.4	5.6	119.7

Note : (1) ; Fish consisting of Sweet water fish, sea fish and shrimp
(2) ; 10 % of production applied

Source : Statistical Year Book, 1990, Bangladesh Bureau of Statistics
Export Promotion Bureau Data, 1990

**Table I.3.2 Present Demand and Supply of Food in the Study Area
(1990 Estimation)**

Item	Unit	Nabinagar	Bancharanpür	Debidwar	Kachua	
Population (1990 estimation)	'000	401.1	259.1	340.8	297.4	
I. Rice	135.0 kg/capita*					
(1) Paddy Production	'000 t	71.8	33.3	78.4	44.1	
(2) Seed, Waste and others	(1) x 0.1	7.2	3.3	7.8	4.4	
(3) Net Paddy Production	(1)-(2)	64.6	30.0	70.6	39.7	
(4) Rice Production	(3) x 63%	40.7	18.9	44.5	25.0	
(5) Per Capita Availability	(4)/Population	kg/capita	101.5	72.9	130.6	84.1
(6) Potential Demand	135 kg x Population	'000 t	54.1	35.0	46.0	40.1
(7) Balance	(4)-(6)	'000 t	-13.4	-16.1	-1.5	-15.1
II. Wheat	30.0 kg/capita*					
(1) Wheat Production	'000 t	10.8	11.3	9.8	7.4	
(2) Seed, Waste and others	(1) x 0.1	1.1	1.1	1.0	0.7	
(3) Net Wheat Production	(1)-(2)	9.7	10.2	8.8	6.7	
(4) Per Capita Availability	(3)/Population	kg/capita	24.2	39.4	25.8	22.5
(5) Potential Demand	30 kg x Population	'000 t	12.0	7.8	10.2	8.9
(6) Balance	(3)-(5)	kg/capita	-2.3	2	-1.4	-2.2
III. Vegetables /_1	36.5 kg/capita*					
(1) Vegetable Production	'000 t	9.1	10.9	22.6	14.5	
(2) Seed, Waste and others	(1) x 0.1	0.9	1.1	2.3	1.5	
(3) Net Vegetable Production	(1)-(2)	8.2	9.8	20.3	13.0	
(4) Per Capita Availability	(3)/Population	kg/capita	20.4	37.8	59.6	43.7
(5) Potential Demand	36.5 kg x Population	'000 t	14.6	9.5	12.4	10.9
(6) Balance	(3)-(5)	'000 t	-6.4	0.3	7.9	2.1
VI. Edible Oil	6.0 kg/capita*					
(1) Oil Seed Production	'000 t	3.2	1.9	2.0	1.0	
(2) Seed, Waste and others	(1) x 0.1	0.3	0.2	0.2	0.1	
(3) Net Oil Seed Production	(1)-(2)	2.9	1.7	1.8	0.9	
(4) Oil Production	(3) x 30%	0.9	0.5	0.5	0.3	
(5) Per Capita Availability	(4)/Population	kg/capita	2.2	1.9	1.5	1.0
(6) Potential Demand	6.0 kg x Population	'000 t	2.4	1.6	2.0	1.8
(7) Balance	(4)-(6)	'000 t	-1.5	-1.1	-1.5	-1.5
V. Meat	4.5 kg/capita*					
(1) Meat Production	t	372	237	485	414	
(2) Waste and others	(1) x 0.1	37	24	49	41	
(3) Net Meat Production	(1)-(2)	335	213	436	373	
(4) Per Capita Availability	(3)/Population	kg/capita	0.8	0.8	1.3	1.3
(5) Potential Demand	4.5 x Population	t	1,805	1,166	1,534	1,338
(6) Balance	(3)-(5)	t	-1,470	-953	-1,098	-965
VI. Fish	14.0 kg/capita*					
(1) Fish Production	'000 t	6.0	1.9	0.7	0.7	
(2) Waste and others	(1) x 0.1	0.6	0.2	0.1	0.1	
(3) Net Fish Production	(1)-(2)	5.4	1.7	0.6	0.6	
(4) Per Capita Availability	(3)/Population	kg/capita	13.5	6.6	1.8	2.0
(5) Potential Demand	14.0 x Population	'000 t	5.6	3.6	4.8	4.2
(6) Balance	(3)-(5)	'000 t	-0.2	-1.9	-4.2	-3.6

Note: * ; Consumption rate per year recommended by the Bangladesh Nutrition Institute, University of Dhaka
/_1; Excluding potato

Table I.3.3 Present Demand and Supply of Food Grains by Union (1/4)
- NABINAGAR -

Union	Seed, Waste, Losses,				Net Production (t)			Mid-year Population ('000)	Per Capita Consumption (kg/capita)	Food Demand (t)	Food Balance (t)
	Production(t)		Others (t)		Rice	Wheat	Total				
	Paddy	Wheat	Paddy	Wheat	(5)=[(1)-(3) x 0.63]	(6)= (2) - (4)	(7)= (5)+(6)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)= (7)/(8)	(10)	(11)= (10)-(7)	
1 Barikandi (N)	2,534	227	253	23	1,437	204	1,641	16.8	97.7	2,772	-1,131
2 Barikandi (S)	1,596	542	160	54	905	488	1,393	14.5	96.1	2,393	-1,000
3 Bidyakot	5,029	1,017	503	102	2,851	915	3,766	24.6	153.1	4,059	-293
4 Birgon	1,804	76	180	8	1,023	68	1,091	13.3	82.0	2,195	-1,104
5 Bitghar	4,362	231	436	23	2,473	208	2,681	26.1	102.7	4,307	-1,626
6 Ibrahimpur	3,736	692	374	69	2,118	623	2,741	21.1	129.9	3,482	-741
7 Junedpur (E)	2,041	210	204	21	1,157	189	1,346	17.3	77.8	2,855	-1,509
8 Junedpur (W)	5,295	719	530	72	3,002	647	3,649	16.0	228.1	2,640	1,009
9 Kaitala	3,927	229	393	23	2,226	206	2,432	23.5	103.5	3,878	-1,446
10 Krishnanagar	6,945	596	695	60	3,938	536	4,474	23.8	188.0	3,927	547
11 Nabinagar (E)	2,977	693	298	69	1,688	624	2,312	19.9	116.2	3,284	-972
12 Nabinagar (W)	2,900	449	290	45	1,644	404	2,048	14.9	137.4	2,459	-411
13 Natghar	6,569	1,124	657	112	3,725	1,012	4,737	21.8	217.3	3,597	1,140
14 Rasullabad (E)	3,051	729	305	73	1,730	656	2,386	15.8	151.0	2,607	-221
15 Rasullabad (W)	2,419	660	242	66	1,372	594	1,966	19.6	100.3	3,234	-1,268
16 Ratanpur	4,438	704	444	70	2,516	634	3,150	28.5	110.5	4,703	-1,553
17 Shibpur	5,694	629	569	63	3,229	566	3,795	26.6	142.7	4,389	-594
18 Shyamgram	1,079	310	108	31	612	279	891	26.2	34.0	4,323	-3,432
19 Srirampur	5,450	920	545	92	3,090	828	3,918	30.8	127.2	5,082	-1,164
Upazila Total	71,846	10,757	7,186	1,076	40,736	9,681	50,417	401.1	125.7	66,186	-15,769

Note : (3) & (4) ; 10 % of production applied (9) ; Recommended per capita rice consumption of 165 kg/year applied
(5) ; milling recovery rate of 63 % applied

Table I.3.3 Present Demand and Supply of Food Grains by Union (2/4)
- BANCHARAMPUR -

Union	Seed, Waste, Losses,				Net Production (t)			Mid-year Population ('000)	Per Capita Consumption (kg/capita)	Food Demand (t)	Food Balance (t)
	Production(t)		Others (t)		Rice	Wheat	Total				
	Paddy	Wheat	Paddy	Wheat	(5)=[(1)-(3) x 0.63]	(6)= (2) x (4)	(7)= (5)+(6)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)= (7)/(8)	(10)	(11)= (10)-(7)	
1 Bancharampur (N)	1,459	951	146	95	827	856	1,683	21.7	77.6	3,581	-1,898
2 Bancharampur (S)	2,518	705	252	71	1,428	634	2,062	17.4	118.5	2,871	-809
3 Dariadaulat (E)	2,442	979	244	98	1,385	881	2,266	25.4	89.2	4,191	-1,925
4 Dariadaulat (W)	3,026	892	303	89	1,715	803	2,518	19.1	131.8	3,152	-634
5 Rupasdi (E)	2,881	1,108	288	111	1,634	997	2,631	20.6	127.7	3,399	-768
6 Rupasdi (W)	2,964	654	296	65	1,681	589	2,270	19.3	117.6	3,185	-915
7 Saifullakandi (E)	3,165	823	317	82	1,794	741	2,535	13.5	187.8	2,228	307
8 Saifullakandi (W)	3,340	786	334	79	1,894	707	2,601	23.0	113.1	3,795	-1,194
9 Salimabad	2,644	973	264	97	1,499	876	2,375	31.3	75.9	5,165	-2,790
10 Tejkhali (E)	1,910	816	191	82	1,083	734	1,817	20.7	87.8	3,416	-1,599
11 Tejkhali (W)	2,408	1,145	241	115	1,365	1,030	2,395	11.8	203.0	1,947	448
12 Ujanchar (E)	2,278	576	228	58	1,292	518	1,810	17.4	104.0	2,871	-1,061
13 Ujanchar (W)	2,280	914	228	91	1,293	823	2,116	17.9	118.2	2,954	-838
Upazila Total	33,315	11,322	3,332	1,133	18,890	10,189	29,079	259.1	112.2	42,755	-13,676

Note : (3) & (4) ; 10 % of production applied (9) ; Recommended per capita rice consumption of 165 kg/year applied
(5) ; milling recovery rate of 63 % applied

Table I.3.3 Present Demand and Supply of Food Grains by Union (3/4)
- DEBIDWAR -

Union	Seed, Waste, Lossed,				Net Production (t)			Mid-year Population ('000)	Per Capita Consumption (kg/capita)	Food Demand (t)	Food Balance (t)
	Production(t)		Others (t)		Rice	Wheat	Total				
	Paddy	Wheat	Paddy	Wheat	(5)=((1)-(3) x 0.63)	(6)= 2) x (4)	(7)= (5)+(6)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)= (7)/(8)	(10)	(11)= (7)-(10)	
1 Bara Shalghar (N)	2,603	764	260	76	1,476	688	2,164	16.2	133.6	2,673	-509
2 Bara Shalghar (S)	3,016	386	302	39	1,710	347	2,057	16.5	124.7	2,723	-666
3 Barkamta (S)	6,025	345	603	35	3,416	310	3,726	23.0	162.0	3,795	-69
4 Barkamta (N)	5,064	890	506	89	2,872	801	3,673	22.5	163.2	3,713	-40
5 Debidwar	10,086	814	1,009	81	5,719	733	6,452	32.9	196.1	5,429	1,023
6 Dhamti (N)	9,474	978	947	98	5,372	880	6,252	18.3	341.6	3,020	3,232
7 Dhamti (S)	4,610	645	461	65	2,614	580	3,194	20.8	153.6	3,432	-238
8 Fatchabad	5,996	728	600	73	3,399	655	4,054	33.1	122.5	5,462	-1,408
9 Gunaighar (N)	3,470	390	347	39	1,967	351	2,318	18.7	124.0	3,086	-768
10 Gunaighar (S)	3,522	781	352	78	1,997	703	2,700	19.2	140.6	3,168	-468
11 Jafarganj (N)	4,597	705	460	71	2,606	634	3,240	21.0	154.3	3,465	-225
12 Jafarganj (S)	5,615	456	562	46	3,183	410	3,593	23.6	152.2	3,894	-301
13 Rajamchar (N)	2,419	877	242	88	1,372	789	2,161	19.5	110.8	3,218	-1,057
14 Rajamchar (S)	4,619	688	462	69	2,619	619	3,238	20.7	156.4	3,416	-178
15 Subil (N)	4,576	187	458	19	2,594	168	2,762	17.7	156.0	2,921	-159
16 Subil (S)	2,684	197	268	20	1,522	177	1,699	17.1	99.4	2,822	-1,123
Upazila Total	78,376	9,831	7,839	986	44,438	8,845	53,283	340.8	156.3	56,237	-2,954

Note : (3) & (4) ; 10 % of production applied (5) ; Recommended per capita rice consumption of 165 kg/year applied (5) ; milling recovery rate of 63 % applied (9) ; Recommended per capita rice consumption of 165 kg/year applied

Table I.3.3 Present Demand and Supply of Food Grains by Union (4/4)
- KACHUA -

Union	Seed, Waste, Lossed,				Net Production (t)			Mid-year Population ('000)	Per Capita Consumption (kg/capita)	Food Demand (t)	Food Balance (t)
	Production(t)		Others (t)		Rice	Wheat	Total				
	Paddy	Wheat	Paddy	Wheat	(5)=((1)-(3) x 0.63)	(6)= 2) x (4)	(7)= (5)+(6)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)= (7)/(8)	(10)	(11)= (7)-(10)	
1 Ashrafpur	5,442	940	544	94	3,086	846	3,932	28.6	137.5	4,719	-787
2 Bitara	3,498	365	350	37	1,983	328	2,311	30.9	74.8	5,099	-2,788
3 Gohat (N)	2,728	525	273	53	1,547	472	2,019	20.9	96.6	3,449	-1,430
4 Gohat (S)	2,966	240	297	24	1,681	216	1,897	21.5	88.2	3,548	-1,651
5 Kachua (N)	4,290	525	429	53	2,432	472	2,904	20.3	143.1	3,350	-446
6 Kachua (S)	2,490	440	249	44	1,412	396	1,808	20.9	86.5	3,449	-1,641
7 Kadla	4,046	1,215	405	122	2,294	1,093	3,387	31.4	107.9	5,181	-1,794
8 Karaia	5,101	850	510	85	2,892	765	3,657	38.3	95.5	6,320	-2,663
9 Pathair (E)	3,352	470	335	47	1,901	423	2,324	21.5	108.1	3,548	-1,224
10 Pathair (W)	3,796	350	380	35	2,152	315	2,467	21.4	115.3	3,531	-1,064
11 Shahadebpur (W)	2,410	485	241	49	1,366	436	1,802	22.1	81.5	3,647	-1,845
12 Shahadebpur (E)	4,016	990	402	99	2,277	891	3,168	19.6	161.6	3,234	-66
Upazila Total	44,135	7,395	4,415	742	25,023	6,653	31,676	297.4	106.5	49,075	-17,399

Note : (3) & (4) ; 10 % of production applied (5) ; Recommended per capita rice consumption of 165 kg/year applied (5) ; milling recovery rate of 63 % applied (9) ; Recommended per capita rice consumption of 165 kg/year applied

Table I.3.4 Present Transport Quantity by Union (1/4)
- NABINAGAR -

Union	Mid-yaer Population (000)	Per Capita Con- sumption (kg/capita)	Food Demand (t)	Food Balance (t)	Balance/ Consumption to Average (kg/capita)	Estimated Transport Qty (t)		
						Rice & Wheat	Others *10% of Rice & Corn	Total
1 Barikandi (N)	16.8	97.7	2,772	-1,131	-28.0	470	47	517
2 Barikandi (S)	14.5	96.1	2,393	-1,000	-29.6	429	43	472
3 Bidyakot	24.6	153.1	4,059	-293	27.4	674	67	741
4 Birgon	13.3	82.0	2,195	-1,104	-43.7	581	58	639
5 Bitghar	26.1	102.7	4,307	-1,626	-23.0	600	60	660
6 Ibrahimpur	21.1	129.9	3,482	-741	4.2	89	9	98
7 Junedpur (E)	17.3	77.8	2,855	-1,509	-47.9	829	83	912
8 Junedpur (W)	16.0	228.1	2,640	1,009	102.4	1,638	164	1,802
9 Kaitala	23.5	103.5	3,878	-1,446	-22.2	522	52	574
10 Krishnanagar	23.8	188.0	3,927	547	62.3	1,483	148	1,631
11 Nabinagar (E)	19.9	116.2	3,284	-972	-9.5	189	19	208
12 Nabinagar (W)	14.9	137.4	2,459	-411	11.7	174	17	191
13 Natghar	21.8	217.3	3,597	1,140	91.6	1,997	200	2,197
14 Rasullabad (E)	15.8	151.0	2,607	-221	25.3	400	40	440
15 Rasullabad (W)	19.6	100.3	3,234	-1,268	-25.4	498	50	548
16 Ratanpur	28.5	110.5	4,703	-1,553	-15.2	433	43	476
17 Shibpur	26.6	142.7	4,389	-594	17.0	452	45	497
18 Shyamgram	26.2	34.0	4,323	-3,432	-91.7	2,403	240	2,643
19 Srirampur	30.8	127.2	5,082	-1,164	1.5	46	5	51
Upazila Total	401.1	125.7	66,186	-15,769		13,907	1,390	15,297

Table I.3.4 Present Transport Quantity by Union (2/4)
- BANCHARAMPUR -

Union	Mid-yaer Population (000)	Per Capita Con- sumption (kg/capita)	Food Demand (t)	Food Balance (t)	Balance/ Consumption to Average (kg/capita)	Estimated Transport Qty (t)		
						Rice & Wheat	Others *10% of Rice & Corn	Total
1 Bancharampur (N)	21.7	77.6	3,581	-1,898	-34.6	751	75	826
2 Bancharampur (S)	17.4	118.5	2,871	-809	6.3	110	11	121
3 Dariadaulat (E)	25.4	89.2	4,191	-1,925	-23.0	584	58	642
4 Dariadaulat (W)	19.1	131.8	3,152	-634	19.6	374	37	411
5 Rupasdi (E)	20.6	127.7	3,399	-768	15.5	319	32	351
6 Rupasdi (W)	19.3	117.6	3,185	-915	5.4	104	10	114
7 Saifullakandi (E)	13.5	187.8	2,228	307	75.6	1,021	102	1,123
8 Saifullakandi (W)	23.0	113.1	3,795	-1,194	0.9	21	2	23
9 Salimabad	31.3	75.9	5,165	-2,790	-36.3	1,136	114	1,250
10 Tejkhali (E)	20.7	87.8	3,416	-1,599	-24.4	505	51	556
11 Tejkhali (W)	11.8	203.0	1,947	448	90.8	1,071	107	1,178
12 Ujanchar (E)	17.4	104.0	2,871	-1,061	-8.2	143	14	157
13 Ujanchar (W)	17.9	118.2	2,954	-838	6.0	107	11	118
Upazila Total	259.1	112.2	42,755	-13,676		6,246	624	6,870

Table I.3.4 Present Transport Quantity by Union (3/4)
- DEBIDWAR -

Union	Mid-yaer Population (000)	Per Capita Con- sumption (kg/capita)	Food Demand (t)	Food Balance (t)	Balance/ Consumptior to Average (kg/capita)	Estimated Transport Q'ty (t)		
						Rice & Wheat	Others *10% of Rice & Corn	Total
1 Bara Shalghar (N)	16.2	133.6	2,673	-509	-22.7	368	37	405
2 Bara Shalghar (S)	16.5	124.7	2,723	-666	-31.6	521	52	573
3 Barkamta (S)	23.0	162.0	3,795	-69	5.7	131	13	144
4 Barkamta (N)	22.5	163.2	3,713	-40	6.9	155	16	171
5 Debidwar	32.9	196.1	5,429	1,023	39.8	1,309	131	1,440
6 Dhamti (N)	18.3	341.6	3,020	3,232	185.3	3,391	339	3,730
7 Dhamti (S)	20.8	153.6	3,432	-238	-2.7	56	6	62
8 Fatehabad	33.1	122.5	5,462	-1,408	-33.8	1,119	112	1,231
9 Gunaighar (N)	18.7	124.0	3,086	-768	-32.3	604	60	664
10 Gunaighar (S)	19.2	140.6	3,168	-468	-15.7	301	30	331
11 Jafarganj (N)	21.0	154.3	3,465	-225	-2.0	42	4	46
12 Jafarganj (S)	23.6	152.2	3,894	-301	-4.1	97	10	107
13 Rajamehar (N)	19.5	110.8	3,218	-1,057	-45.5	887	89	976
14 Rajamehar (S)	20.7	156.4	3,416	-178	0.1	2	0	2
15 Subil (N)	17.7	156.0	2,921	-159	-0.3	5	1	6
16 Subil (S)	17.1	99.4	2,822	-1,123	-56.9	973	97	1,070
Upazila Total	340.8	156.3	56,237	-2,954		9,961	997	10,958

Table I.3.4 Present Transport Quantity by Union (4/4)
- KACHUA -

Union	Mid-yaer Population (000)	Per Capita Con- sumption (kg/capita)	Food Demand (t)	Food Balance (t)	Balance/ Consumptior to Average (kg/capita)	Estimated Transport Q'ty (t)		
						Rice & Wheat	Others *10% of Rice & Corn	Total
1 Ashrafpur	28.6	137.5	4,719	-787	31.0	887	89	976
2 Bitara	30.9	74.8	5,099	-2,788	-31.7	980	98	1,078
3 Gohat (N)	20.9	96.6	3,449	-1,430	-9.9	207	21	228
4 Gohat (S)	21.5	88.2	3,548	-1,651	-18.3	393	39	432
5 Kachua (N)	20.3	143.1	3,350	-446	36.6	743	74	817
6 Kachua (S)	20.9	86.5	3,449	-1,641	-20.0	418	42	460
7 Kadla	31.4	107.9	5,181	-1,794	1.4	44	4	48
8 Karaia	38.3	95.5	6,320	-2,663	-11.0	421	42	463
9 Pathair (E)	21.5	108.1	3,548	-1,224	1.6	34	3	37
10 Pathair (W)	21.4	115.3	3,531	-1,064	8.8	188	19	207
11 Shahadebpur (W)	22.1	81.5	3,647	-1,845	-25.0	552	55	607
12 Shahadebpur (E)	19.6	161.6	3,234	-66	55.1	1,080	108	1,188
Upazila Total	297.4	106.5	49,075	-17,399		5,947	594	6,541

Table I.4.1 Price of Products Marketed in the Study Area (1/2)

Item	Unit	Nabinagar				Bancharanpur			
		Farm Gate	Ha/ Growth C.	Retail Price		Farm Gate	Ha/ Growth C.	Retail Price	
				Local	Dhaka			Local	Dhaka
(1) Paddy	Tk./Kg								
- Peak season		4.3	4.7	5.2	5.5	4.2	4.7	5.2	5.5
- Off season		7.0	7.2	7.2	7.5	6.9	7.0	7.1	7.5
- Monthly average		5.2	5.6	5.9	6.2	5.1	5.5	5.9	6.2
(2) Rice	Tk./Kg								
- Peak season		7.6	8.0	8.5	9.0	7.5	7.9	8.6	9.0
- Off season		12.1	12.2	12.3	12.6	11.9	12.1	12.4	12.6
- Monthly average		9.0	9.3	9.6	10.1	8.8	9.2	9.7	10.1
(3) Wheat	Tk./Kg								
- Peak season		4.0	4.6	4.9	5.2	4.0	4.6	4.8	5.2
- Off season		5.9	6.0	6.1	7.0	5.7	6.1	6.3	7.0
- Monthly average		4.4	4.9	5.1	5.6	4.3	4.9	5.1	5.6
(4) Jute	Tk./Kg								
- Peak season		5.3	6.0	7.7	8.0	5.2	6.0	7.6	8.0
- Off season		8.7	8.9	9.0	9.3	8.6	8.7	8.9	9.3
- Monthly average		5.6	6.3	7.8	8.1	5.5	6.3	7.7	8.1
(5) Potato	Tk./Kg								
- Peak season		1.8	2.5	3.3	3.7	1.7	2.4	3.2	3.7
- Off season		7.5	7.7	7.8	8.1	7.5	7.6	7.7	8.1
- Monthly average		2.1	2.8	3.5	3.9	2.0	2.7	3.4	3.9
(6) Mustard	Tk./Kg								
- Peak season		8.6	9.0	9.8	10.2	8.5	8.9	9.7	10.2
- Off season		12.5	12.6	12.8	13.4	12.3	12.5	12.7	13.4
- Monthly average		9.6	9.9	10.6	11.0	9.5	9.8	10.5	11.0
(7) Vegetables	Tk./Kg								
- Peak season		3.3	3.8	5.6	6.2	3.2	3.7	5.7	6.2
- Off season		7.1	7.2	7.4	8.1	7.2	7.4	7.5	8.1
- Monthly average		3.9	4.3	5.9	6.5	3.8	4.3	6.0	6.5
(8) Pulses	Tk./Kg								
- Peak season		10.3	10.8	11.3	12.2	10.2	10.7	11.1	12.2
- Off season		17.8	18.0	18.1	18.7	17.7	17.8	18.2	18.7
- Monthly average		12.6	13.0	13.3	14.2	12.5	12.8	13.2	14.2
(9) Fruits	Tk./Kg								
- Peak season		6.5	7.2	10.0	12.0	6.5	7.3	10.0	12.0
- Off season		16.8	17.0	17.2	18.0	17.0	17.2	17.4	18.0
- Monthly average		7.0	7.7	10.4	12.3	7.0	7.8	10.4	12.3
(10) Livestock	Tk./Cattlehead								
- Peak season		3,500	3,650	3,900	4,100	3,450	3,600	3,850	4,100
- Off season		4,500	4,600	4,750	4,850	4,450	4,600	4,700	4,850
- Monthly average		3,550	3,700	3,940	4,140	3,500	3,650	3,890	4,140
(11) Poultry	Tk./Kg								
- Peak season		31.0	36.0	42.0	50.0	30.0	35.0	40.0	50.0
- Off season		40.0	45.0	55.0	60.0	39.0	44.0	54.0	60.0
- Monthly average		31.9	36.9	43.3	51.0	30.9	35.9	41.4	51.0
(12) Fish	Tk./Kg								
- Peak season		26.0	32.0	45.0	53.0	25.0	30.0	44.0	53.0
- Off season		40.0	45.0	50.0	58.0	38.0	44.0	51.0	58.0
- Monthly average		27.4	33.3	45.5	53.5	26.3	31.4	44.7	53.5

Source : Market Survey Nov '90, Traders Committee and Directorate of Marketing

Table I.4.1 Price of Products Marketed in the Study Area (2/2)

Item	Unit	Nabinagar				Bancharanpur			
		Farm Gate	Hat/ Growth C.	Retail Price		Farm Gate	Hat/ Growth C.	Retail Price	
				Local	Dhaka			Local	Dhaka
(1) Paddy	Tk./Kg								
- Peak season		4.4	4.8	5.2	5.5	4.3	4.8	5.2	5.5
- Off season		7.2	7.2	7.2	7.5	6.9	7.0	7.1	7.5
- Monthly average		5.4	5.6	5.9	6.2	5.2	5.6	5.9	6.2
(2) Rice	Tk./Kg								
- Peak season		7.8	8.2	8.6	9.0	7.7	8.2	8.6	9.0
- Off season		11.9	12.1	12.3	12.6	11.8	12.1	12.4	12.6
- Monthly average		9.0	9.4	9.7	10.1	8.9	9.4	9.7	10.1
(3) Wheat	Tk./Kg								
- Peak season		4.1	4.7	5.0	5.2	4.1	4.6	4.9	5.2
- Off season		5.8	5.9	6.2	7.0	5.7	5.8	6.3	7.0
- Monthly average		4.4	4.9	5.2	5.6	4.4	4.8	5.2	5.6
(4) Jute	Tk./Kg								
- Peak season		5.5	6.2	7.8	8.0	5.7	6.4	7.9	8.0
- Off season		8.2	8.6	8.9	9.3	8.3	8.7	9.0	9.3
- Monthly average		5.8	6.4	7.9	8.1	6.0	6.6	8.0	8.1
(5) Potato	Tk./Kg								
- Peak season		2.0	2.6	3.4	3.7	1.9	2.5	3.2	3.7
- Off season		7.6	7.8	7.9	8.1	7.5	7.6	7.7	8.1
- Monthly average		2.3	2.9	3.6	3.9	2.2	2.8	3.4	3.9
(6) Mustard	Tk./Kg								
- Peak season		8.8	9.2	9.9	10.2	8.7	9.2	9.8	10.2
- Off season		12.6	12.7	12.9	13.4	12.7	12.8	13.0	13.4
- Monthly average		9.8	10.1	10.7	11.0	9.7	10.1	10.6	11.0
(7) Vegetables	Tk./Kg								
- Peak season		3.5	3.9	5.7	6.2	3.4	3.8	5.8	6.2
- Off season		7.1	7.3	7.5	8.1	7.2	7.4	7.5	8.1
- Monthly average		4.0	4.4	6.0	6.5	4.0	4.3	6.1	6.5
(8) Pulses	Tk./Kg								
- Peak season		10.6	11.0	11.5	12.2	10.5	10.9	11.4	12.2
- Off season		17.7	17.9	18.2	18.7	17.5	17.7	18.5	18.7
- Monthly average		12.7	13.1	13.5	14.2	12.6	12.9	13.5	14.2
(9) Fruits	Tk./Kg								
- Peak season		6.7	7.3	10.2	12.0	6.6	7.2	10.3	12.0
- Off season		16.5	17.0	17.4	18.0	16.7	17.2	17.5	18.0
- Monthly average		7.2	7.8	10.6	12.3	7.1	7.7	10.7	12.3
(10) Livestock	Tk./Cattlehead								
- Peak season		3,600	3,800	3,950	4,100	3,550	3,650	3,900	4,100
- Off season		4,600	4,700	4,800	4,850	4,700	4,750	4,825	4,850
- Monthly average		3,650	3,850	3,990	4,140	3,610	3,710	3,950	4,140
(11) Poultry	Tk./Kg								
- Peak season		34.0	38.0	45.0	50.0	33.0	37.0	44.0	50.0
- Off season		36.0	44.0	54.0	60.0	37.0	43.0	52.0	60.0
- Monthly average		34.2	38.6	45.9	51.0	33.4	37.6	44.8	51.0
(12) Fish	Tk./Kg								
- Peak season		32.0	36.0	47.0	53.0	33.0	37.0	48.0	53.0
- Off season		43.0	47.0	52.0	58.0	44.0	48.0	53.0	58.0
- Monthly average		33.1	37.1	47.5	53.5	34.1	38.1	48.5	53.5

Source : Market Survey Nov '90, Traders Committee and Directorate of Marketing

Table I.5.1 Marketed Surplus in Peak Harvesting Season by Union (1/4)

- NABINAGAR -

Average Per Capita Consumption(Food Grains)			185.3											
Union	Population('000) Peak Season Production(t)			Use of Product(t)										Marketed Surplus
	Marginal/ Small	Medium/ Large	Total	(Paddy)				Marginal & Small		Medium & Large				
				Marginal/ Small	Leased	Medium/ Large	Total	Home Con- sumption	Sold (Peak S.)	Home Con- sumption	Sold (Off-S.)	Sold (Peak S.)		
1 Barikandi (N)	14.3	2.5	16.8	378	231	540	1,149	609	0	232	231	77	77	
2 Barikandi (S)	12.4	2.1	14.5	334	204	476	1,014	538	0	476	0	0	0	
3 Bidyakot	21.0	3.6	24.6	1,107	677	1,581	3,365	1,297	487	334	935	312	799	
4 Birgon	11.4	1.9	13.3	263	160	375	798	423	0	176	149	50	50	
5 Bitghar	22.3	3.8	26.1	981	600	1,400	2,981	1,377	204	352	786	262	466	
6 Ibrahimpur	18.0	3.1	21.1	772	472	1,101	2,345	1,112	132	287	611	203	335	
7 Junedpur (E)	14.8	2.5	17.3	346	212	494	1,052	558	0	232	197	65	65	
8 Junedpur (W)	13.7	2.3	16.0	1,479	905	2,111	4,495	846	1,538	213	1,424	474	2,012	
9 Kaitala	20.1	3.4	23.5	837	512	1,194	2,543	1,242	107	315	659	220	327	
10 Krishnanagar	20.3	3.5	23.8	1,843	1,128	2,632	5,603	1,254	1,717	324	1,731	577	2,294	
11 Nabinagar (E)	17.0	2.9	19.9	408	250	582	1,240	658	0	269	235	78	78	
12 Nabinagar (W)	12.7	2.2	14.9	627	384	895	1,906	784	227	204	518	173	400	
13 Natghar	18.6	3.2	21.8	1,687	1,033	2,409	5,129	1,149	1,571	296	1,585	528	2,099	
14 Rasullabad (E)	13.5	2.3	15.8	569	348	812	1,729	834	83	213	449	150	233	
15 Rasullabad (W)	16.7	2.9	19.6	478	292	682	1,452	770	0	269	310	103	103	
16 Ratanpur	24.3	4.2	28.5	1,037	634	1,480	3,151	1,501	170	389	818	273	443	
17 Shibpur	22.7	3.9	26.6	1,441	882	2,057	4,380	1,402	921	361	1,272	424	1,345	
18 Shyamgram	22.4	3.8	26.2	203	124	289	616	327	0	289	0	0	0	
19 Srirampur	26.3	4.5	30.8	1,321	808	1,886	4,015	1,624	505	417	1,102	367	872	
Upazila Total	342.5	58.6	401.1	16,111	9,856	22,996	48,963	18,305	7,662	5,648	13,012	4,336	11,998	

Table I.5.1 Marketed Surplus in Peak Harvesting Season by Union (2/4)

- BANCHARAMPUR -

Average Per Capita Consumption(Food Grains)			155											
Union	Population('000) Peak Season Production(t)			Use of Product(t)										Marketed Surplus
	Marginal/ Small	Medium/ Large	Total	(Paddy)				Marginal & Small		Medium & Large				
				Marginal/ Small	Leased	Medium/ Large	Total	Home Con- sumption	Sold (Peak S.)	Home Con- sumption	Sold (Off-S.)	Sold (Peak S.)		
1 Bancharampur (N)	19.1	2.6	21.7	195	84	198	477	279	0	198	0	0	0	
2 Bancharampur (S)	15.3	2.1	17.4	480	209	488	1,177	593	96	163	244	81	177	
3 Dariadaulat (E)	22.4	3.0	25.4	529	230	537	1,296	759	0	233	228	76	76	
4 Dariadaulat (W)	16.8	2.3	19.1	803	349	815	1,967	651	501	178	478	159	660	
5 Rupasdi (E)	18.1	2.5	20.6	510	223	518	1,251	701	32	194	243	81	113	
6 Rupasdi (W)	17.0	2.3	19.3	523	227	531	1,281	659	91	178	265	88	179	
7 Saifullakandi (E)	11.9	1.6	13.5	642	280	652	1,574	461	461	124	396	132	593	
8 Saifullakandi (W)	20.3	2.7	23.0	530	231	538	1,299	761	0	209	247	82	82	
9 Salimabad	27.6	3.7	31.3	523	228	531	1,282	751	0	287	183	61	61	
10 Tejkhali (E)	18.2	2.5	20.7	523	228	531	1,282	705	46	194	253	84	130	
11 Tejkhali (W)	10.4	1.4	11.8	359	157	365	881	403	113	109	192	64	177	
12 Ujanchar (E)	15.3	2.1	17.4	625	272	634	1,531	593	304	163	353	118	422	
13 Ujanchar (W)	15.8	2.1	17.9	408	177	414	999	585	0	163	188	63	63	
Upazila Total	228.2	30.9	259.1	6,650	2,895	6,752	16,297	7,901	1,644	2,393	3,270	1,089	2,733	

Table I.5.1 Marketed Surplus in Peak Harvesting Season by Union (3/4)

- DEBIDWAR -

Union	Average Per Capita Consumption(Food Grains)			232.9				Use of Product(t)					Marketed Surplus
	Population('000) Peak Season Production(t)			(Paddy)				Marginal & Small		Medium & Large			
	Marginal/	Medium/	Total	Marginal/	Leased	Medium/	Total	Home Con-	Sold	Home Con-	Sold	Sold	
	Small	Large		Small		Large		sumption	(Peak S.)	sumption	(Off-S.)	(Peak S.)	
1 Bara Shalghar (N)	14.5	1.7	16.2	574	206	479	1,259	780	0	198	211	70	70
2 Bara Shalghar (S)	14.8	1.7	16.5	711	255	594	1,560	966	0	198	297	99	99
3 Barkamta (S)	20.6	2.4	23.0	1,861	667	1,554	4,082	1,599	929	279	956	319	1,248
4 Barkamta (N)	20.2	2.3	22.5	1,420	508	1,185	3,113	1,568	360	268	688	229	589
5 Debidwar	29.5	3.4	32.9	2,172	777	1,814	4,763	2,290	659	396	1,064	354	1,013
6 Dhamti (N)	16.4	1.9	18.3	3,860	1,382	3,223	8,465	1,273	3,969	221	2,252	750	4,719
7 Dhamti (S)	18.7	2.1	20.8	1,314	471	1,097	2,882	1,452	333	245	639	213	546
8 Fatehabad	29.7	3.4	33.1	1,732	620	1,446	3,798	2,306	46	396	788	262	308
9 Gunaighar (N)	16.8	1.9	18.7	913	327	763	2,003	1,240	0	221	407	135	135
10 Gunaighar (S)	17.2	2.0	19.2	1,066	382	890	2,338	1,335	113	233	493	164	277
11 Jafarganj (N)	18.8	2.2	21.0	932	333	778	2,043	1,265	0	256	392	130	130
12 Jafarganj (S)	21.2	2.4	23.6	1,503	539	1,255	3,297	1,646	396	279	732	244	640
13 Rajamehar (N)	17.5	2.0	19.5	601	216	502	1,319	817	0	233	202	67	67
14 Rajamehar (S)	18.6	2.1	20.7	974	348	813	2,135	1,322	0	245	426	142	142
15 Subil (N)	15.9	1.8	17.7	1,360	487	1,136	2,983	1,234	613	210	695	231	844
16 Subil (S)	15.3	1.8	17.1	663	237	553	1,453	900	0	210	257	86	86
Upazila Total	305.7	35.1	340.8	21,656	7,755	18,082	47,493	21,993	7,418	4,088	10,499	3,495	10,913

Table I.5.1 Marketed Surplus in Peak Harvesting Season by Union (4/4)

- KACHUA -

Union	Average Per Capita Consumption(Food Grains)			155.9				Use of Product(t)					Marketed Surplus
	Population('000) Peak Season Production(t)			(Paddy)				Marginal & Small		Medium & Large			
	Marginal/	Medium/	Total	Marginal/	Leased	Medium/	Total	Home Con-	Sold	Home Con-	Sold	Sold	
	Small	Large		Small		Large		sumption	(Peak S.)	sumption	(Off-S.)	(Peak S.)	
1 Ashrafpur	24.7	3.9	28.6	1,293	469	1,093	2,855	1,284	478	304	592	197	675
2 Bitara	26.6	4.3	30.9	887	321	750	1,958	1,208	0	335	311	104	104
3 Gohat (N)	18.0	2.9	20.9	521	189	440	1,150	710	0	226	161	53	53
4 Gohat (S)	18.5	3.0	21.5	554	201	469	1,224	755	0	234	176	59	59
5 Kachua (N)	17.5	2.8	20.3	1,133	410	957	2,500	909	634	218	554	185	819
6 Kachua (S)	18.0	2.9	20.9	528	191	446	1,165	719	0	226	165	55	55
7 Kadla	27.1	4.3	31.4	1,020	370	862	2,252	1,390	0	335	395	132	132
8 Karaia	33.0	5.3	38.3	1,364	494	1,153	3,011	1,715	143	413	555	185	328
9 Pathair (E)	18.5	3.0	21.5	766	277	647	1,690	961	82	234	310	103	185
10 Pathair (W)	18.4	3.0	21.4	783	283	662	1,728	956	110	234	321	107	217
11 Shahadebpur (W)	19.1	3.0	22.1	498	181	421	1,100	679	0	234	140	47	47
12 Shahadebpur (E)	16.9	2.7	19.6	936	339	791	2,066	878	397	210	436	145	542
Upazila Total	256.3	41.1	297.4	10,283	3,725	8,691	22,699	12,164	1,844	3,203	4,116	1,372	3,216

Table I.5.2 Present Storage Capacity Required for Food Grains (1/4)

- NABINAGAR -

Union	No. of Village	Capacity of Village Level Storage (t)		Capacity of Local Market Level Storage (t)
		Average Per Village	Total	
1 Barikandi (N)	5	214	1,072	77
2 Barikandi (S)	8	127	1,014	0
3 Bidyakot	10	257	2,566	799
4 Birgon	10	75	748	50
5 Bitghar	11	229	2,515	466
6 Ibrahimpur	3	670	2,010	335
7 Junedpur (E)	5	197	987	65
8 Junedpur (W)	9	276	2,483	2,012
9 Kaitala	13	170	2,216	327
10 Krishnanagar	9	368	3,309	2,294
11 Nabinagar (E)	4	291	1,162	78
12 Nabinagar (W)	5	301	1,506	400
13 Natghar	11	275	3,030	2,099
14 Rasullabad (E)	6	249	1,496	233
15 Rasullabad (W)	5	270	1,349	103
16 Ratanpur	13	208	2,708	443
17 Shibpur	12	253	3,035	1,345
18 Shyamgram	9	68	616	0
19 Srirampur	6	524	3,143	872
Upazila Total	154	240	36,965	11,998

Table I.5.2 Present Storage Capacity Required for Food Grains (2/4)

- BANCHARAMPUR -

Union	No. of Village	Capacity of Village Level Storage (t)		Capacity of Local Market Level Storage (t)
		Average Per Village	Total	
1 Bancharampur (N)	7	68	477	0
2 Bancharampur (S)	4	250	1,000	177
3 Dariadaulat (E)	10	122	1,220	76
4 Dariadaulat (W)	5	261	1,307	660
5 Rupasdi (E)	2	569	1,138	113
6 Rupasdi (W)	4	276	1,102	179
7 Saifullakandi (E)	3	327	981	593
8 Saifullakandi (W)	9	135	1,217	82
9 Salimabad	14	87	1,221	61
10 Tejkhali (E)	8	144	1,152	130
11 Tejkhali (W)	5	141	704	177
12 Ujanchar (E)	4	277	1,109	422
13 Ujanchar (W)	3	312	936	63
Upazila Total	78	174	13,564	2,733

Table I.5.2 Present Storage Capacity Required for Food Grains (3/4)

- DEBIDWAR -

Union	No. of Village	Capacity of Village Level Storage (t)		Capacity of Local Market Level Storage (t)
		Average Per Village	Total	
1 Bara Shaighar (N)	8	149	1,189	70
2 Bara Shaighar (S)	6	244	1,461	99
3 Barkamta (S)	9	315	2,834	1,248
4 Barkamta (N)	10	252	2,524	589
5 Debidwar	16	234	3,750	1,013
6 Dhamti (N)	5	749	3,746	4,719
7 Dhamti (S)	12	195	2,336	546
8 Fatehabad	14	249	3,490	308
9 Gunaighar (N)	5	374	1,868	135
10 Gunaighar (S)	9	229	2,061	277
11 Jafarganj (N)	13	147	1,913	130
12 Jafarganj (S)	13	204	2,657	640
13 Rajamehar (N)	6	209	1,252	67
14 Rajamehar (S)	8	249	1,993	142
15 Subil (N)	4	535	2,139	844
16 Subil (S)	5	273	1,367	86
Upazila Total	143	256	36,580	10,913

Table I.5.2 Present Storage Capacity Required for Food Grains (4/4)

- KACHUA -

Union	No. of Village	Capacity of Village Level Storage (t)		Capacity of Local Market Level Storage (t)
		Average Per Village	Total	
1 Ashrafpur	19	115	2,180	675
2 Bitara	11	169	1,854	104
3 Gohat (N)	16	69	1,097	53
4 Gohat (S)	19	61	1,165	59
5 Kachua (N)	9	187	1,681	819
6 Kachua (S)	17	65	1,110	55
7 Kadla	18	118	2,120	132
8 Karaia	25	107	2,683	328
9 Pathair (E)	6	251	1,505	185
10 Pathair (W)	13	116	1,511	217
11 Shahadebpur (W)	12	88	1,053	47
12 Shahadebpur (E)	7	218	1,524	542
Upazila Total	172	113	19,483	3,216

Table I.5.3 The Plan for Village and Local Market Godown (1/4)
- NABINAGAR -

Union	Village Level Godown		Local Market Godown		
	Number	Total Capacity (t)	Number	Total Capacity (t)	Location
1 Barikandi (N)	3	300	-	-	
2 Barikandi (S)	2	200	-	-	
3 Bidyakot	6	600	1	500	Marakuti (G2)
4 Birgon	2	200	-	-	
5 Bitghar	6	600	-	-	
6 Ibrahimpur	5	500	-	-	
7 Junedpur (E)	2	200	-	-	
8 Junedpur (W)	6	600	1	500	Bangura(H5)
9 Kaitala	6	600	-	-	
10 Krishnanagar	8	800	1	500	Krishnanagar(H7)
11 Nabinagar (E)	3	300	1	500	Nabinagar(G4)
12 Nabinagar (W)	4	400	-	-	
13 Natghar	8	800	1	500	Natghar(H9)
14 Rasullabad (E)	4	400	-	-	
15 Rasullabad (W)	3	300	-	-	
16 Ratanpur	7	700	-	-	
17 Shibpur	8	800	1	500	Sidpur(H13)
18 Shyamgram	2	200	-	-	
19 Srirampur	8	800	1	500	Maniknagar(H15)
Upazila Total	93	9,300	7	3,500	

Table I.5.3 The Plan for Village and Local Market Godown (2/4)
- BANCHARAMPUR -

Union	Village Level Godown		Local Market Godown		
	Number	Total Capacity (t)	Number	Total Capacity (t)	Location
1 Bancharampur (N)	1	100	-	500	Moulagong(G1)
2 Bancharampur (S)	3	300	1	-	
3 Dariadaulat (E)	3	300	-	-	
4 Dariadaulat (W)	3	300	1	500	Morichakandi(G2)
5 Rupasdi (E)	3	300	-	-	
6 Rupasdi (W)	3	300	-	-	
7 Saifullakandi (E)	2	200	1	500	Jibonganj(G3)
8 Saifullakandi (W)	3	300	-	-	
9 Salimabad	3	300	-	-	
10 Tejkhali (E)	3	300	-	-	
11 Tejkhali (W)	2	200	-	-	
12 Ujanchar (E)	3	300	-	-	
13 Ujanchar (W)	2	200	-	-	
Upazila Total	34	3,400	3	1,500	

Table I.5.3 The Plan for Village and Local Market Godown (3/4)
- DEBIDWAR -

Union	Village Level Godown		Local Market Godown		
	Number	Total Capacity (t)	Number	Total Capacity (t)	Location
1 Bara Shalghar (N)	3	300	-	-	
2 Bara Shalghar (S)	4	400	-	-	
3 Barkamta (S)	7	700			
4 Barkamta (N)	6	600	1	500	Mohanpur(G2)
5 Debidwar	9	900	1	500	Debidwar(G3)
6 Dhamti (N)	9	900	2	1,000	Dhamti(H6)
7 Dhamti (S)	6	600	-	-	
8 Fatehabad	9	900	-	-	
9 Gunaighar (N)	5	500	-	-	
10 Gunaighar (S)	5	500	-	-	
11 Jafarganj (N)	5	500	-	-	
12 Jafarganj (S)	7	700			
13 Rajamehar (N)	3	300	1	500	Jaffarganji(G4)
14 Rajamehar (S)	5	500	-	-	
15 Subil (N)	5	500	1	500	Natun Bazar C&B
16 Subil (S)	3	300	-	-	
Upazila Total	91	9,100	6	3,000	

Table I.5.3 The Plan for Village and Local Market Godown (4/4)
- KACHUA -

Union	Village Level Godown		Local Market Godown		
	Number	Total Capacity (t)	Number	Total Capacity (t)	Location
1 Ashrafpur	5	500	1	500	Masnigucha(H1)
2 Bitara	5	500	-	-	
3 Gohat (N)	3	300	-	-	
4 Gohat (S)	3	300	-	-	
5 Kachua (N)	4	400	1	500	Kachua(G2)
6 Kachua (S)	3	300	-	-	
7 Kadla	5	500	-	-	
8 Karaia	7	700	1	-	
9 Pathair (E)	4	400	-	-	
10 Pathair (W)	4	400	-	-	
11 Shahadebpur (W)	3	300	-	-	
12 Shahadebpur (E)	4	400	-	500	Paia Khal(G4)
Upazila Total	50	5,000	3	1,500	

Table I.5.4 Balance Sheet for Operation and Maintenance of Village and Local Market Godown

Item	Price Increase(%)	Formula	Unit	Village Godown (100 t)			Local Market Godown (500 t)		
				60	40	20	60	40	20
I. Income									
A. With Godown									
1. Price for Sale			Tk/kg	6.9	6.0	5.2	6.9	6.0	5.2
2. Sales Income	x Tk	(1)	'000Tk	690	600	520	3,450	3,000	2,600
B. Without Godown									
3. Sales Income	x Tk	4.3	/kg	'000Tk	430	430	430	2,150	2,150
C. Gross Incremental Income		(2) - (4)	'000Tk	260	170	90	1,300	850	450
II. Cost for Godown Operation									
				'000Tk					
4. Handling	x Tk	40	/t	4	4	4	20	20	20
5. Storage	x Tk	240	/t	24	24	24	120	120	120
6. Pesticide and Fumigation	x Tk	20	/t	2	2	2	10	10	10
7. Materials	x Tk	30	/t	3	3	3	15	15	15
8. Repair /_1				10	10	10	60	60	60
9. Sub-total		(4+5+6+7+8)		43	43	43	225	225	225
10. Interest of Credit/_2		(4) x 0.9 x 0.08		31	31	31	155	155	155
11. Depreciation Cost/_3				17	17	17	100	100	100
III. Net Income									
D. Case 1									
12. Total		(C)-(9)	'000Tk	217	127	47	1,075	625	225
13. Per Producers/_4		(12)/100 : (12)/500	Tk	2,170	1,270	470	2,150	1,250	450
E. Case 2									
14. Total		(C)-(9+10)	'000Tk	186	96	16	920	470	70
15. Per Producers		(14)/100 : (14)/500	Tk	1,860	960	160	1,840	940	140
F. Case 3									
16. Total		(C)-(9+10+11)	'000Tk	169	79	-1	820	370	-30
17. Per Producers		(16)/100 : (16)/500	Tk	1,690	790	-10	1,640	740	-60

Note : /_1 ; Annual repair cost is estimated at 2 % of the construction cost of Tk 500 x10³ for 100 tons and Tk 3,000 x10³ for 500 tons.

/_2 ; The half year interest of 8% is applied to the credit amount which covers 90% of (4) sales income without godown.

/_3 ; The useful life of 30 years is applied.

/_4 ; One ton of food grains is procured from each member equally.

