

## **G. ECONOMY AND FINANCE**

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## **CHAPTER 1 COUNTRY PROFILE**

### **1.1 General**

The government of Bangladesh has grappled with a comprehensive structural reforms from beginning of 1990s, aimed at strengthening fiscal and monetary management, fostering private sector development, and liberalization the external trade and foreign exchange rate regimes. As a result, the GDP growth rate averaged 5 percent compared with 4.7 percent in the preceding five years. In accordance with economic growth during these ten years, GDP per capita has also increased from 11,798 Taka in 1989/99 to 15,089 Taka in 1998/99. But current per capita GDP, estimated at 320 in US dollar, is still considered as one of the lowest in the world.

Poverty reduction through economic growth is one of main objective of Fifth Five-Year Plan (1997-2002). The plan set the annual average GDP growth rate at 7%, as a necessary level to reduce poverty incidence from 47% to 30% by 2002. But, according to ADB report for Bangladesh economy, the target remains unattainable, not because the lack of economical potential, but because of political conflicts, continuous general strikes (hartals), and so on.

### **1.2 Population and Labor Force**

Since population of Bangladesh had rapidly increased from 1974 to 1981, with annual growth rate of 2.35%, total population was 89.9 billion in 1981. In the next decade between 1981 and 1991, annual growth rate was estimated at 2.17%, and total population of 111.4 million was reported in 1991 population census. At present, according to government announcement on the 23<sup>rd</sup> of August 2001, total population is estimated at 129.2 million. Current population density is about 875 persons per sq. km in 2001, and is considered as one of the highest in the world.

In accordance with the increase of population, labor force has also increased. The labor force is about 56.0 million in 1996 compared to 30.9 in 1986. In 1996, the number of employment in economic sector is 54.6 million and out of job is counted as 1.4 million, accounting for 2.5 % of economically active population. The ratio of unemployment was estimated at 1.2% in 1986, therefore, it has also increased during these ten years.

Bangladesh is still agricultural country in view of labor force. About 63% of employment is shared in agriculture sector in 1996, while 10% in industry sector and 27% in service sector and the others. Population and labor force in Bangladesh is shown in the Table J.1.1.

Table G.1.1 Population and Labor Force in Bangladesh

Item	1982*	1986	1991	1996
Population (million)	91.60	100.10	111.40	122.10
Labor Force (million)	27.40	30.90	51.20	56.00
Employed	20.45	30.50	50.20	54.60
Agriculture	14.00	17.46	33.30	34.53
Industry	1.67	3.71	6.51	5.23
Service	4.78	9.39	10.35	14.84
Sectoral shares of labor force (%)	100%	100%	100%	100%
Agriculture	68%	57%	66%	63%
Industry	8%	12%	13%	10%
Service	23%	31%	21%	27%
Growth rate of labor force (%)	-	49%	65%	9%
Agriculture	-	25%	91%	4%
Industry	-	122%	75%	-20%
Service	-	96%	10%	43%
Unemployed (million)	6.95	0.40	1.00	1.40
Unemployment Rate (%)	25.4%	1.3%	2.0%	2.5%

Source: "Statistical Yearbook of Bangladesh, 1999", Bangladesh Bureau of Statistics

Note: \* Population and labor force in 1982 are derived from ADB report for key indicators of Bangladesh.

### 1.3 Economic Situation

According to the statistics of Bangladesh Bureau of Statistics (BBS), GDP for 1998/99 at constant price (1995/96) is estimated at 1,934 billion Taka compared with 1,282 billion Taka for 1989/99, growing at the rate of 50.8% during these ten years. Among three industrial sectors, industry sector shows the most positive growth rate during ten years, and is estimated at 84.2%. Especially, production of ready-made garment for export has filled an important role of traction for national economy. On the other hand, GDP growth rate of agriculture and services sector are estimated at 27.6% and 50.7%.

Table G.1.2 Trend of Gross Domestic Products in Bangladesh

Item	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
GDP at constant price (1995/96=100)(billion Tk)	1,282.4	1,325.2	1,392.0	1,455.7	1,515.1	1,589.8	1,663.2	1,752.8	1,844.4	1,934.4
Agriculture, fishery & forestry	368.2	376.5	385.7	395.4	398.8	397.5	409.9	434.5	448.3	469.7
Industry	259.2	270.9	289.6	312.2	337.8	371.1	396.9	420.1	455.0	477.4
Services	655.0	677.8	716.8	748.1	778.6	821.1	856.4	898.2	941.2	987.3
Sectoral shares of GDP	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Agriculture, fishery & forestry	29%	28%	28%	27%	26%	25%	25%	25%	24%	24%
Industry	20%	20%	21%	21%	22%	23%	24%	24%	25%	25%
Services	51%	51%	51%	51%	51%	52%	51%	51%	51%	51%
Annual growth rate of GDP	-	3.3%	5.0%	4.6%	4.1%	4.9%	4.6%	5.4%	5.2%	4.9%
Agriculture, fishery & forestry	-	2.3%	2.4%	2.5%	0.9%	-0.3%	3.1%	6.0%	3.2%	4.8%
Industry	-	4.5%	6.9%	7.8%	8.2%	9.9%	7.0%	5.9%	8.3%	4.9%
Services	-	3.5%	5.8%	4.4%	4.1%	5.5%	4.3%	4.9%	4.8%	4.9%
Population (million)*	108.7	111.0	113.3	115.5	117.7	119.9	122.1	124.3	126.5	128.2
Per capita GDP	11,798	11,939	12,286	12,603	12,873	13,259	13,622	14,101	14,580	15,089

Source: Statistical Year Book of Bangladesh 1999, Bangladesh Bureau of Statistics

Note: \* Population are derived from "Key Indicator of Developing Asian and Pacific Countries, Bangladesh", ADB.

The construction of GDP in 1998/99 is composed by 24% of Agriculture, fishery and forestry sector, 25 % of industry sector and 51% of the service sector. Industry sector has increased its share of GDP by 5% during these ten years, while agriculture sector has decreased its share by 5%.

The export sector showed an average annual growth rate of about 16 percent because of strong trade in garments and knitwear products. Export value in 1997/98 is 229,408 million Taka, and main exported goods are ready made garments and jute related commodities. Share of ready-made garments has been increased from 58% in 1994/95 to 75% in 1997/98. On the other hand, imported value in 1997/98 is 318,926 million Taka, main imported goods are textile and textile articles, machinery, mineral products, base metals and articles thereof, and crop and vegetable products.

Table G.1.3 Trade Balance and Principal Commodities

Item	1994/95		1995/96		1996/97		1997/98	
		(%)		(%)		(%)		(%)
Total Import (million Taka)	218,564	100%	254,646	100%	290,187	100%	318,916	100%
Textiles and textile articles	69,478	32%	71,711	28%	57,587	20%	87,260	27%
Machinery all kinds	19,983	9%	32,083	13%	37,485	13%	43,556	14%
Mineral products	23,379	11%	28,495	11%	37,161	13%	36,613	11%
Base metals and articles thereof	16,647	8%	23,658	9%	29,763	10%	32,108	10%
Crops and vegetable products	23,714	11%	24,032	9%	19,226	7%	28,652	9%
Others	65,363	30%	74,667	29%	108,965	38%	90,727	28%
Total Export (million Taka)	136,970	100%	144,521	100%	171,554	100%	229,408	100%
Ready made garments	79,140	58%	90,595	63%	114,793	67%	171,660	75%
Jute related commodities	16,433	12%	15,733	11%	17,729	10%	15,988	7%
(Raw jute)	(3,181)	-	(2,968)	-	(4,344)	-	(3,776)	-
(Jute yarn)	(1,890)	-	(2,405)	-	(2,854)	-	(2,684)	-
(Jute mfg. Total)	(11,362)	-	(10,360)	-	(10,531)	-	(9,528)	-
Prawns and shrimps	11,233	8%	11,803	8%	10,781	6%	11,745	5%
Leather and leather manufacture	7,739	6%	6,108	4%	5,366	3%	4,809	2%
Tea	1,314	1%	1,254	1%	1,380	1%	2,150	1%
Others	21,111	15%	19,028	13%	21,505	13%	23,056	10%
Trade Balance	-81,594	-	-110,125	-	-118,633	-	-89,508	-

Source: "Statistical Yearbook of Bangladesh, 1999", Bangladesh Bureau of Statistics

The value of the currency Taka has been devalued year by year. Exchange rate against US dollar has changed from 32.9 Tk in 1989/99 to 51.0 Tk in 1999/2000. Rate of inflation has been comparatively stable, but the rate has been slightly high in these three years. Inflation rate, as measured by Dhaka middle class consumer price index, during 1997/98, 1998/99 and 1999/2000 was 6.4%, 7.0% and 9.0% respectively, while the rate during 1995/96 and 1996/97 was estimated at 4.1% and 3.9%.

#### 1.4 Social Situation

The objectives of social development of Bangladesh are to alleviate poverty, and to satisfy the basic human needs. For this purpose, various necessary programs have been implemented in the national development plans such as the government's Fifth Five-Year Plan. To reduce poverty in Bangladesh, acceleration of economic and agricultural productivity is important.

According to household expenditure survey, carried out by BBS in 1995/96, rural households under the poverty line (less than 2,122 kilo calorie per head per day) has been decreased from 54.7% to 47.1% during these ten years. While rural households under the hard core poverty line (1,805 kilo

calorie per head per day) has also decreased from 26.3 to 24.6 during the last decade.

These indicator shows that poverty in Bangladesh has been decreasing, but the situation is still serious. The poverty situation has been influenced by unequal land ownership in rural areas and disparity in income distribution. According to the same survey for household expenditure, 55% of total households in rural areas had land less than 0.50 acre, while 14% households had land above 2.5 acres. As for income distribution, lowest 5% households shared 0.8% of total income, while highest 5% households had 23% of income.

Education is a basic right of all citizens and is the main element of human resource development. Especially, primary education is the basic foundation of education, thus government put the high priority to primary and mass education for economic development. As a result, the number of pupils has increased, and enrolment ratio becomes about 82% in 1997.

Government of Bangladesh introduced “food for education program” in 1993/94. The program covered 17,403 schools in 1998/99, and umber of beneficiary students and family reached 2,296,000 and 2,182,000 respectively. As a result, rate of adult literacy above 15 years has increased from 35% in 1991 to about 56% in 1998.

The life expectancy at birth has increased from 58 years in 1995 to 61 years in 1998, while infant mortality rate is decreased from 71 per 1,000 live births to 57 per 1,000 live births. Crude birth rate and death rate has also decreased as shown in the Table G.1.4.

Table G.1.4 Indicators of the health sector

Item	1995	1996	1997	1998
Number of hospital	933	933	938	1,273
Number of hospital beds	37,131	37,131	38,106	41,877
Registered physicians	24,638	24,638	27,546	29,613
Registered nurse	11,200	11,200	15,408	16,104
Persons per hospital beds	3,229	3,288	3,261	3,249
Persons per physician	4,866	4,955	4,512	4,102
Life expectancy at birth	58	59	60	61
Male	58	59	61	61
Female	58	59	60	61
Crude birth rate	26.9	25.6	21.0	19.9
Crude death rate	8.5	8.1	5.5	4.8
Rate of infant mortality (both sexes)	71	67	60	57

Source: "Statistical Yearbook of Bangladesh, 1999", Bangladesh Bureau of Statistics

## CHAPTER 2 FIASIBILITY STUDY AREA

### 2.1 Algarchar Gram

#### 2.1.1 Regional Development Budget

According to Erendabari Union, regional development budget under Annual Development Program (ADP) is 140,000Tk in 2001/02. ADP expenditure is composed by major 4 sectors, which are communication, education, agriculture, and physical infrastructure. Sector priority for regional development in Erendabari Union is based on the national strategy for regional development. Ten years trend of regional development expenditure, including ADP expenditure in Erendabari Union is presented in the table below.

Table G.2.1 Regional Development Expenditure (actual)

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02
ADP Expenditure (Tk)	200,000	200,000	200,000	400,000	400,000	600,000	600,000	600,000	450,000	140,000
General Education Project (Tk)	400,000	420,000	250,000	420,000	-	600,000	-	-	2,800,000	-
Food for Work (t)	35	30	20	25	45	39.5	70	195	55	24
Test Relief (t)	-	-	-	-	36.5	22.5	19	29	4	13
NGO, Foreign Aid, etc. (Tk)	-	-	-	-	-	-	-	-	USAID (FPP) 7,500,000	-

Source: Erendabari Union, collected by Fulchhari Upazila Office.

In 2001/02, Erendabari Union also received Test Relief (T.R) and Food For Work (FFW), both for road rehabilitation, from central government. The amount of T.R and FFW are estimated at 13.00 metric ton and 24.00 metric ton respectively.

#### 2.1.2 Local Finance

Union has three sources of budget, (1) regional development budget from central government, (2) local taxes collected from villagers, and (3) tax from land transfer. The tax from land transfer is collected by Upazila office, and if necessary, Upazila office provides the tax maximum 1% to Union.

In 2001/02, revenue of Erendabari Union is estimated at 595,000Tk. The revenue is composed by union tax, business tax, Hat bazaar tax, amusement tax, license permission, ferry ghat, and tax arrear. Following table shows amount and structure of revenue in Erendabari Union.

Table G.2.2 Amount and Structure of Revenue in 2001/02

Items of Revenue		Amount (Tk)	Items of Revenue		Amount (Tk)
1	Union Tax	96,000 (16%)	5	License Permit	30,000 (5%)
2	Business Tax	25,000 (4%)	6	Ferry Ghat	125,000 (21%)
3	Hat Bazaar	65,000 (11%)	7	Tax Arrear	234,000 (39%)
4	Amusement Tax	20,000 (4%)	Total	-	595,000 (100%)

Source: Erendabari Union, collected by Fulchhari Upazila Office.

Union tax is a tax on personal properties, both movable and immovable. Based on the quantity and quality of personal properties, Union Palishad estimates the rate of tax from house to house, and makes a list for tax collection. Those properties as television, refrigerator, generator, furniture, boat, rickshaw, block cart, cooking tool, and livestock are categorized into movable properties. On the other hand, land, house, pond, and tube well, etc. are considered to be immovable household properties. In general, amount of Union Tax, which imposed on individual household, is estimated at 20 to 200Tk/household/year.

Based on the list for tax collection, prepared by Union Palishad, so called “Tax Collector” collect the Union Tax. Union Chairman appoints several people for tax collector who know well about regional society and local conditions. The tax collector can receive 15% of collected tax for remuneration. Flood season is the farmer’s leisure season, therefore, the tax collector start to collect the tax in this season. But it is said that collection of union tax from individual household is difficult, because the most of villagers are poor, and they do not want to pay tax positively. In 2001/02, about 40% of the revenue of Erendabari Union is tax arrear.

Following table shows amount and structure of expenditure of Erendabari Union. Main items of expenditure in the union are staff arrear payment (73%), Staff payment (13%), Unon Palishad member honorarium (5%), and Tax Collection Commissioner (3%). Accordingly, 95% of total expenditure from Union budget is the payment for administrative relatives in the Union.

Table G.2.3 Amount and Structure of Expenditure in 2001/02

Items of Expenditure		Amount (Tk)	Items of Expenditure		Amount (Tk)
1	Chairman Honorarium	8,400 (1%)	7	Fuel Charge	1,234 (0%)
2	Staff Payment	79,486.50 (13%)	8	Agricultural Expenditure	500 (0%)
3	Festival Allowance	13,247.75 (2%)	9	Sanitation	500 (0%)
4	UP Member Honorarium	28,800 (5%)	10	Miscellaneous	4,000 (1%)
5	Contingency (Office)	8,000 (1%)	11	Staff Arrear Payment	434,831 (73%)
6	Tax Collection Commissioner	16,000 (3%)	Total	-	595,000 (100%)

Source: Erendabari Union, collected by Fulchhari Upazila Office.

### 2.1.3 Occupation

Economy of Char area is basically agrarian and hence, role of agriculture is predominant in this area. It is the single largest sector in the region. In dry season, around 48% of labor force in Erendabari Union is engaged in agricultural sector, and around 14% of labor is engaged in other sector such as trade, transportation, public officer, and daily labor. Unemployment rate in Erendabari Union is estimated at 38% even in dry season. In flood season, number of workers in agricultural sector decreased, while people who don't have any works are increased. Unemployment rate in the flood season increase to more than half of labor force in Erendabari Union.

Table G.2.4 Assumed number of economically active population

	Dry Season		Flood Season	
(1) Agriculture				
Owner farmer	1,500	(14.1%)	1,000	(10.2%)
Tenant farmer	1,700	(16.0%)	1,000	(10.2%)
Agricultural labor	1,800	(17.0%)	1,200	(12.2%)
Fishery	100	(0.9%)	100	(1.0%)
(2) Non-agriculture				
Processing	100	(0.9%)	20	(0.2%)
Sales	200	(1.9%)	200	(2.0%)
Transportation	20 (block cart)	(0.2%)	100 (boat)	(1.0%)
Handicraft	-		-	
Wage labor	200	(1.9%)	200	(2.0%)
Public officer	1,000	(9.4%)	1,000	(10.2%)
Jobless	4,000	(37.7%)	5,000	(51.0%)
Others	-		-	
(3) Total	10,620	(100%)	9,820	(100%)

Source: Erendabari Union, collected by Fulchhari Upazila Office.

### 2.1.4 Market

There are three bazaars in Erendabari Union, which are Zigabari Bazaar, Algar char Bazaar and Horiehandi Bazaar, and Algar char Bazaar is located in Razzak Chairman para, Algar char gram. Followings are market profile in the Erendabari Union.



Table G.2.5 Market Profile in the Erendabari Union

Name	1. Zigabari Bazaar	2. Algarchar Bazaar	3. Horiehandi Bazaar
Place	Jigabari	Algarchar	Horiehandi
Distance (km) from UP	0.0km	2.00km	9.00km
Area (m <sup>2</sup> )	10,940m <sup>2</sup>	11,320m <sup>2</sup>	16,264m <sup>2</sup>
Owner	Union Palishad	Union Palishad	Union Palishad
Frequency (times/week)	3days/week	3days/week	2days/week
Number of user	5,000	3,000	5,000
Number of tenant	P: 100, T: 200	P: 75, T: 150	P: 150, T: 250
Tenant Fee	6,000Tk/person/year	3,500Tk/person/year	9,000Tk/person/year
Taxation system	Collected by bidder	Collected by bidder	Collected by bidder

Source: Erendabari Union, collected by Fulchhari Upazila Office.

Note: P: Permanent Tenant, T: Temporary Tenant

Algar char Bazaar is official owned market, and management body is Union Palishod. In hat day, three times per week, around 75 permanent shops, and about 150 temporary shops engage in their business. Middleman, so called “Paikari”, and shopkeeper themselves, transports most of commodities, such as food and other daily necessities of life. They bring it from neighboring markets, such as Zigabari (1 km), Sanandabari (6 km), Fulchhari (32 km) and Gaibandha (22 km).

Bazaar tax is collected from shop owners in accordance with the amount of sold. Usually, the tax is not collected by Union Parishad, but carried out by specific person, so called auction bidder. Revenue Department, under the Ministry of Finance, provides a light for the bazaar tax collection to auction bidder through bidding. The person who makes a successful bid only can collect the tax at local market. According to the Erendabari Union, the auction bidder collects around 20,000 to 25,000Tk/year at Zigabari Bazaar, and he pays around 8,000 to 9,000Tk/year to Unipn Parishad. The rest amount becomes profit for the auction bidder.

Products in the study area are rice, wheat, tomato, chilly, garlic, onion, potato, sweet potato, mustard, jute and ground nuts for agricultural products, and cattle, goat, chicken, duck, chicken egg, duck egg and milk for products of livestock, and Rui, Irish, Puty Carp, Katula, Silver Carp and Milka for fishery products. Most of the products for selling are shipped to local bazaar, such as Algar char bazaar, Sanandabari and Zigabari bazaar, through middleman, or sold directory by farmers.

Most of agricultural input materials, such as seed, fertilizer, manure and insecticide, are available in Zigabari bazaar and Algar char bazaar, and farmers living in the study area are purchasing those materials from the local market directly. As for fishery production, fingerling of such species as Lui, Milka, Katra, Putty carp and Silver carp, are available in the Gaibandha (22 km away from study area) or Naogaon (135 km away), and some kinds of finagling are also sold at Zigabari and Algar char bazaar. Oil cake, husks and cow dung are used for feed source in this area, and farmer buys it from villager and/ or local market.

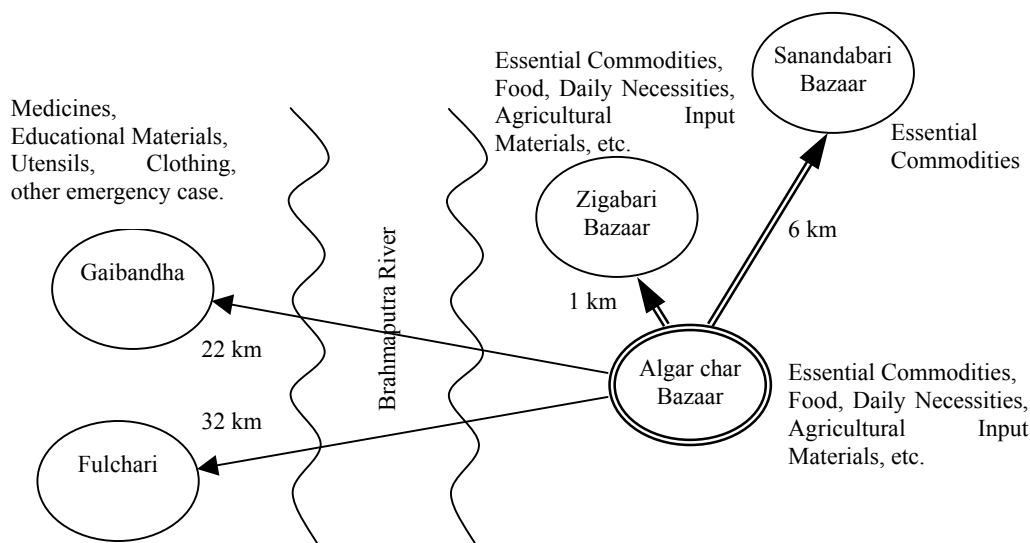


Figure G.2.1. Venn Diagram of Market/ Bazaar Location (Algar char Gram)

Farmers themselves consume some amount of rice, however, almost all of rice produced in the study area is sold. Farmer sells their paddy products, in case IRRI BR8; High Yield Variety of Boro, at 7.4 Tk/kg in average to their landowner or middleman. Weight of paddy reduced to about 68% when the paddy milled to rice, therefore, price of paddy at farm gate is equivalent 10.9 Tk/kg of rice. On the other hand, retail price of Boro rice at local bazaar is around 14 Tk/kg. Shipping cost, including cost for parboiling, drying, milling and transportation, is estimated at 3.1 Tk/kg in average, and retail price of Boro rice is about 1.3 times of farm gate price in the study area. According to key informant survey, conducted by JICA Study Team on March 2002, average cost of parboiling is 0.12 Tk/kg, and average drying and milling cost are 0.25 Tk/kg and 0.2 Tk/kg respectively, remaining 2.53 Tk/kg, 18 % of retail price of Boro rice, is considered to be profits, including transportation cost, of parboiling facility's owner and/or local traders.

### 2.1.5 Potential of Jute

Jute is one of the most important cash crops in Bangladesh since the crop is directly linked to the international market. According to "Statistical Yearbook of Bangladesh, 1999", export value of jute related commodities including raw jute, jute yarn and other goods in 1997/98 is estimated at 15,988 million taka. The share of the jute related goods in total exported commodities has been decreased, but is still 7 % in 1997/98.

According to Bangladesh Jute Research Institute (BJRI), there are four varieties of jute in Bangladesh. Among four varieties, *Corchorus Capsularis* (so called Tossa Jute) and *Corchorus Olitorius* (so called White Jute) account for 90 % of total jute production in the country. *Capsularis* is a local variety and the other is an African-original variety. *Hibiscus Can-nubinus*, so called Kenaf, is one of the fiber crops like a jute, and is also grown in sandy soil such as char area. The quality of Kenaf fiber is inferior to those of *Capsularis* and *Olitorius*, however it is useful to make a paper as a

substitute goods of wood pulp. BJRI has started to experimental production of kenaf in their laboratory.

### Jute Bag

Jute bag is now in the limelight in Bangladesh since a part of polythene bag was banned in January 1, 2002. Polythene bag is not decomposed into soil, and the waste of polythene goods caused serious environmental problems as follows.

- 1) Accumulating in drainage pipe, and expand flood damages in urban area.
- 2) Reducing fertility of soil in agricultural field, and reducing agricultural production.
- 3) Raising water temperature, and disturbing incubation of fish.

BJRI developed a technology for commercial production of jute bag, and around 300 companies start to examine potentiality of the production after polythene bag banned. BJRI recommend to use single bed waving machine (21,000Tk/peace, 120cm×30cm×20cm) for waving, and pedal type sewing machine (5,000Tk/peace) for sewing. Productivity of normal size jute bag (40×50cm), which can carry up to 10 kg goods and materials, is around 30bag/hr. Required number of labor force is only two, one for waving and one for sewing. Price of jute bag is 2 to 4 taka for normal size, therefore it is possible to earn Tk 500 to Tk 900 per day for two person. The space required to produce the bag is only 10 m<sup>2</sup>.

It is difficult to procure qualified jute yarn for local peoples because almost all qualified jute yarn that BJRI recommends is produced by large factories located in southwestern coastal region. In general, qualified jute yarn has been produced for export purpose, therefore, it is difficult to find it out in local markets. However, it can be said that the situation has changed because polythene bag is banned and jute bag is in the limelight. BJRI have a strong will to extend commercial skills for jute bag production, and is expected that qualified jute yarn will be appeared on the local markets sooner or later.



### Jute Geo-Textile

Geo-Textile is a mat made by such natural materials as Jute. LGED have been used Jute Geo-Textile for slope protection of lural raod and dike in Manikganj, Tangail, nad Pabna. After taking roots of grass and other vegetation, the mat is ruined and decomposed into earth on



the slope.

According to BJRI, production cost of the mat is Tk 45/m<sup>2</sup>, comparatively cheaper than the synthesis mat, the cost of which is around Tk 120/ m<sup>2</sup>. Jute Geo-Textile is produced by joint venture company of BJRI and MAWTS (Private Company), and the factory is located in Parrobi in Milpur. The skill is quite useful because using Jute Geo-Textile for slope protection have merits from both economical and environmental aspect.

#### Felt Goods for Interior Material

Jute is also expected to use in the process of making interior decoration of vehicles. Instead of using plastic materials, an overseas subsidiary of Mercedes Benz use such natural materials as jute and coconuts fiber for interior materials of vehicle's door, roof, trunk room, front panel, etc. The technology is recommendable for activation of local economy and environmental reasons.

In addition to this, jute fiber is also used to strengthen plastic materials, and BJRI develop a skill to produce irrigation canal by mixing jute fiber and plastic materials. A durable year of the canal is about 10 to 15 years, and unit cost is estimated at Tk 120 to Tk 150 per meter. BJRI also develop a skill to produce capsule for medicine by using jute fiber.

The problem is that jute is not attractive crop for local farmer due to low price of the products. According to key informant survey carried out by JICA Study Team on March 2002, for example, per hector net income of jute in char area is Tk 7,000, while that of boro paddy, wheat, and sugar cane is Tk 16,800, Tk 7,300, and Tk 13,900 respectively. Poor communication and transportation among innumerable primary market, so called hat bazaar, and central region is another problem. There are so many small bazaar in the local area and communication infrastructure is not enough expanded. Jute bag making is recommendable activity for peoples in char area because jute is one of local resources in char area, and the production of jute bag doesn't required large investment, labor force, and space for production. Furthermore, villagers can engage the production even in monsoon season. However, it is difficult for villagers to access the new technology and to purchase qualified yarn at local market. According to our interview survey to BJRI, the institute have a strong will to extend the skills for jute bag production to local peoples. When BJRI extend their know how to local peoples through extension workers, they have to establish support system, especially for procurement means of jute yarn.

## **2.2 Gurai Gram**

### **2.2.1 Regional Development Budget**

According to Gurai Union, regional development budget under Annual Development Program (ADP) is 660,000Tk in 2001/02. ADP expenditure is composed by major 4 sectors, which are communication, education, agriculture, and physical infrastructure. Sector priority for regional development in Gurai Union is based on the national strategy for regional development. Ten years trend of regional development expenditure, including ADP expenditure in Gurai Union is presented

in the table below.

Table G.2.6 Regional Development Expenditure (actual)

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02
ADP Expenditure	450,000	550,000	550,000	616,000	616,000	660,000	616,000	660,000	1,650,000	660,000
General Education Project (Tk)	840,000	560,000	890,000	480,000	840,000	360,000	1,250,000	150,000	155,000	-
Food for Work (t)	47	42	55	50	47	40	60	67	90	65
Rural Development Project	-	-	-	-	-	-	-	ADB 3,700,000	ADB 4,500,000	-
NGO, Foreign Aid, etc. (Tk)	-	-	-	-	-	-	-	-	USAID (FPP) 5,591,000	USAID (FPP) 3,800,000

Source: Gurai Union, collected by Nikli Upazila Office.

In 2001/02, Gurai Union also received Food For Work (FFW) for road rehabilitation, from central government. The amount of FFW is estimated at 65 metric ton.

## 2.2.2 Local Finance

In 2001/02, revenue of Gurai Union is estimated at 474,200Tk. The revenue is composed by union tax, hat bazaar tax, license permission, ferry ghat, and tax arrear. Following table shows amount and structure of revenue in Gurai Union.

Table G.2.7 Amount and Structure of Revenue in 2001/02

Items of Revenue		Amount (Tk)	Items of Revenue		Amount (Tk)
1	Union Tax	135,000 (28.5%)	4	Ferry Ghat	38,000 (8.0%)
2	Hat Bazaar	50,000 (10.5%)	5	Tax Arrear	250,000 (52.7%)
3	License Permit	1,200 (0.3%)	Total	-	474,200 (100%)

Source: Gurai Union, collected by Nikli Upazila Office.

Union tax is a tax on personal properties, both movable and immovable. Based on the quantity and quality of personal properties, Union Palishad estimates the rate of tax from house to house, and makes a list for tax collection. Those properties as television, refrigerator, generator, furniture, boat, rickshaw, block cart, cooking tool, and livestock are categorized into movable properties. On the other hand, land, house, pond, and tube well, etc. are considered to be immovable household properties. In general, amount of Union Tax, which imposed on individual household, is estimated at 10 to 700Tk/household/year.

Based on the list for tax collection, prepared by Union Palishad, so called “Tax Collector” collect the Union Tax. Union Chairman appoints several people for tax collector who know well about regional society and local conditions. The tax collector can receive 15% of collected tax for remuneration. Flood season is the farmer’s leisure season, therefore, the tax collector start to their works in this season. But it is said that collection of union tax from individual household is quite difficult, because the most of villagers are poor, and they do not want to pay the tax positively. In 2001/02, about 40% of the revenue of Gurai Union is tax arrear.

Following table shows amount and structure of expenditure of Gurai Union. Main items of expenditure in the union are staff payment including staff arrear payment (45.6%), Unon Palishad member honorarium (33.5%), and Tax Collection Commissioner (6.7%), and chairman honorarium (6.0%). Accordingly, the most of the expenditure of Union budget is the payment for administrative relatives in the Union.

Table G.2.8 Amount and Structure of Expenditure in 2001/02

Items of Expenditure		Amount (Tk)	Items of Expenditure		Amount (Tk)
1	Chairman Honorarium	18,000 (6.0%)	5	Contingency (Office)	12,000 (4.0%)
2	Staff Payment (Inc. Staff Arrear Payment)	137,292 (45.6)	6	Tax Collection Commissioner	20,250 (6.7%)
3	Festival Allowance	12,460 (4.2%)			
4	UP Member Honorarium	100,800 (33.5%)	Total	-	300,802 (100%)

Source: Gurai Union, collected by Nikli Upazila Office.

### 2.2.3 Occupation

Economy of Haor area is characterized for monoculture, specifically, single crop culture of Boro paddy. In dry season, around 80% of labor force in Gurai Union is engaged in agricultural works, however, nobody can engage in agricultural activities during flood season. As for fishery, 500 people engage in dry season, and the number increase to twice in flood season. Unemployment rate in Gurai Union is estimated at 7% in dry season, and it becomes 80% in flood season.

Table G.2.9 Assumed number of economically active population

	Dry Season		Flood Season	
(1) Agriculture				
Owner farmer	5,000	(36.6%)	-	
Tenant farmer	3,000	(22.0%)	-	
Agricultural labor	3,000	(22.0%)	-	
Fishery	500	(3.6%)	1,000	(8.0%)
(2) Non-agriculture				

Processing	-	-
Sales	300 (2.2%)	500 (4.0%)
Transportation	450 (3.3%)	500 (4.0%)
Handicraft	-	-
Wage labor	200 (1.5%)	250 (2.0%)
Public officer	200 (1.5%)	200 (1.6%)
Jobless	1,000 (7.3%)	10,000 (80.4%)
Others	-	-
(3) Total	13,650 (100%)	12,450 (100%)

Source: Gurai Union, collected by Nikli Upazila Office.

## 2.2.4 Market

There is only one bazaar in Gurai Union, and is not opened in officially at the time of field survey, conducted on March 2002. Bazaar Committee, composed by 270 members, owns Gurai Noya (New) Bazaar, and union chairman heads the committee. Every Friday is the hat day and there are some shop owners already start their business in advance of open in officially. Followings are market profile in the Gurai Union.

Table G.2.10 Market Profile in the Gurai Union

Name	Gurai Noya Bazaar
Place	Gurai
Distance (km) from UP	0.1km
Area (m <sup>2</sup> )	18,000m <sup>2</sup>
Owner	Bazaar Committee
Frequency (times/week)	Once per week
Number of user	4,500
Number of tenant	N.A
Tenant Fee	N.A
Taxation system	N.A

Source: Gurai Union, collected by Nikli Upazila Office.

Before Gurai Noya bazaar, villagers have to go to neighboring market such as Hirchia (1.5 km away from Gurai) and Bajitpur (8 km) to sell their agricultural products, in many case through middleman, and to buy daily necessities of life, farming imputes, and livestock, etc. Now, middleman so called “Paikari”, and a little number of shopkeeper start to transport such commodities as food and other daily necessities to Gurai Noya bazaar. They bring it from neighboring markets, such as Hirchia, Nikli, Kotiadi, and Bajitpur. It is expected that about 150 shops newly open in the Gurai Noya bazaar, and it may generate new employment opportunities for villagers.

Products in the study area are rice, wheat, chilly, tomato, garlic, onion, potato, pumpkin, beans, cucumber and ground nuts for agricultural products, and cattle, goat, chicken, duck, chicken egg, duck egg and milk for products of livestock, and Rui, Baila, Puty Carp, Katula, Silver Carp, Milka, Pangash, Balm, Boul, Shrimp and club (Tangra) for fishery products. Most of the products for selling are shipped to local bazaar, such as Gurai new bazaar, Hirchia bazaar (1.5 km), and market in Bajitpur (8 km) and Kishoreganji (35 km), through middleman, or sold directly by farmers.

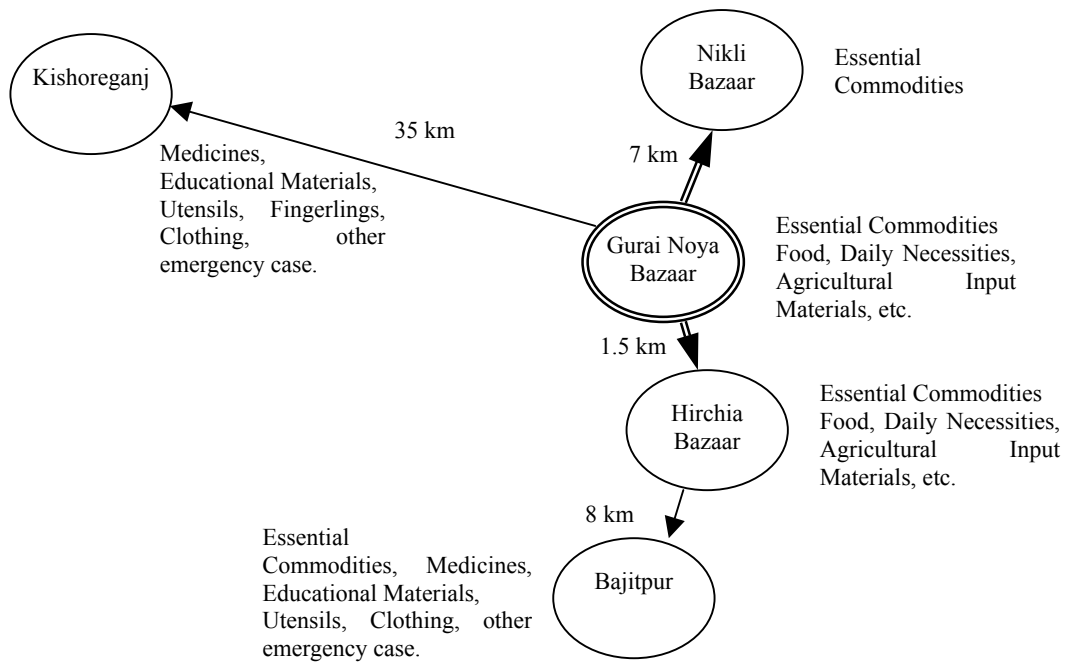


Figure G.2.2. Venn Diagram of Market/ Bazaar Location (Gurai Gram)

Most of agricultural input materials, such as seed, fertilizer, manure and insecticide, are available in Gurai Noya bazaar and Hirchia bazaar, and farmers living in the study area are purchasing those materials from the local market directly. Bangladesh Agricultural Development Corporation (BADC) also supplies HYV Boro's seed to villagers, the price is 12 to 15 Tk/kg, and is a little higher than retail price at local bazaar (10 to 12 Tk/kg). As for fishery production, fingerling of such species as Lui, Milka, Katra, Putty carp, Silver carp, Baila, Boul, shrimp and club (Tangra) are available in the Kishoreganj (35 km away from study area) or Bhairab Bazaar (26 km). Oil cake, paddy husk and urea are used for feed source in this area, and farmer buys it from villager and/ or local bazaar/ market in Hirchia, Bajitpur and Sararchar (7 km).

Some amount of rice are consumed by farmers themselves, however, almost all of rice produced in the study area is sold. Farmer sells their paddy products, in case of HYV Boro, at 6 Tk/kg to their landowner or middleman. Weight of paddy reduced to about 68% when the paddy milled to rice, therefore, price of paddy at farm gate is equivalent to 9 Tk/kg of rice. On the other hand, retail price of Boro rice at local bazaar is around 15 Tk/kg. Shipping cost, including cost for parboiling, drying, milling and transportation, is estimated at 6 Tk/kg, and retail price of Boro rice is around



1.7 times of farm gate price in the study area. According to key informant survey, conducted by JICA Study Team on March 2002, average cost of parboiling is 0.12 Tk/kg, and average drying and milling cost are 0.25 Tk/kg and 0.2 Tk/kg respectively, remaining 5.13 Tk/kg, 36 % of retail price of Boro rice, is considered to be profits, including transportation cost, of parboiling facility's owner and/or local traders.