CHAPTER 3 ECONOMIC EVALUATION

3.1 General

Economic analysis is carried out for the purpose of evaluation for economical adequacy of the proposed projects both in the Char and the Haor areas. Economic analysis aims at assessment of the projects in view of contribution to the national economy, and is carried out based on economic prices. Financial analysis, on the other hand, aims at assessment of the profitability of individual household economies, and is carried out based on market prices, so called financial prices. Economic prices are converted from financial prices with application of conversion factor.

The project will give rise to many kinds of tangible and intangible, direct and indirect impact. In general, direct and tangible impact is quantitatively estimated as the benefits and, in comparison with the project costs, such economic indicators as Net Present Value (NPV), Benefit/Cost Ratio (B/C Ratio) and Economic Internal Rate of Return (EIRR) are calculated. These three criteria can be summarizing as follows;

NPV = Discounted benefits – Discounted costs

B/C Ratio = Discounted benefits / Discounted costs

IRR = such discount rate as [Discounted benefits = Discounted costs]

(NPV = 0, B/C Ratio = 1)

The purpose of economic analysis is to assess total impact to the national economy. Therefore, all projects and activities proposed in the model project, both flood proofing project and livelihood development activities, are the target of this analysis.

3.1.1 Net Present Value (NPV)

NPV is defined as the present value of net incremental benefit, namely total benefit minus total cast at present value is NPV. If the NPV is more than zero, the project is economically feasible. Following is the formula to calculate NPV.

$$NPV = \sum_{t=1}^{n} \frac{B_t}{(1+i)^t} - \sum_{t=1}^{n} \frac{C_t}{(1+i)^t}$$

If NPV > 0, the project is feasible.

3.1.2 Benefit-Cost Ratio (B/C Ratio)

B/C Ratio is the ratio obtained when the present value of total benefit is divided by the present value of total cost in a cash flow sheet. If the B/C Ratio is more than 1, the project is economically feasible. The formula is as follows;

$$\text{B/C Ratio} = \sum_{t=1}^{n} \frac{B_t}{(1+i)^t} \div \sum_{t=1}^{n} \frac{C_t}{(1+i)^t}$$

If B/C Ratio > 1, the project is feasible.

3.1.3 Internal Rate of Return (IRR)

For the calculation of NPV and B/C Ratio, it is necessary to decide the discount rate in calculating these criteria and the result of calculation differ by applying different discount rates.

Setting discount rate is a crucial issue since it strongly affects the result of evaluation as above. As for Internal Rate of Return (IRR), it is defined as the ratio to make the present value of total benefit equal to the present value of total cost. In another word, IRR is the discount rate to make NPV = 0, or B/C Ratio = 1. The formula is as follows;

$$\text{When,} \quad \sum_{t=1}^{n} \frac{B_t}{(1+i)^t} - \sum_{t=1}^{n} \frac{C_t}{(1+i)^t} = 0 \qquad i = IRR$$

$$\text{Or,} \quad \sum_{t=1}^{n} \frac{B_t}{(1+i)^t} = \sum_{t=1}^{n} \frac{C_t}{(1+i)^t} \qquad i = IRR$$

If IRR > Opportunity cost, the project is feasible.

Procedure of calculating IRR is a trial and error process. Firstly decide a discount rate randomly and calculate NPV. If the NPV is more than 0, apply higher discount rate and calculate NPV again, and if NPV is minus, apply lower discount rate. By repeating this process, IRR will be found out. If it is a big amount of investment, NPV is not necessarily exactly zero but approximate. Following table shows the process of calculating IRR.

3.2 Basic Evaluation Criteria

Basic evaluation criteria, such as opportunity cost of capital, Standard Conversion Factor (SCF) and Shadow Wedge Rate (SWR), adopted in this analysis is based on that stipulated in the Flood Planning Coordination Organization's Guidelines for Project Assessment (hereinafter called as "FPCO's GPA") prepared for the Flood Action Plan (FAP) in May 1992, and that stipulated in the "Estimation of Economic Prices of Selected Products for Use in Valuation of Water Management Projects in Bangladesh", published in March 1998 by Dr. Q Shahabuddin and Iqbal Ahmed Syed, updating version of FPCO's GPA (hereinafter called as "Updated GPA").

Basic criteria in above mentioned guidelines have been applied for water sector projects in Bangladesh by Government of Bangladesh and foreign donor agencies since it was established. National Water Management Plan Project (NWMPP) Study, managed by Water Resources Planning Organization (WARPO) also applied these criteria. Basic evaluation criteria adopted in this analysis are mentioned below.

3.2.1 Project Life

Project Life is set at 30 years considering utility life of the proposed facilities, except for Raised Hand Tubewell and Parboil Plant Operation. The project life of Raised Hand Tubewell and Parboil Plant Operation is set up by considering utility life of the main equipment, and is estimated at 15 years respectively.

3.2.2 Opportunity Cost of Capital

12%, as in the FPCO's GPA, is applied in this economic analysis. The rate stipulated in the FPCO's GPA was established in 1992, but has been used by GOB and foreign donor agencies for projects in this country, and is still standard rate.

3.2.3 Pricing basis

All costs and benefits in this analysis have been expressed on a constant 2001/2002-price basis. Wholesale and consumer price index, and unit price index for major import and export items, derived from "Statistical Bulletin Bangladesh", published by Bangladesh Bureau of Statistics, are applied for the updating of historic costs and benefits to 2001/2002 levels.

3.2.4 Standard Conversion Factor (SCF)

0.90, as in the Updated GPA, is applied to convert financial prices to economic prices in this economic analysis. Other conversion factors such as engineering works, construction materials, agricultural inputs and outputs are derived from the FPCO's GPA and Updated GPA, and are shown in the annex.

3.2.5 Shadow Wage Rate (SWR)

The normal wage rate is applied for the financial analysis. In case economic analysis, SCF (0.90) is applied for skilled labor. SWR for unskilled labor, on the other hand, 0.84, as in the Updated GPA, are applied in the analysis.

3.3 Project Cost

Purpose of the economic analysis is to assess economical adequacy of the proposed projects in view of national economy, therefore, project costs accumulated in this analysis is the total cost including both flood proofing projects and support services for livelihood development. Project costs comprise direct and indirect cost, and annual operation and maintenance cost. Economic costs of the proposed projects are converted from financial prices by applying conversion factor.

The projects costs in economic terms are estimated at Tk 3,361,000 in Algar Cha gram, and Tk 13,746,000 Gurai gram. Annual operation and maintenance costs both in Algar char Gram and Gurai Gram are estimated at Tk 92,970 and Tk 207,000 respectively. In addition to these figure,

initial investment costs and annual O&M costs for livelihood development activities are considered in the economic analysis, so that evaluating total impact on national economy. As a total, the project costs both Algar char gram and Gurai gram are Tk 4,000,000 and Tk 14,410,000 respectively. Annual O&M cost used in the total evaluation are Tk 512,400 in Algar Char gram and Tk 3,107,000 in Gurai gram.

3.4 Project Benefit

(1) Algar char Gram

The project will give rise to many kinds of tangible and intangible, direct and indirect benefits. Tangible benefits are those that can be expressed in monetary terms. Following are expected benefit derived from implementation of the proposed projects.

Table G.3.1 Expected Benefits Generated by Proposed Model Projects (Algar Char gram)

Project Component	Project Purpose	Expected Benefit
Homestead Raising	· Providing safe living space, designed against 1998 flood level	·Flood damages on human life, household property and livestock, up to 1998 flood level, are mitigated ·Living in peace mind whole year round, up to 1998 flood level (Beneficially; 61 households)
Scholl Ground Raising	· Providing sheltering place against 1988 flood level, and safe life during flood season	·Flood damages on human life, household property and livestock, up to 1988 flood level, are mitigated (Beneficially; 255 households and their livestock)
Approach Road to School	·Providing refuge place against 1988 flood level	·Flood damages on human life, household property and livestock, up to 1988 flood level, are mitigated (Beneficially; 255 households and their livestock)
Raised Hand Tubewell	·Improving health condition and personal hygiene	·Safety drinking water is provided ·Number of people suffering from diarrhea and dysentery are decreased (Beneficially; 37 households)
Flood Warning and Evacuation System	·Providing safe life during flood season	·Flood damages on human life, household property and livestock are mitigated (Beneficially; all villagers)
Homestead Gardening Promotion with Health and Nutrition Education	· Improving nutrition status especially for women and children	·Infant mortality and maternity death are decreased ·Easy to gain additional nourishment source
Poultry Promotion (chicken)	·Improving nutrition condition	·Income generation (Tk 150,000 per year) ·Easy to gain additional nourishment source (Beneficially; 50 households)
Skill Training on Handicraft	·To increase options for income generating activities · To increase employment opportunities in flood season	·Income generation (Tk 81,560 per year) ·Status of women is improved ·Job opportunity is increased (Beneficially; 10 villagers)
Mulberry Plantation for Sericulture Promotion	·Income generation	·Income generation (Tk 131,900 per year) ·Job opportunity is increased (20 households)
Saving and Credit Scheme	·To help poor people to start income generating activities	·Insurance against unexpected events such as flood damages are established ·Common fund for income generation and flood proofing activities is established

a) Homestead Raising

Purpose of the project is to provide safety living space to villagers, and to mitigate flood damages on their houses and household properties. Beneficiary of the project is 61 homesteads/ household located in three paras in Algar char Gram, Mokbul Baparie para, Aklas Member and Samad Fokir para, Joynal Member and Hasen Khalifa para. Through implementation of the project, flood damage up to 1998 flood level (1/20 flood probability) will be mitigated. Steps for calculating the project benefit are summarized as follows.

First, flood damage record on village house, household properties, and homestead mounds are collected from villagers through questioner survey. Second, based on the damage records in the benefited para, correlation between amount of damages and flood probability are analyzed. Third, amount of flood damages up to 1/20 flood probability are accumulated, and then, annual flood damage are estimated. As a result, annual flood damages on village house, household properties, and homestead mounds are estimated at Tk 2,930 in economic term.

b) School Ground Raising

School ground will be raised to develop as refuse place for about 1,500 villagers (255 households) and their livestock. Height of the ground is enough safe up to 1988 flood level, 1/100 flood probability. Beneficially of the project are those villagers living in Aklas Member and Samad Folir Para, Mokbul Baparie Para, Joynal Member and Hasen Khalifa Para, and their neighbors. The project benefit generated by the project is amount of mitigated damages on livestock. Steps for calculating the project benefit are summarized as follows.

First, flood damage record on livestock is collected from villagers through questioner survey. Second, based on the damage records in the benefited para, correlation between amount of damages and flood probability are analyzed. Third, amount of flood damages up to 1/100 flood probability are accumulated, and then, annual flood damage on livestock are estimated. As a result, annual flood damages on villager's livestock is estimated at Tk 317,000 in economic term.

In cease, the beneficially take another mitigation measures against 1988-flood level, for example, raising their homestead area by themselves and individually, the cost for raising homestead is estimated at Tk 21,000 per household. Total cost of the case is estimated at Tk 4,700,000 in financial price, above three times larger than Tk 1,301,000, total cost of raising school ground and approach road to the school.

c) Approach Road to School, and Flood Warning and Evacuation

Approach road to raised school will be used for refuse place for neighboring villagers. The project benefit is difficult to separate from those of raising school ground, and is included in the school project. Flood warning and evacuation is carried out to support villager's safety evacuation, and the benefit is also included in the school ground-raising project.

d) Raised Hand Tubewell

Purpose of the project is to reduce water supply coverage rate up to national level of 75 people per tubewell. In this analysis, number of villagers under the out of coverage rate, 37 household in Algar char Gram, is defined as people who cannot access safety water. The amount of water demand from these villagers in economic price is estimated at Tk 2,700 per annum.

Safe water, which used as drinking, washing, and cooking purpose, is much important in view of keeping and improving personal health and hygiene condition. Many of villagers have used washing water from pond near their homestead area at present. The pond water is sometimes polluted by disease-causing bacterium, parasitism and virus, and it may cause diarrhea. Diarrhea is one of main causes of high infant mortality, and force patient to spend much time and money. The project will help to reduce the incidence of water-borne disease and will have positive impact on health and personal hygiene. However, this sort of benefit is difficult to express in the monetary term, and is not included in the project benefit.

e) Support Services for Livelihood Development

4 types of support services are proposed in Algar char Gram, which are home gardening promotion, poultry promotion, skill training on handicraft, and sericulture promotion. Through these service activities for livelihood development, villagers will be able to gain profit to improve their living standard. It is likely that with increase household income, per capita expenditure on nutritious food, sanitation and health care will increase. All these together will have positive impact on life expectancy, particularly on the reduction of infant and child mortality.

On the other hand, villagers themselves have to manage to raise annual operation and maintenance fund of the proposed flood proofing projects. The profit from livelihood development activities also enables villagers to participating and keeping flood-proofing activities. Total amount of annual net benefit is estimated at Tk 363,500 in financial price.

Promotion of home gardening would contribute to ensure minimum caloric intake for vulnerable population. Increase of household income would be accompanied by increase of expenditure for food, and is directly correlated with nutritional status. With increased per capita income, the extent of child malnutrition such as stunting, wasting and underweight would be decline.

(2) Gurai Gram

The project will give rise to many kinds of tangible and intangible, direct and indirect benefits. Tangible benefits are those that can be expressed in monetary terms. Following are expected benefit derived from implementation of the proposed projects.

Table G.3.2 Expected Benefits Generated by Proposed Model Projects (Gurai gram)

Project Component	Project Purpose	Expected Benefit
Wave Protection Plan	· Mitigating damages of wave action ·Providing safe living space	·Damages on homestead mounds are mitigated ·Villagers who have to migrate other place can stay in the village (Beneficially; 140 households)
Hand Tubewell	·Improving health condition and personal hygiene	·Safety drinking water is provided ·Number of people suffering from diarrhea and dysentery are decreased (Beneficially; 1,311 households)
Flood Warning and Evacuation System	·Providing safe life during flood season	·Flood damages on human life, household property and livestock are mitigated (Beneficially; all villagers)
Technical Extension of Fish Culture Development Utilizing Borrow Pit	· To assure livelihood of local small fishermen	·Fishermen's income are increased (Tk 19,500 per year)
Poultry Promotion (duck)	·Improving nutrition condition	·Income generation (Tk 14,000 per year) ·Easy to gain additional nourishment source
Training on Entrepreneurship and Business Management for a Parboiling Plant Operation	· To increase employment opportunities in flood season	·Income generation (Tk 170,000 per year) ·Job opportunity is increased (28 labors, including temporary labor)
Home Gardening Promotion with Health and Nutrition Education	· Improving nutrition status especially for women and children	·Infant mortality and maternity death are decreased ·Easy to gain additional nourishment source
Nursery Development for Social Forestry	·Improving natural environment as well as augment resources	·Income generation (Tk 36,000 per year) (Beneficially; 30 households)
Saving and Credit Scheme	· To help poor people to start income generating activities	·Insurance against unexpected events such as flood damages are established ·Common fund for income generation and flood proofing activities is established

a) Wave Protection Plan

The mound protection project is planned to protect village mound from wave action that occurred in rainy season, and to provide villagers safety living space. In spite of villager's effort to protect mound erosion by their traditional way, which is estimated at Tk 1,360 per household, eastern side of the village mound in Gurai Gram has been eroded year by year. The village mound is the only space for living in safe through whole year in Hoar area. In other ward, villagers could not keep their social, economical, and political life unless there are no mounds in this area. The price of land

speaks eloquently the strict situation; farmland (low land) price is estimated at Tk 74 per m2, while price of homestead area is estimated at Tk 250 per m2, about 3 times higher than the farmland price.

Eastern edge of village mound in Gurai gram have been eroded 1 m per a year. As a total, 43,890 m^2 of homestead area will be disappeared after 30 years. Economic value of those homestead area is assessed at Tk 7,725,000 in financial price, and amount of property losses including villager's houses, tubewells, one primary school and three historical buildings, is estimated at Tk 10,621,500.

In addition to this, the damages on economic activities caused by 140-household migration are considered in the project benefit. Economic activities of 140-households are substituted for Boro paddy production. Around 75 ha of paddy field is assumed to be cultivated by the beneficially, and value of output at yield of 6.2 t/ha is estimated at Tk 3,045,000. Amount of production excluding inputs cost is estimated at Tk 2,116,000, and value added in processing process including parboiling, drying, and milling process, is estimated at Tk 1,294,000. As a result, total benefit of wave protection plan is estimated at Tk 2,586,000 per year in financial term.

b) Raised Hand Tubewell

Purpose of the project is to reduce water supply coverage rate up to national level of 75 people per tubewell. In this analysis, number of villagers under the out of coverage rate, 483 household in Gurai Gram, is defined as people who cannot access safety water. The amount of water demand from these villagers in economic price is estimated at Tk 86,400 per annum.

Safe water, which used as drinking, washing, and cooking purpose, is much important in view of keeping and improving personal health and hygiene condition. Many of villagers have used washing water from pond near their homestead area at present. The pond water is sometimes polluted by disease-causing bacterium, parasitism and virus, and it cause diarrhea. Diarrhea is one of main reason of high infant mortality, and force patient to spend much time and money. The project will help to reduce the incidence of water-borne disease and will have positive impact on health and personal hygiene. However, this sort of benefit is difficult to express in the monetary term, and is not included in the project benefit.

c) Support Services for Livelihood Development

There are 5 types of support services proposed in Gurai Gram, which are Technical Training on Fish Culture Utilizing Borrow Pit, Poultry Promotion (duck), Training on Entrepreneurship and Business Management for a Parboiling Plant Operation, Home Gardening Promotion with Health and Nutrition Education, and Nursery Development for Social Forestry.

Through these service activities for livelihood development, villagers will be able to gain profit to improve their living standard. On the other hand, villagers themselves provide annual operation and maintenance cost of the proposed flood proofing projects. The profit from livelihood development

Promotion of home gardening would contribute to ensure minimum caloric intake for vulnerable population. Increase of household income would be accompanied by increase of expenditure for food, and is directly correlated with nutritional status. With increased per capita income, the extent of child malnutrition such as stunting, wasting and underweight would be decline.

3.5 Evaluation Results

(1) Algar char Gram

Economic analysis is carried out on the basis of the proposed projects, which are expected to generate direct and tangible benefits. Economic validity of the projects is assessed on the basis of three criteria, Net Present Value (NPV), Benefit/Cost Ratio (B/C Ratio) and Economic Internal Rate of Return (EIRR). The results of the analysis are summarized below.

Table G.3.3 Result of Economic Analysis (Algar char Gram)

Project Component	N.P.V. (Tk.)	B/C	EIRR (%)
Homestead Raising	-286,467	0.76	10.0
Scholl Ground Raising, Approach Road to School, and Flood Warning and Evacuation	69,276	1.04	15.7
Raised Hand Tubewell	-1,869	0.83	9.3
Poultry Promotion (chicken)	425,337	1.51	32.2
Skill Training on Handicraft	274,249	1.22	36.9
Mulberry Plantation for Sericulture Promotion	178,056	1.20	19.1
Total	403,118	1.07	16.9

The above result shows that the proposed projects in Algar Char gram are economically feasible as a total. Result of economic analysis in view of EIRR is 16.9%, and B/C ratio at discount rate of 12% is 1.07. The opportunity cost of capital in Bangladesh is around 12%, and the results of total evaluation satisfy the evaluation criteria. The major benefit is generated by such livelihood activities as handicraft production, mulberry plantation and sericulture, and chicken rearing. Details of the economic analysis are shown in the Annex G.

All evaluation criteria for homestead raising shows negative figure; N.P.V indicate minus, B/C is less than one, and EIRR is less that opportunity cost of capital. It should be noted that economic analysis is good at evaluating those projects, which generate tangible benefit, however, there are so many intangible benefit/ impacts generated by flood proofing type projects. For example, security of life and peace of people's mind, generated by implementation of disaster mitigation project, is difficult to assess in monetary terms in general. Therefore, even if the result of economic analysis is not feasible, there are such cases that the project is evaluated from view of social aspect such as Basic Human Needs (BHN).

(2) Gurai Gram

Economic analysis is carried out on the basis of the proposed projects, which are expected to generate direct and tangible benefits. Economic validity of the projects is assessed on the basis of three criteria, NPV, B/C Ratio and EIRR. The results of the analysis are summarized below.

Table G.3.4 Result of Economic Analysis (Gurai Gram)

Project Component	N.P.V. (Tk.)	B/C	EIRR (%)
Wave Protection Plan	318,022	1.03	15.6
Hand Tubewell	148,727	1.79	38.7
Technical Training on Fish Culture Utilizing Borrow Pit	43,182	1.30	18.8
Poultry Promotion (duck)	27,466	1.37	23.7
Training on Entrepreneurship and Business Management for a Parboiling Plant Operation	876,547	1.06	45.0
Nursery Development for Social Forestry	22,489	1.07	15.7
Total	1,362,413	1.05	17.3

The above result shows that the proposed projects are economically feasible as a total. Result of economic analysis in view of EIRR is 17.3%, and B/C ratio at discount rate of 12% is 1.05. The major benefit is generated by wave protection plan, raised hand tubewell and parboiling operation. The opportunity cost of capital in Bangladesh is around 12%, and the results of total evaluation satisfy the evaluation criteria. Details of the economic analysis are shown in the Annex G.

Table G.3.5 Standard Conversion Factor (SCF) and other Conversion Factors

Item of Cost	Conversion Factor	Item of Cost	Conversion Factor	Item of Cost	Conversion Factor
Standard Coversion Factor (SCF) = 0.90					
Capital Cost Components		**Agricultural Inputs**		**Agricultural Outputs**	
Engineering Works		Labour	0.85	Pruducts	
Dredging	0.90	Draft Power	0.90	Tobacco	0.90
Earthwork	0.90	Seeds:* Paddy	1.00	Potato	0.90
Bank Protection (parmanent)	0.75	Wheat	1.00	Sweet potato	0.90
Slope Protection (hard)	0.75	Jute	0.90	Millet	0.90
Labour		Tobacco	0.90	Vegitables	0.90
Skilled Labour	0.90	Sugarcane	1.00	Spices	0.90
Unskilled Labour	0.84	Pulses	1.00	Others	0.90
Machinery/ Equipment/ Transport		Oilseeds	1.00	By-Products	
Transport/ Vehicle	0.61	Potato	0.90	Local rice straw	0.90
Machinery (nomal duty)	0.67	Sweet potato	0.90	HYV rice straw	0.90
Machinery (concessionary duty)	0.86	Millet	0.90	Wheat by-products	0.90
Engine, Pump and Accessories (pump motor)	0.77	Vegitables	0.90	Jute Sticks	0.90
Materials		Spices	0.90	Sugarcane by-products	0.90
Cement	0.71	Others	0.90	Pulse by-products	0.90
Steel (basic material)	0.73	Manure*	0.90	Oilseed by-products	0.90
Liner, Screen (metal products)	0.67	Pesticides*	0.90	Vegitable by-products	0.90
Bricks and Others	0.90	Miscellaneous**	0.90	Other by-products	0.90
Engineering and Administration	0.90				
Physical Contingencies	0.90				
O & M**	0.90				

Source: National Water Management Plan, Draft of Development Strategy, Volume 8, Annex J: Economics, August 2000, Water Resources Planning Organization.

Note: Standard Conversion Factor (SCF) and other Conversion Factors derived from "Estimation of Economic Prices of Selected Products for Use in Valuation of Water Management Projects in Bangladesh (WMP Economic Prices), March 1998", Dr. Q Shahabuddin and Iqbal Ahmed Syed.

* Conversion factors derived from NWMPP Study, Draft Development Strategy, August 2000, Water Resources Planning Organization

** Standard Conversion Factor (SCF)

Table G.3.6 Inflation Factors Based on the GDP Deflator and Foreign Exchange Rates

Year	GDP Deflator (1995/96 base)	Implied Inflation Rate (%)	Exchange Rate (Tk/ US$)
1989 ～ 1990	0.78	6.6	32.9
1990 ～ 1991	0.83	3.0	35.7
1991 ～ 1992	0.86	0.3	38.1
1992 ～ 1993	0.86	3.8	39.1
1993 ～ 1994	0.89	7.4	40.0
1994 ～ 1995	0.96	4.2	40.2
1995 ～ 1996	1.00	3.1	40.8
1996 ～ 1997	1.03	5.3	42.7
1997 ～ 1998	1.09	4.6	45.3
1998 ～ 1999	1.14	4.1	48.5
1999 ～ 2000	1.18	6.5	51.0
2000 ～ 2001*	1.22	3.2	53.8
2001 ～ 2002*	1.26	－	57.1

Source: Statistical Bulletin Bangladesh, February 2001, BBS

Note: GDP Deflator at 2000/01 and 2001/02 were estimated by regression analysis applying those figure from 1989/90 to 1999/00.
Exchange rate at 2000/01 and 2001/02 were actual exchange rate at the time of field survey.

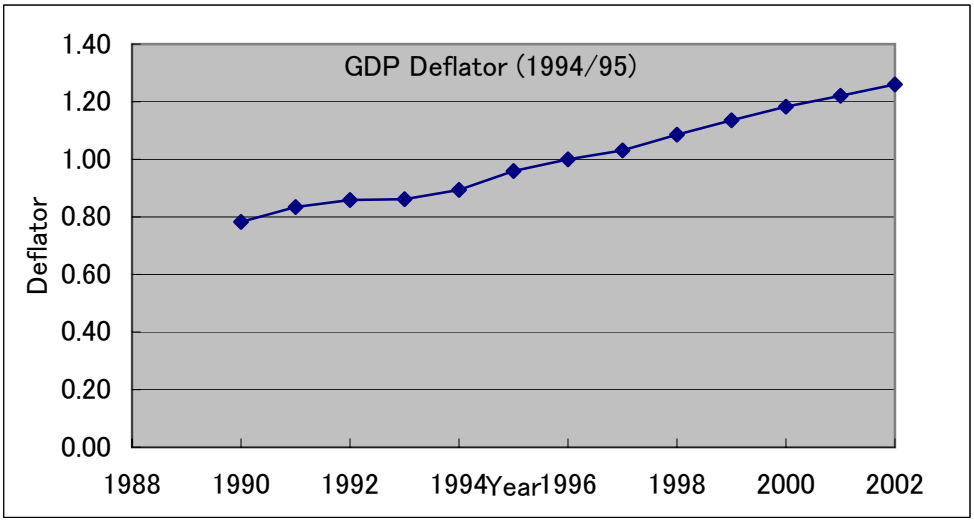


Table G.3.7 Implicit GDP and Sectoral Deflators (1) (base 1995/96 = 1.00)

Year	General	Agriculture and Forestry			Fishing	Mining & Quarrying	Manufacturing	Electricity		
		Crop & Horticulture	Animal Farmings	Forest & related services				Electricity	Gas	Water
1989 ～ 1990	0.78	0.83	0.83	0.75	0.67	0.72	0.82	0.94	0.69	0.79
1990 ～ 1991	0.83	0.92	0.85	0.84	0.68	0.78	0.87	0.96	0.79	0.82
1991 ～ 1992	0.86	0.93	0.88	0.89	0.69	0.85	0.90	0.97	0.82	0.82
1992 ～ 1993	0.86	0.77	0.90	0.90	0.80	0.95	0.93	0.98	0.87	0.91
1993 ～ 1994	0.89	0.80	0.93	0.91	0.88	0.97	0.95	0.98	0.92	1.00
1994 ～ 1995	0.96	0.98	0.97	0.97	0.96	1.00	0.97	1.00	1.00	1.00
1995 ～ 1996	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1996 ～ 1997	1.03	1.02	1.04	1.04	1.05	1.04	1.05	1.04	1.02	1.03
1997 ～ 1998	1.09	1.10	1.07	1.09	1.08	1.07	1.11	1.06	1.03	1.09
1998 ～ 1999	1.14	1.22	1.11	1.18	1.13	1.12	1.13	1.07	1.05	1.12
1999 ～ 2000	1.18	1.30	1.16	1.28	1.16	1.13	1.16	1.08	1.08	1.18

Source: Statistical Bulletin Bangladesh, February 2001, Bangladesh Bureau of Statistics

Table G.3.8 Implicit GDP and Sectoral Deflators (2) (base 1995/96 = 1.00)

Year	Construction	Wholesale & Retail Trade	Transport, Storage & Communication				Real Estate, Renting	Education	Health & Social Works	Community, Social & Personal Services
			Land Transport	Water Transport	Support services, Storage	Post & Tele Communication				
1989 ～ 1990	0.78	0.79	0.83	0.85	0.74	0.85	0.67	0.76	0.76	0.75
1990 ～ 1991	0.85	0.84	0.87	0.89	0.81	1.00	0.72	0.81	0.81	0.78
1991 ～ 1992	0.88	0.84	0.91	0.92	0.88	1.00	0.75	0.85	0.85	0.82
1992 ～ 1993	0.89	0.87	0.94	0.95	0.95	1.00	0.79	0.89	0.89	0.86
1993 ～ 1994	0.90	0.90	0.96	0.97	0.98	1.00	0.85	0.92	0.92	0.90
1994 ～ 1995	0.96	0.96	0.98	0.98	1.00	1.00	0.90	0.95	0.95	0.94
1995 ～ 1996	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1996 ～ 1997	1.02	1.01	1.02	1.02	1.05	1.00	1.04	1.04	1.04	1.05
1997 ～ 1998	1.06	1.08	1.04	1.04	1.05	1.00	1.09	1.11	1.11	1.13
1998 ～ 1999	1.10	1.11	1.06	1.05	1.07	1.00	1.16	1.17	1.17	1.19
1999 ～ 2000	1.15	1.14	1.08	1.07	1.07	1.00	1.21	1.24	1.24	1.24

Source: Statistical Bulletin Bangladesh, February 2001, Bangladesh Bureau of Statistics

Table G.3.9 Whplesale Price Index of Agricultural and Industriual Products (1969/70 = 1.00)

Year	Agricultural Products				Industrial Products					All Groups
	Food	Raw materials	Fuel	Total	Food	Raw materials	Fuel & lighting	Manufacturing	Total	
1995 ～ 1996	15.64	16.66	17.98	16.06	15.74	11.66	16.13	14.58	14.59	15.59
1996 ～ 1997	15.13	17.54	19.40	16.11	16.73	11.86	16.28	14.26	14.78	15.68
1997 ～ 1998	16.04	18.42	20.52	17.01	17.69	12.12	17.81	14.20	15.37	16.48
1998 ～ 1999	18.21	18.82	21.02	18.48	18.40	12.53	18.30	14.30	15.73	17.60
1999 ～ 2000	18.13	18.90	21.48	18.47	18.13	12.68	18.40	13.05	15.26	17.53

Source: Statistical Bulletin Bangladesh, February 2001, Bangladesh Bureau of Statistics

Table G.3.10 Consumar Price Index, All Rural (1985/86 = 1.00)

Year	General	Food beverage and tabacco	Non-food	Of which						
				Clothing and footwear	Gross rent fuel & lighting	Furniture furnishing household equipment and operation	Medical care and health expenses	Transport and communication	Recreation, entertainment, education s and	Misc. goods and services
1995 ～ 1996	1.92	1.90	1.95	1.52	2.03	1.66	2.43	2.29	2.49	1.83
1996 ～ 1997	1.96	1.92	2.04	1.60	2.15	1.76	2.39	2.33	2.64	1.90
1997 ～ 1998	2.10	2.06	2.19	1.66	2.30	1.96	2.44	2.45	2.82	2.11
1998 ～ 1999	2.28	2.29	2.28	1.72	2.40	2.02	2.58	2.49	3.05	2.18
1999 ～ 2000	2.37	2.38	2.34	1.78	2.44	2.06	2.72	2.68	3.14	2.23

Source: Statistical Bulletin Bangladesh, February 2001, Bangladesh Bureau of Statistics

Table G.3.11 Unit Price Index of Major Import Items (base: 1988-89 = 100)

Description of Items	Unit	Unit Price Index					
		1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
General Index	-	145.39	145.93	149.10	151.53	162.99	178.50
Vegitable Products	-	140.51	151.54	145.08	151.98	159.71	172.54
Ptato, Fresh (seed)	kg	110.08	106.54	114.16	121.77	127.85	134.21
Pulses (dal)	kg	73.22	163.06	173.71	192.58	202.73	212.08
Betal nuts fresh (dry)	kg	158.83	149.53	158.88	163.55	171.73	180.28
Fruits	kg	124.26	165.33	171.25	185.58	194.78	204.36
Spices	kg	121.39	130.25	149.29	152.17	162.85	170.89
Cereals	M. ton	147.80	141.03	142.31	148.33	155.72	169.41
Oil Seeds	kg	135.75	123.54	127.22	148.34	155.66	163.59
Prepared Food Stuffs	-	108.96	108.30	109.38	110.34	115.48	121.46
Sugars	-	107.43	106.02	107.14	108.13	113.51	119.28
Tabacco	-	122.76	128.86	127.54	130.18	133.01	141.11
Mineral Products	-	124.38	114.82	120.08	126.41	134.34	145.36
Lime stone for mfg. Of cement	M. ton	106.71	118.67	120.25	121.31	127.15	133.71
Cement	M. ton	92.52	91.88	92.18	92.53	97.14	131.50
Coal, bruquettes, ovoids	M. ton	118.33	117.90	118.02	118.38	123.97	137.48
Coke/ semi coke	M. ton	206.56	206.43	206.47	206.58	216.63	227.71
Tar distilled	M. ton	113.06	112.52	118.02	113.11	118.44	124.67
Petroleum and Products thereof	M. ton	130.11	120.74	124.93	132.30	141.05	148.05
Bitmen and Asphalt	M. ton	624.87	613.93	620.96	624.87	654.65	692.60
Products of the Chemicals or allied industries	-	110.66	149.03	156.45	141.90	151.48	152.19
Fertilizers	kg	80.91	94.56	96.77	98.48	103.15	107.13
Iron and Steels	M. ton	146.80	194.85	143.61	198.28	267.63	288.92
Pigiron	M. ton	168.75	198.73	224.65	259.21	257.56	284.48
Steel billets	M. ton	135.96	-	256.24	276.73	-	491.78
C.I. Sheet	M. ton	100.31	132.00	141.32	150.17	102.04	119.32
G.P. Sheet	M. ton	89.02	-	140.56	148.46	-	-
Other Iron and Steels	M. ton	162.16	208.79	209.64	213.92	290.15	302.89
Other articles of Iron and Steels	M. ton	109.03	135.04	139.18	141.44	144.65	155.84
Mechanical & E. machineries and parts	No.	222.44	152.18	156.28	157.24	151.53	194.98
Power Pumps	No.	467.13	424.00	451.50	481.00	-	515.73
Agricultural machineries	No.	153.82	154.44	146.74	155.38	-	162.94
Electrical Generators	No.	98.61	100.85	100.86	100.82	101.38	111.61
Transport Vehicles	-	81.56	116.92	126.20	162.12	121.53	136.36
Road Transports	No.	132.83	160.09	160.16	162.12	161.98	168.09
Ships/ Vessels stc.	No.	74.48	74.82	74.81	-	90.34	112.75

Source: Monthly Statistical Bulletin, February 2001, Bangladesh Bureauof Statisticas

Table G.3.12 Unit Price Index of Major Export Items (base: 1988-89 = 100)

Description of Items	Unit	Unit Price Index					
		1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
General	-	141.89	145.45	149.02	153.24	168.04	178.54
Fishes, Shrimps and Forglegs	kg	142.99	167.45	178.19	146.81	214.68	222.00
Forglegs	kg	-	-	-	-	-	-
Fishes	kg	127.05	128.49	110.17	125.65	139.14	320.51
Shrimps and prawns	kg	144.68	171.59	185.41	149.06	222.70	211.54
Fertilizers	kg	112.60	155.66	188.75	176.87	164.77	155.94
Raw Jute and Jute goods	-	124.77	110.41	117.69	133.84	128.98	140.68
Raw Jute	kg	100.40	44.47	90.75	110.08	119.18	98.28
Jute goods	-	132.21	115.28	125.92	141.10	131.98	153.63

Source: Monthly Statistical Bulletin, February 2001, Bangladesh Bureauof Statisticas

Table G.3.13 Estimation of Unit Price Index of Major Import Items (base: 1988-89 = 100)

Description of Items	Unit	Unit Price Index									Formula of Regression Analysis
		1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00*	2000-01*	2001-02*	
General Index	-	145.39	145.93	149.10	151.53	162.99	178.50	177.14	183.40	189.66	y = 6.2617x - 12340
Vegitable Products	-	140.51	151.54	145.08	151.98	159.71	172.54	172.73	178.20	183.67	y = 5.4731x - 10768
Prepared Food Stuffs	-	108.96	108.30	109.38	110.34	115.48	121.46	120.87	123.30	125.73	y = 2.4286x - 4733.9
Mineral Products	-	124.38	114.82	120.08	126.41	134.34	145.36	144.45	149.30	154.15	y = 4.8511x - 9552.9
Products of the Chemicals or allied industries	-	110.66	149.03	156.45	141.90	151.48	152.19	163.47	169.20	174.93	y = 5.7271x - 11285
Fertilizers	kg	80.91	94.56	96.77	98.48	103.15	107.13	112.77	117.30	121.83	y = 4.5309x - 8944.5
Iron and Steels	M. ton	146.80	194.85	143.61	198.28	267.63	288.92	304.90	333.00	361.10	y = 28.103x - 55873
Mechanical & E. machineries and parts (Electric Generators)	No.	98.61	100.85	100.86	100.82	101.38	111.61	109.00	110.90	112.80	y = 1.9014x - 3691.9
Transport Vehicles	-	81.56	116.92	126.20	162.12	121.53	136.36	156.75	166.00	175.25	y = 9.25x - 18334

Source: Monthly Statistical Bulletin, February 2001, Bangladesh Bureauof Statisticas

Note: 1999/00, 2000/01 and 2001/02 price was estimated by regression analysis applying those figure from 1993/94 to 1998/99.

Table G.3.14 Estimation of Unit Price Index of Major Export Items (base: 1988-89 = 100)

Description of Items	Unit	Unit Price Index									Formula of Regression Analysis
		1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00*	2000-01*	2001-02*	
General	-	141.89	145.45	149.02	153.24	168.04	178.54	181.91	189.20	196.49	y = 7.2926x - 14396
Fishes, Shrimps and Forglegs	kg	142.99	167.45	178.19	146.81	214.68	222.00	229.56	244.00	258.44	y = 14.439x - 28634
Fertilizers	kg	112.60	155.66	188.75	176.87	164.77	155.94	182.17	188.80	195.43	y = 6.6329x - 13077
Raw Jute and Jute goods	-	124.77	110.41	117.69	133.84	128.98	140.68	141.17	145.50	149.83	y = 4.326x - 8506.5
Raw Jute	kg	100.40	44.47	90.75	110.08	119.18	98.28	117.55	124.20	130.85	y = 6.6531x - 13182
Jute goods	-	132.21	115.28	125.92	141.10	131.98	153.63	150.47	155.40	160.33	y = 4.9251x - 9694.8

Source: Monthly Statistical Bulletin, February 2001, Bangladesh Bureauof Statisticas

Note: 1999/00, 2000/01 and 2001/02 price was estimated by regression analysis applying those figure from 1993/94 to 1998/99.

Table G.3.15 Export Price (F.O.B.) Per Unit of Selected Commodities (Tk)

Commodity	Unit	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00*	2000-01*	2001-02*
Raw Jute	Ton	13,538	11,930	10,502	10,333	9,693	9,316	11,301	9,137	10,089	12,067	12,750	13,432
Jute Manufactures													
(a) Hessian	Ton	24,074	25,641	23,562	26,914	27,316	23,592	24,505	25,000	29,660	29,050	30,002	30,954
(b) Sacking	Ton	16,545	19,789	18,227	17,342	17,607	17,673	24,505	25,000	29,660	29,050	30,002	30,954
(c) Carpet Backing Cloth	Ton	24,367	26,659	27,207	27,018	29,404	28,155	24,501	25,000	34,706	33,992	35,106	36,220
Tea	kg	57	52	53	58	61	60	63	86	88	90	93	97
Newsprint	Ton	-	-	-	-	-	-	-	-	-	-	-	-
Frozen Shrimp	kg	225	218	273	326	394	427	333	511	483	499	531	562
Frog Legs Fresh/ Frozen	kg	257	220	-	-	-	-	-	-	-	-	-	-

Source; "1999 Statistical Yearbook of Bangladesh", Bangladesh Bureau of Statistics, May 2001.

Note; F.O.B price of 1999-00, 2000-01 and 2001-02 ware estimated by applying unit price index.

Table G.3.16 Import Price (C.I.F.) Per Unit of Selected Commodities (Tk)

Commodity	Unit	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00*	2000-01*	2001-02*
Rice	Ton	5,785	5,740	6,644	8,566	8,385	8,529	8,999	9,428	11,627	11,640	12,008	12,377
Wheat	Ton	4,612	4,748	5,785	6,244	6,002	5,842	6,250	6,562	7,098	7,106	7,331	7,556
Raw Cotton	Ton	63,770	56,516	51,577	57,741	58,577	59,600	59,996	62,775	66,112	65,608	67,927	70,245
Soyabeen Oil	Ton	17,867	17,425	17,491	18,280	20,225	20,000	20,000	21,000	22,050	21,943	22,384	22,825
Cotton Yarn	kg	177	115	119	199	162	160	172	161	179	178	184	190
Cement	Ton	2,346	2,492	2,555	1,479	2,379	2,655	2,694	1,615	2,149	2,308	2,389	2,470
Pig Iron	Ton	7,104	5,995	7,130	9,493	8,254	8,560	15,002	15,713	16,462	17,373	18,974	20,575
Kerosene	Ton	9,243	8,665	8,100	8,370	6,478	6,882	8,300	8,720	9,150	9,080	9,401	9,722
Steel Billets	Ton	11,129	12,504	10,379	13,355	-	-	-	-	-	-	-	-

Source; "1999 Statistical Yearbook of Bangladesh", Bangladesh Bureau of Statistics, May 2001.

Note; C.I.F. price of 1999-00, 2000-01 and 2001-02 ware estimated by applying unit price index.

Table G.3.17 Price List of Agricultural Prosucts

		Retail Price			Market Price					Farm Gate Price			
		Dhaka	Rangpur	Sylhet	1st Market (Dhaka)	Gaibandha (Gaibandha)	Bodgal Bazzar (Bodgal Union)	Jigabari Bazzar (Erandabari Union)	Gurai New Bazzar (Gurai Union)	Char Area	Haor Area	Algar char Gram	Gurai Gram
		Jan, 2001			Oct, 2000	July, 2001	Feb, 2002	Mar, 2002	Mar, 2002	July, 2001	July, 2001	Mar, 2002	Mar, 2002
I. Crops													
LV Boro	Tk/kg				14～15		14.0	14.0	15.0	6.6	6.6		
HYV Boro	Tk/kg				14～15		14.0	14.0	15.0	6.7	6.7	7.4	6.0
LV Aman	Tk/kg	15.1	14.0	17.0	15～18		14.0	14.0	16.0	7.9			
HYV Aman	Tk/kg	(Boiled, Medium Quality)			15～18		14.0	14.0	16.0	8.0			
LV Aus	Tk/kg				12.0		14.0	14.0		6.5		7.3	
HYV Aus	Tk/kg				12.0		14.0	14.0		6.7			
Paddy Stick	Tk/kg							0.6	1.0	0.9	0.9	0.6	1.0
Rice husks	Tk/kg								5.0				
Wheat						7.5		8.8		8.6	8.6	8.2	
II. Vegetables and Fruits													
Pea	Tk/kg	11.3	8.0	10.0			5.0			4.1	4.1		
Ground Nuts	Tk/kg							10.0		4.6	10.0	10.0	
Cabbage	Tk/kg	8.8	5.0	10.0			5.0		5～6				
Cucumber	Tk/kg				20.0		8.0		5.0				
Wax Gourd	Tk/kg						5.0		5.0				
Pampkin	Tk/piece	7.7	4.0				40.0						
Bitter Gourd	Tk/kg	20.2		16.0	25.0		20.0		10.0				
Eggplant	Tk/kg				24.0		8.0						
Garlic	Tk/kg	35.1	40.0	40.0			40.0						
Herb	Tk/Bundle						2.0						
Herb (Lala)	Tk/Bundle						1.7						
Onion	Tk/kg	11.9	14.0	12.0			16.0	16.0				10.0	
Chilli (green)	Tk/kg						20.0		10.0				
Chilli (red)	Tk/kg	60.1	60.0	75.0			18.0	16.0					50.0
Potato	Tk/kg	8.5	8.0	12.0	15.0		5.0	4.0	5.0	4.9	4.9		
Sweet Potato	Tk/kg				20.0			4.0		12.1	12.1	1.5	
Radish (small, white)	Tk/kg				20.0		8 Tk/ 4piece						
Turnip	Tk/kg								5.0				
Tomato	Tk/kg	23.3	20.0	30.0			3.0		8～10				
Mastard	Tk/kg							15.0	15.0	17.4	17.4	10.0	
Olive	Tk/kg				25.0								
Banana	Tk/kg	8.2	5.0	14.0			8 Tk/ 12peace						

		Retail Price			Market Price					Farm Gate Price			
		Dhaka	Rangpur	Sylhet	1st Market (Dhaka)	Gaibandha (Gaibandha)	Bodgal Bazzar (Bodgal Union)	Jigabari Bazzar (Erandabari Union)	Gurai New Bazzar (Gurai Union)	Char Area	Haor Area	Algar char Gram	Gurai Gram
		Jan, 2001			Oct, 2000	July, 2001	Feb, 2002	Mar, 2002	Mar, 2002	July, 2001	July, 2001	Mar, 2002	Mar, 2002
III. Livestock													
Cattle	Tk/head					10,000.0						6,300～7,000	5,500～9,000
Beef	Tk/kg	79.3	70.0	80.0		100～110							
Goat	Tk/head					1,500.0	1500～2,000	700.0				700.0	
Goat meat	Tk/kg					150.0	150～200						
Chicken	Tk/head					40～50							
Chicken meat	Tk/kg	114.8	90.0	80.0		80～100			55～65				
Duck	Tk/head					50～60							
Egg (Chicken)	Tk/hali	13.4	12.0	16.0					10 Tk/ 4peace				
Egg (Goose)	Tk/hali	12.3	12.0	14.0					10 Tk/ 4peace				
Milk	Tk/kg	27.8	18.0	24.0				12.0					
IV. Fish													
Rui	Tk/kg	147.0	100.0	130.0	90.0	100～200						50.0	50～70
Irish	Tk/kg					80～200		120.0	8 Tk/peace			40.0	
Baila	Tk/kg							50.0	5 Tk/peace				40～70
Puty	Tk/kg	74.0	60.0	40.0		100～200		40.0				40.0	20～40
Chela	Tk/kg							80.0					
Bacha	Tk/kg							100.0					
Shrimp	Tk/kg					200.0			60～70				120～180
Club (Tangra)	Tk/kg												40～120
Katula	Tk/kg					200.0						40.0	50～60
Tangla fish	Tk/kg								60～70				
Gochi	Tk/kg								20～35				
Ali	Tk/kg								160.0				
Silver	Tk/kg											30.0	40～45
Pangash	Tk/kg												50.0
Bagna	Tk/kg								8 Tk/peace				
Buishamas	Tk/kg								5 Tk/peace				
Balm	Tk/kg												60.0
Boul	Tk/kg												60.0
Milka	Tk/kg								20 Tk/peace			30.0	50.0
Pabda	Tk/kg								300.0				
Dry fish (Peuwa)	Tk/kg								80.0				

		Retail Price			Market Price					Farm Gate Price			
		Dhaka	Rangpur	Sylhet	1st Market (Dhaka)	Gaibandha (Gaibandha)	Bodgal Bazzar (Bodgal Union)	Jigabari Bazzar (Erandabari Union)	Gurai New Bazzar (Gurai Union)	Char Area	Haor Area	Algar char Gram	Gurai Gram
		Jan, 2001			Oct, 2000	July, 2001	Feb, 2002	Mar, 2002	Mar, 2002	July, 2001	July, 2001	Mar, 2002	Mar, 2002
V. Seed													
HYV Boro	Tk/kg							8.0	10～17	11.0	15.0	8.0	10～17
LV Aman	Tk/kg							7.5		13.0		7.5	
Wheat	Tk/kg							13～20		10.0	16.0	13～20	
Jute	Tk/kg							50.0	70.0	44.0	71.0	50.0	70.0
Sweet potato	Tk/kg									4.0	4.0		
Mastard	Tk/kg							20.0	20.0	25.0	21.0	20.0	20.0
Ground Nuts	Tk/kg							40.0		31.0	33.0	40.0	
Sugar cane	Tk/kg							2.3		1.0	3.0	2.3	
Onion	Tk/kg							900.0				900.0	
Chilli	Tk/kg								60.0		64.0		60.0
VI. others													
Jute Stick	Tk/kg				12.0	12～20	20.0			8.1		8.0	8.0
Jute Stick	Tk/Bundle						100 Tk/15kg						
Bamboo stick	Tk/Bundle						70 Tk/bundle (8cm*10m*3peace)						
Bamboo stick	Tk/Bundle						20 Tk/bundle (4cm*6m*3peace)						
Fuel wood (Bamboo)	Tk/Bundle						3Tk/kg (150Tk/50kg)						
Fuel wood (Gajari tree)	Tk/Bundle						2.5Tk/kg (100Tk/40kg)						
Fuel wood (Mango tree	Tk/Bundle	2.1	2.0				3.3Tk/kg (50Tk/15kg)						
Fuel wood (Koros)	Tk/Bundle						1.3Tk/kg (50Tk/40kg)						
Fuel (Petrol)	Tk/l						28.0						
Fuel (Octane)	Tk/l						30.0						
Disel	Tk/l						19.0			18.0	15.0		
Cooking & lightning oi	Tk/l	20.0	18.0	16.0			19.0						
Chacor	Tk/kg						2～3						
Mastard oil	Tk/kg	55.0	64.0	60.0			48.0						
Sugar (cube)	Tk/kg	32.0	32.0	32.0			20.0						
Sugar (cube, brown)	Tk/kg	28.0	28.0	28.0			24.0						
Urea	Tk/kg							6.5	6.0	6.0	6.0	6.5	6.0
TSP	Tk/kg							12～15	12～14	14.0	14.0	12～15	12～14
MP	Tk/kg							9～10	10～16	10.0	10.0	9～10	10～16

Note: (1) Retail price of January 2001 is quated from "Statistical Bulletin Bangladesh, February 2001", Bangladesh Bureau of Statistics.

(2) Market price is collected at each market/ bazaar by JICA Study Team.

(3) Farm gate price of agricultural products both in the Char and Haor area is estimated in phase 1 study by JICA Study Team.

(4) Farm gate price of agricultural products both in the Algar char gram and Gurai gram is derived from "Key Informant Survey" conducted by JICA Study Team on March 2002.

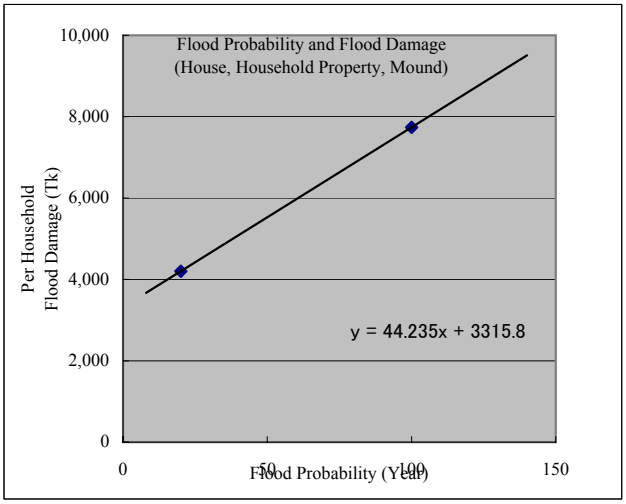
Table G.3.18 Per House Flood Damage in Flood 1988 and 1998 (Algar char Gram) (Financial Price)

Para Name	Flood 1988 (Flood Probability: 1/100)			Flood 1998 (Flood Probability: 1/20)		
	Amount of Damage (Tk)	Number of House	Total (Tk/H.H)	Amount of Damage (Tk)	Number of House	Total (Tk/H.H)
2 Mokbul bapari						
House	942,000	59	15,966	510,500	59	8,653
Household Property	36,200	59	614	18,500	59	314
Mound	90,000	59	1,525	157,000	59	2,661
Total	1,068,200		18,105	686,000		11,627
4 Aklas member/ Samad dokir						
House	156,000	238	655	157,000	238	660
Household Property	414,000	238	1,739	42,800	238	180
Mound	317,500	238	1,334	32,100	238	135
Total	887,500		3,729	231,900		974
5 Joynal member/ Hassan khalifa						
House	61,400	225	273	0	225	0
Household Property	100,140	225	445	0	225	0
Mound	149,800	225	666	0	225	0
Total	311,340		1,384	0		0
Average	755,680	0	7,739	305,967	0	4,200

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Table G.3.19 Assumed Per House Flood Damage Under Flood Probability 1/20 (Financial Price (Unit: Tk)

Year (X)	Y	Flood Damage
1	3,360	3,360
2	3,404	3,404
3	3,449	3,449
4	3,493	3,493
5	3,537	3,537
6	3,581	3,581
7	3,625	3,625
8	3,670	3,670
9	3,714	3,714
10	3,758	3,758
11	3,802	3,802
12	3,847	3,847
13	3,891	3,891
14	3,935	3,935
15	3,979	3,979
16	4,024	4,024
17	4,068	4,068
18	4,112	4,112
19	4,156	4,156
20	4,201	4,201
Total		75,605
Average		3,780



Number of houses to be rises = 61 houses

Project Benefit;

3,780 × 61 = 230,580 Tk/year

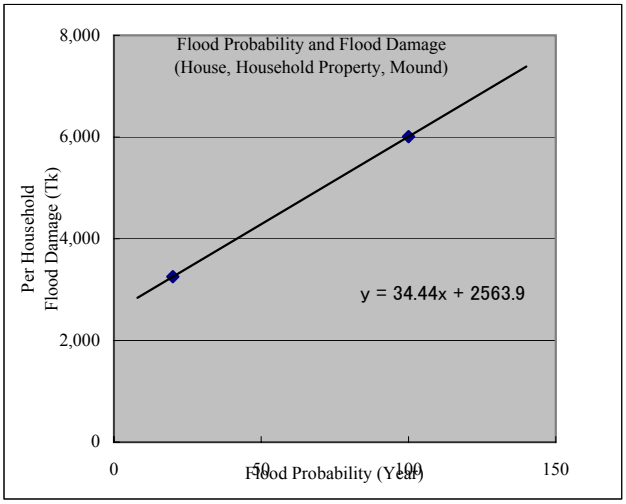
Table G.3.20 Per House Flood Damage in Flood 1988 and 1998 (Algar char Gram) (Economic Price)

Para Name	Flood 1988 (Flood Probability: 1/100)			Flood 1998 (Flood Probability: 1/20)		
	Amount of Damage (Tk)	Number of House	Total (Tk/H.H)	Amount of Damage (Tk)	Number of House	Total (Tk/H.H)
2 Mokbul bapari						
House	687,660	59	11,655	372,665	59	6,316
Household Property	32,580	59	552	16,650	59	282
Mound	81,000	59	1,373	141,300	59	2,395
Total	801,240		13,580	530,615		8,993
4 Aklas member/ Samad dokir						
House	113,880	238	478	114,610	238	482
Household Property	372,600	238	1,566	38,520	238	162
Mound	285,750	238	1,201	28,890	238	121
Total	772,230		3,245	182,020		765
5 Joynal member/ Hassan khalifa						
House	44,822	225	199	0	225	0
Household Property	90,126	225	401	0	225	0
Mound	134,820	225	599	0	225	0
Total	269,768		1,199	0		0
Average	614,413	0	6,008	237,545	0	3,253

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Table G.3.21 Assumed Per House Flood Damage Under Flood Probability 1/20 (Economic Price (Unit: Tk)

Year (X)	Y	Flood Damage
1	2,598	2,598
2	2,633	2,633
3	2,667	2,667
4	2,702	2,702
5	2,736	2,736
6	2,771	2,771
7	2,805	2,805
8	2,839	2,839
9	2,874	2,874
10	2,908	2,908
11	2,943	2,943
12	2,977	2,977
13	3,012	3,012
14	3,046	3,046
15	3,081	3,081
16	3,115	3,115
17	3,149	3,149
18	3,184	3,184
19	3,218	3,218
20	3,253	3,253
Total		58,510
Average		2,926



Number of houses to be rises = 61 houses

Project Benefit;

2,926 × 61 = 178,486 Tk/year

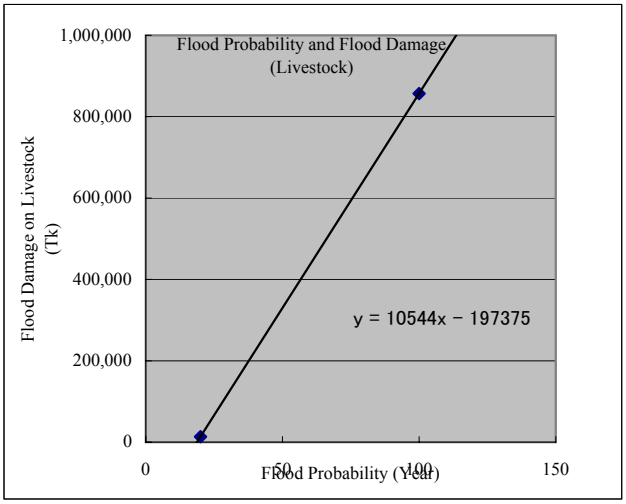
Table G.3.22 Flood Damage on Livestock in Flood 1988 and 1998 (Algar char Gram) (Financial Price)

Para Name	Flood 1988 (Flood Probability: 1/100)			Flood 1998 (Flood Probability: 1/20)		
	Unit Price (Tk)	Number	Amount of Damage (Tk)	Unit Price (Tk)	Number	Total (Tk/H.H)
2 Mokbul bapari						
Cattle	10,000	3	30,000	10,000	0	0
Goats	1,500	10	15,000	1,500	0	0
Sheep	1,500	0	0	1,500	0	0
Total			45,000			0
4 Aklas member/ Samad dokir						
Cattle	10,000	10	100,000	10,000	0	0
Goats	1,500	5	7,500	1,500	5	7,500
Sheep	1,500	3	4,500	1,500	4	6,000
Total			112,000			13,500
5 Joynal member/ Hassan khalifa						
Cattle	10,000	40	400,000	10,000	0	0
Goats	1,500	150	225,000	1,500	0	0
Sheep	1,500	50	75,000	1,500	0	0
Total			700,000			0
Total			857,000			13,500

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Table G.3.23 Flood Damage on Livestock Under Flood Probability 1/100 (Financial Price) (Unit: Tk)

Year (X)	Y	Assumed Amount
1	-186,831	
5	-144,655	
10	-91,935	
15	-39,215	
20	13,505	13,505
25	66,225	66,225
30	118,945	118,945
35	171,665	171,665
40	224,385	224,385
45	277,105	277,105
50	329,825	329,825
55	382,545	382,545
60	435,265	435,265
65	487,985	487,985
70	540,705	540,705
75	593,425	593,425
80	646,145	646,145
85	698,865	698,865
90	751,585	751,585
95	804,305	804,305
100	857,025	857,025
Total		7,399,505
Average		352,357



Project Benefit = 352,357 Tk/year

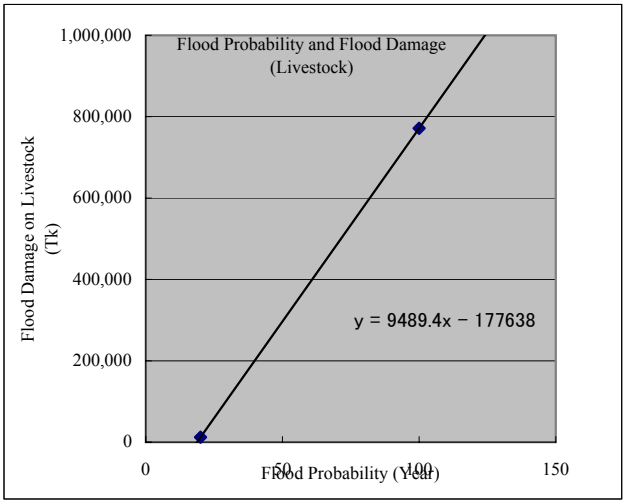
Table G.3.24 Flood Damage on Livestock in Flood 1988 and 1998 (Algar char Gram) (Economic Price)

Para Name	Flood 1988 (Flood Probability: 1/100)			Flood 1998 (Flood Probability: 1/20)		
	Unit Price (Tk)	Number	Amount of Damage (Tk)	Unit Price (Tk)	Number	Total (Tk/H.H)
2 Mokbul bapari						
Cattle	9,000	3	27,000	9,000	0	0
Goats	1,350	10	13,500	1,350	0	0
Sheep	1,350	0	0	1,350	0	0
Total			40,500			0
4 Aklas member/ Samad dokir						
Cattle	9,000	10	90,000	9,000	0	0
Goats	1,350	5	6,750	1,350	5	6,750
Sheep	1,350	3	4,050	1,350	4	5,400
Total			100,800			12,150
5 Joynal member/ Hassan khalifa						
Cattle	9,000	40	360,000	9,000	0	0
Goats	1,350	150	202,500	1,350	0	0
Sheep	1,350	50	67,500	1,350	0	0
Total			630,000			0
Total			771,300			12,150

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Table G.3.25 Flood Damage on Livestock Under Flood Probability 1/100 (Economic Price) (Unit: Tk)

Year (X)	Y	Assumed Amount
1	-168,149	
5	-130,191	
10	-82,744	
15	-35,297	
20	12,150	12,150
25	59,597	59,597
30	107,044	107,044
35	154,491	154,491
40	201,938	201,938
45	249,385	249,385
50	296,832	296,832
55	344,279	344,279
60	391,726	391,726
65	439,173	439,173
70	486,620	486,620
75	534,067	534,067
80	581,514	581,514
85	628,961	628,961
90	676,408	676,408
95	723,855	723,855
100	771,302	771,302
Total		6,659,342
Average		317,112



Project Benefit = 317,112 Tk/year

Table G.3.26 Approximate Erosion Area and Amount of Damages (Gurai Gram) (Financial Price)

Para Name	Land Price of Homestead Area (Tk/m2)	Land Price of Farmland (Tk/m2)	Homestead - Farmland (Tk/m2)	Length of Erosion (m)	Approximate intrusion of erosion into mound during next 30 years (m)	(m2)	Amount of Damage (Tk)
1 Chaila para	250	74	176	115	20	2,300	404,800
2 Bania para	250	74	176	230	20	4,600	809,600
4 Uttar para	250	74	176	307	20	6,140	1,080,640
5 Fakir para	250	74	176	154	30	4,620	813,120
6 Jal para	250	74	176	266	30	7,980	1,404,480
7 Kuna para	250	74	176	202	30	6,060	1,066,560
10 Dakhin para	250	74	176	227	20	4,540	799,040
11 Purba para	250	74	176	255	30	7,650	1,346,400
Total							7,725,000

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Note; Land assessment of farmland is estimated from agricultural productivity of HYV Boro, and that of homestead area is based on traiding price.

Table G.3.27 Per Household Annual Maintenance Cost (Gurai Gram)

Para Name	Normal Year		
	Amount of Damage (Tk)	Number of Household	Annual H.H. Expenditure
Gurai gram total			
Number of person equivalent to daily wages	168,000	270	620
Repairing Material	200,000	270	740
Total	368,000		1,360

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Figure G.3.1 Damages on Economic Activity (Gurai Gram)

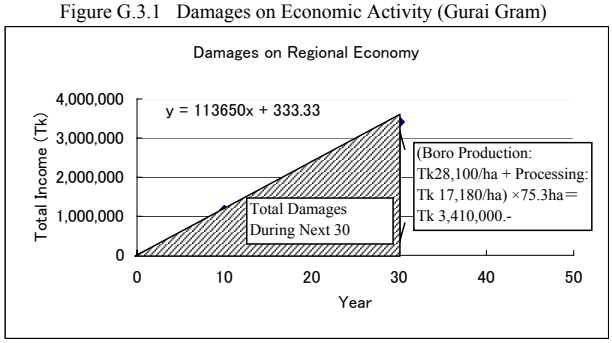


Table G.3.28 Estimation of Project Benefit by Wave Action Protection (Gurai Gram)

Item	Quantity	Unit	Unit Price (Tk)	Damage (Tk)	Annual Benefit in Financial Price (Tk/year)	Conversion Factor	Annual Benefit in Economic Price (Tk/year)
Withourt Project Case							
Annual Maintenance Cost (Bamboo Fence, Earth Works, etc.)							
Working days equivalent to daily wages	140	household	620	87,000	87,000	0.84	73,080
Repairing Material	140	household	740	104,000	104,000	0.90	93,600
Damages							
Homestead Area	43,890	m2	176	7,725,000	258,000	0.90	232,200
Village House	285	houses	20,000	5,700,000	190,000	0.90	171,000
Tubewell	30	nos.	8,050	241,500	8,100	0.90	7,300
Public Facility	6	facilities	780,000	4,680,000	156,000	0.90	140,400
Economic Activity	75.3	ha	45,280	3,410,000	1,705,000	0.90	1,535,000
Sub total					2,508,100		2,252,580
With Project Case							
Newly Developmed Homestead Area (Homestead Gardening; Chilli)	9,000	m2	86,700	78,000	78,000	0.84	65,520
Project Benefit					2,586,000		2,318,000

Table G.3.29 Flood Damage Assessment (Flood 1988) (Unit: Tk)

Para Name	Casualty	Livestock	House	Household Property	Mound	Village Road	Others	Total
Algar char Gram								
1 Jalal sarker/ Hossain member	0	347,500	521,000	155,250	471,000	0	0	1,494,750
2 Mokbul bapari	0	45,000	942,000	36,200	90,000	0	0	1,113,200
3 Razzak chairman	0	59,500	9,050	31,400	2,100	0	0	102,050
4 Aklas member/ Samad dokir	0	112,000	156,000	414,000	317,500	59,500	0	1,059,000
5 Joynal member/ Hassan khalifa	0	700,000	61,400	100,140	149,800	0	0	1,011,340
6 Zolil dewani	0	0	0	0	0	0	0	0
7 Maher munshi	0	222,500	82,000	31,400	0	0	0	335,900
Total	0	1,486,500	1,771,450	768,390	1,030,400	59,500	0	5,116,240
Gurai Gram								
1 Chila	0	53,000	81,500	37,900	N.A.	0	0	172,400
2 Bania	0	0	9,250	8,200	N.A.	0	0	17,450
3 Atka	0	109,000	75,250	32,100	N.A.	31,250	0	247,600
4 Uttar	0	54,500	57,500	0	N.A.	38,000	0	150,000
5 Fakir	0	54,500	86,400	57,000	N.A.	2,400	0	200,300
6 Jal	0	0	83,400	103,150	N.A.	5,300	0	191,850
7 Kuna	0	56,000	89,800	33,500	N.A.	0	0	179,300
8 Mosjid	0	213,500	132,600	87,350	N.A.	50,500	0	483,950
9 Namasud	0	60,000	22,200	7,100	N.A.	2,400	0	91,700
10 Dakhin	0	165,000	105,750	67,350	N.A.	0	0	338,100
11 Purba	0	112,000	83,150	53,360	N.A.	0	0	248,510
12 Ghosh	0	0	82,350	749,000	N.A.	2,000	0	833,350
13 Pashchim	0	0	22,800	17,100	N.A.	17,750	0	57,650
14 Shibir	0	66,000	190,630	78,750	N.A.	1,700	0	337,080
15 Pal	0	0	81,000	102,250	N.A.	2,700	0	185,950
16 Naogaon	0	0	53,150	16,700	N.A.	7,200	0	77,050
17 Moddon	0	0	75,250	69,900	N.A.	6,700	0	151,850
Total	0	943,500	4,414,920	3,968,960	1,550,000	1,005,450	0	3,964,090

Source; "Questionnaire Survey, March 2002", JICA Study Team.
Note: Damage Records on the village mound in Gurai gram is given by Gurai union.

Table G.3.30 Flood Damage Assessment (Flood 1998)

Para Name	Casualty	Livestock	House	Household Property	Mound	Village Road	Others	Total
Algar char Gram								
1 Jalal sarker/ Hossain member	0	137,500	177,000	43,350	127,000	0	0	484,850
2 Mokbul bapari	0	0	510,500	18,500	157,000	0	0	686,000
3 Razzak chairman	0	0	0	0	0	0	0	0
4 Aklas member/ Samad dokir	0	13,500	157,000	42,800	32,100	0	0	245,400
5 Joynal member/ Hassan khalifa	0	0	0	0	0	0	0	0
6 Zolil dewani	0	0	6,300	151,750	51,400	0	0	209,450
7 Maher munshi	0	337,500	53,850	20,700	0	0	0	412,050
Total	0	488,500	904,650	277,100	367,500	0	0	2,037,750
Gurai Gram								
1 Chila	0	30,000	4,680	2,980	N.A.	0	0	37,660
2 Bania	0	0	4,800	2,900	N.A.	0	0	7,700
3 Atka	0	66,000	7,840	19,400	N.A.	20,800	0	114,040
4 Uttar	0	0	0	0	N.A.	0	0	0
5 Fakir	0	0	0	0	N.A.	0	0	0
6 Jal	0	0	53,600	61,000	N.A.	3,500	0	118,100
7 Kuna	0	34,500	80,500	42,800	N.A.	0	0	157,800
8 Mosjid	0	0	0	0	N.A.	9,600	0	9,600
9 Namasud	0	30,000	0	0	N.A.	0	0	30,000
10 Dakhin	0	0	94,700	55,250	N.A.	0	0	149,950
11 Purba	0	89,000	54,200	0	N.A.	0	0	143,200
12 Ghosh	0	0	52,500	51,000	N.A.	4,800	0	108,300
13 Pashchim	0	0	0	0	N.A.	5,700	0	5,700
14 Shibir	0	21,500	15,840	0	N.A.	0	0	37,340
15 Pal	0	0	0	0	N.A.	0	0	0
16 Naogaon	0	0	43,360	0	N.A.	4,800	0	48,160
17 Moddon	0	0	16,960	21,050	N.A.	5,880	0	43,890
Total	0	271,000	428,980	256,380	815,000	55,080	0	1,011,440

Source; "Questionnaire Survey, March 2002", JICA Study Team.
Note: Damage Records on the village mound in Gurai gram is given by Gurai union.

Table G.3.31 Record for Flood Damage Recovery (Flood 1988)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
Algar char Gram						
1 Jalal sarker/ Hossain member						
House	300		300	21,000	500,000	521,000
Household Property	75		75	5,250	150,000	155,250
Mound	300		300	21,000	450,000	471,000
Village Road			0	0		0
Others			0	0		0
Total				47,250	1,100,000	1,147,250
2 Mokbul bapari						
House	600		600	42,000	900,000	942,000
Household Property	160		160	11,200	25,000	36,200
Mound	1,000		1,000	70,000	20,000	90,000
Village Road			0	0		0
Others			0	0		0
Total				123,200	945,000	1,068,200
3 Razzak chairman						
House	65		65	4,550	4,500	9,050
Household Property	20		20	1,400	30,000	31,400
Mound	30		30	2,100		2,100
Village Road			0	0		0
Others			0	0		0
Total				8,050	34,500	42,550
4 Aklas member/ Samad dokir						
House	800		800	56,000	100,000	156,000
Household Property	200		200	14,000	400,000	414,000
Mound	250		250	17,500	300,000	317,500
Village Road	350		350	24,500	35,000	59,500
Others			0	0		0
Total				112,000	835,000	947,000
5 Joynal member/ Hassan khalifa						
House	20		20	1,400	60,000	61,400
Household Property	2		2	140	100,000	100,140
Mound	140		140	9,800	140,000	149,800
Village Road			0	0		0
Others			0	0		0
Total				11,340	300,000	311,340
6 Zolil dewani						
House			0	0		0
Household Property			0	0		0
Mound			0	0		0
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
7 Maher munshi						
House	100		100	7,000	75,000	82,000
Household Property	20		20	1,400	30,000	31,400
Mound			0	0		0
Village Road			0	0		0
Others			0	0		0
Total				8,400	105,000	113,400
Total						
House	1,885	0	1,885	131,950	1,639,500	1,771,450
Household Property	477	0	477	33,390	735,000	768,390
Mound	1,720	0	1,720	120,400	910,000	1,030,400
Village Road	350	0	350	24,500	35,000	59,500
Others	0	0	0	0	0	0
Total				310,240	3,319,500	3,629,740

Table G.3.31 Record for Flood Damage Recovery (Flood 1988)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
Gurai Gram						
1 Chila						
House	30	15	450	31,500	50,000	81,500
Household Property	10	7	70	4,900	33,000	37,900
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				36,400	83,000	119,400
2 Bania						
House	5	15	75	5,250	4,000	9,250
Household Property	4	15	60	4,200	4,000	8,200
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				9,450	8,000	17,450
3 Atka						
House	5	15	75	5,250	70,000	75,250
Household Property	3	10	30	2,100	30,000	32,100
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	25	15	375	26,250	5,000	31,250
Others			0	0		0
Total				33,600	105,000	138,600
4 Uttar						
House	50	5	250	17,500	40,000	57,500
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	40	10	400	28,000	10,000	38,000
Others			0	0		0
Total				45,500	50,000	95,500
5 Fakir						
House	10	2	20	1,400	85,000	86,400
Household Property	25	4	100	7,000	50,000	57,000
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	1	20	1,400	1,000	2,400
Others			0	0		0
Total				9,800	136,000	145,800
6 Jal						
House	8	15	120	8,400	75,000	83,400
Household Property	3	15	45	3,150	100,000	103,150
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	2	40	2,800	2,500	5,300
Others			0	0		0
Total				14,350	177,500	191,850
7 Kuna						
House	7	20	140	9,800	80,000	89,800
Household Property	5	10	50	3,500	30,000	33,500
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				13,300	110,000	123,300
8 Mosjid						
House	15	12	180	12,600	120,000	132,600
Household Property	7	15	105	7,350	80,000	87,350
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	50	3	150	10,500	40,000	50,500
Others			0	0		0
Total				30,450	240,000	270,450

Table G.3.31 Record for Flood Damage Recovery (Flood 1988)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
9 Namasud						
House	30	2	60	4,200	18,000	22,200
Household Property	10	3	30	2,100	5,000	7,100
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	10	2	20	1,400	1,000	2,400
Others			0	0		0
Total				7,700	24,000	31,700
10 Dakhin						
House	15	15	225	15,750	90,000	105,750
Household Property	7	15	105	7,350	60,000	67,350
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				23,100	150,000	173,100
11 Purba						
House	3	15	45	3,150	80,000	83,150
Household Property	4	12	48	3,360	50,000	53,360
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				6,510	130,000	136,510
12 Ghosh						
House	7	15	105	7,350	75,000	82,350
Household Property	70	10	700	49,000	700,000	749,000
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20		0	0	2,000	2,000
Others			0	0		0
Total				56,350	777,000	833,350
13 Pashchim						
House	20	2	40	2,800	20,000	22,800
Household Property	10	3	30	2,100	15,000	17,100
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	15	10	150	10,500	7,250	17,750
Others			0	0		0
Total				15,400	42,250	57,650
14 Shibir						
House	3	3	9	630	190,000	190,630
Household Property	25	25	625	43,750	35,000	78,750
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	10	1	10	700	1,000	1,700
Others			0	0		0
Total				45,080	226,000	271,080
15 Pal						
House	20	15	300	21,000	60,000	81,000
Household Property	35	5	175	12,250	90,000	102,250
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	10	1	10	700	2,000	2,700
Others			0	0		0
Total				33,950	152,000	185,950
16 Naogaon						
House	3	15	45	3,150	50,000	53,150
Household Property	2	5	10	700	16,000	16,700
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	3	60	4,200	3,000	7,200
Others			0	0		0
Total				8,050	69,000	77,050

Table G.3.31 Record for Flood Damage Recovery (Flood 1988)

	Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
17	Moddon						
	House	5	15	75	5,250	70,000	75,250
	Household Property	7	10	70	4,900	65,000	69,900
	Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Village Road	10	5	50	3,500	3,200	6,700
	Others			0	0		0
	Total				13,650	138,200	151,850
Total							
	House	236	196	46,256	3,237,920	1,177,000	4,414,920
	Household Property	227	164	37,228	2,605,960	1,363,000	3,968,960
	Mound	1,500	10	15,000	1,050,000	500,000	1,550,000
	Village Road	250	53	13,250	927,500	77,950	1,005,450
	Others	0	0	0	0	0	0
	Total				7,821,380	3,117,950	10,939,330

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Note: Damage Records on the village mound in Gurai gram is given by Gurai union.

Table G.3.32 Record for Flood Damage Recovery (Flood 1998)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
Algar char Gram						
1 Jalal sarker/ Hossain member						
House	100		100	7,000	170,000	177,000
Household Property	30		30	2,100	41,250	43,350
Mound	100		100	7,000	120,000	127,000
Village Road			0	0		0
Others			0	0		0
Total				16,100	331,250	347,350
2 Mokbul bapari						
House	150		150	10,500	500,000	510,500
Household Property	50		50	3,500	15,000	18,500
Mound	100		100	7,000	150,000	157,000
Village Road			0	0		0
Others			0	0		0
Total				21,000	665,000	686,000
3 Razzak chairman						
House			0	0		0
Household Property			0	0		0
Mound			0	0		0
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
4 Aklas member/ Samad dokir						
House	100		100	7,000	150,000	157,000
Household Property	40		40	2,800	40,000	42,800
Mound	30		30	2,100	30,000	32,100
Village Road			0	0		0
Others			0	0		0
Total				11,900	220,000	231,900
5 Joynal member/ Hassan khalifa						
House			0	0		0
Household Property			0	0		0
Mound			0	0		0
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
6 Zolil dewani						
House	90		90	6,300		6,300
Household Property	25		25	1,750	150,000	151,750
Mound	20		20	1,400	50,000	51,400
Village Road			0	0		0
Others			0	0		0
Total				9,450	200,000	209,450
7 Maher munshi						
House	55		55	3,850	50,000	53,850
Household Property	10		10	700	20,000	20,700
Mound			0	0		0
Village Road			0	0		0
Others			0	0		0
Total				4,550	70,000	74,550
Total						
House	495	0	0	34,650	870,000	904,650
Household Property	155	0	0	10,850	266,250	277,100
Mound	250	0	0	17,500	350,000	367,500
Village Road	0	0	0	0	0	0
Others	0	0	0	0	0	0
Total				63,000	1,486,250	1,549,250

Table G.3.32 Record for Flood Damage Recovery (Flood 1998)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
Gurai Gram						
1 Chila						
House	4	6	24	1,680	3,000	4,680
Household Property	2	7	14	980	2,000	2,980
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				2,660	5,000	7,660
2 Bania						
House	4	10	40	2,800	2,000	4,800
Household Property	2	10	20	1,400	1,500	2,900
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				4,200	3,500	7,700
3 Atka						
House	6	12	72	5,040	2,800	7,840
Household Property	2	10	20	1,400	18,000	19,400
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	12	240	16,800	4,000	20,800
Others			0	0		0
Total				23,240	24,800	48,040
4 Uttar						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
5 Fakir						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
6 Jal						
House	40	12	480	33,600	20,000	53,600
Household Property	25	12	300	21,000	40,000	61,000
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	25	2	50	3,500		3,500
Others			0	0		0
Total				58,100	60,000	118,100
7 Kuna						
House	6	25	150	10,500	70,000	80,500
Household Property	4	10	40	2,800	40,000	42,800
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				13,300	110,000	123,300
8 Mosjid						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	40	2	80	5,600	4,000	9,600
Others			0	0		0
Total				5,600	4,000	9,600

Table G.3.32 Record for Flood Damage Recovery (Flood 1998)

Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
9 Namasud						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
10 Dakhin						
House	14	15	210	14,700	80,000	94,700
Household Property	5	15	75	5,250	50,000	55,250
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				19,950	130,000	149,950
11 Purba						
House	4	15	60	4,200	50,000	54,200
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				4,200	50,000	54,200
12 Ghosh						
House	70	10	700	49,000	3,500	52,500
Household Property	30	10	300	21,000	30,000	51,000
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	2	40	2,800	2,000	4,800
Others			0	0		0
Total				72,800	35,500	108,300
13 Pashchim						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	10	3	30	2,100	3,600	5,700
Others			0	0		0
Total				2,100	3,600	5,700
14 Shibir						
House	2	6	12	840	15,000	15,840
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				840	15,000	15,840
15 Pal						
House			0	0		0
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road			0	0		0
Others			0	0		0
Total				0	0	0
16 Naogaon						
House	4	12	48	3,360	40,000	43,360
Household Property			0	0		0
Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Village Road	20	2	40	2,800	2,000	4,800
Others			0	0		0
Total				6,160	42,000	48,160

Table G.3.32 Record for Flood Damage Recovery (Flood 1998)

	Para Name	Number of person for repairing (person)	Duration for repairing (days)	Total Number (man/day)	Equivalent to Daily Wages (70Tk/day)	Cost for repairing (Tk)	Total (Tk)
17	Moddon						
	House	4	7	28	1,960	15,000	16,960
	Household Property	3	5	15	1,050	20,000	21,050
	Mound	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Village Road	12	7	84	5,880		5,880
	Others			0	0		0
	Total				8,890	35,000	43,890
Total							
	House	158	130	1,824	127,680	301,300	428,980
	Household Property	73	79	784	54,880	201,500	256,380
	Mound	1,500	3	4,500	315,000	500,000	815,000
	Village Road	147	30	564	39,480	15,600	55,080
	Others	0	0	0	0	0	0
	Total				537,040	1,018,400	1,555,440

Source; "Questionnaire Survey, March 2002", JICA Study Team.

Note: Damage Records on the village mound in Gurai gram is given by Gurai union.

Table G.3.33 Record of Flood Damage on Villegers and Livestocks (Unit: Tk)

Para Name	Unit Price	1988 Number	1988 Total	1998 Number	1998 Total	2001 Number	2001 Total
Algar char Gram							
1 Jalal sarker/ Hossain member							
Casualty		3	0	0	0	0	0
Livestock			347,500		137,500		0
Cattle	10,000	25	250,000	10	100,000	0	0
Goat	1,500	50	75,000	20	30,000	0	0
Sheep	1,500	15	22,500	5	7,500	0	0
Sub Total			347,500		137,500		0
2 Mokbul bapari							
Casualty		0	0	0	0	0	0
Livestock			45,000		0		0
Cattle	10,000	3	30,000	0	0	0	0
Goat	1,500	10	15,000	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			45,000		0		0
3 Razzak chairman							
Casualty		0	0	0	0	0	0
Livestock			59,500		0		0
Cattle	10,000	4	40,000	0	0	0	0
Goat	1,500	10	15,000	0	0	0	0
Sheep	1,500	3	4,500	0	0	0	0
Sub Total			59,500		0		0
4 Aklas member/ Samad dokir							
Casualty		0	0	0	0	0	0
Livestock			112,000		13,500		0
Cattle	10,000	10	100,000	0	0	0	0
Goat	1,500	5	7,500	5	7,500	0	0
Sheep	1,500	3	4,500	4	6,000	0	0
Sub Total			112,000		13,500		0
5 Joynal member/ Hassan khalifa							
Casualty		4	0	0	0	0	0
Livestock			700,000		0		0
Cattle	10,000	40	400,000	0	0	0	0
Goat	1,500	150	225,000	0	0	0	0
Sheep	1,500	50	75,000	0	0	0	0
Sub Total			700,000		0		0
6 Zolil dewani							
Casualty		0	0	0	0	0	0
Livestock			0		0		0
Cattle	10,000	0	0	0	0	0	0
Goat	1,500	0	0	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			0		0		0
7 Maher munshi							
Casualty		10	0	4	0	0	0
Livestock			222,500		337,500		0
Cattle	10,000	20	200,000	30	300,000	0	0
Goat	1,500	7	10,500	10	15,000	0	0
Sheep	1,500	8	12,000	15	22,500	0	0
Sub Total			222,500		337,500		0
Total							
Casualty		17	0	4	0	0	0
Livestock			1,486,500		488,500		0
Cattle	10,000	102	1,020,000	40	400,000	0	0
Goat	1,500	232	348,000	35	52,500	0	0
Sheep	1,500	79	118,500	24	36,000	0	0
Sub Total			1,486,500		488,500		0

Table G.3.33 Record of Flood Damage on Villegers and Livestocks (Unit: Tk)

Para Name	Unit Price	1988 Number	1988 Total	1998 Number	1998 Total	2001 Number	2001 Total
Gurai Gram							
1 Chila							
Casualty		0	0	0	0	0	0
Livestock			53,000		30,000		0
Cattle	10,000	5	50,000	3	30,000	0	0
Goat	1,500	2	3,000	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			53,000		30,000		0
2 Bania							
Casualty		0	0	0	0	0	0
Livestock			0		0		0
Cattle	10,000	0	0	0	0	0	0
Goat	1,500	0	0	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			0		0		0
3 Atka							
Casualty		0	0	0	0	0	0
Livestock			109,000		66,000		0
Cattle	10,000	10	100,000	6	60,000	0	0
Goat	1,500	6	9,000	4	6,000	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			109,000		66,000		0
4 Uttar							
Casualty		0	0	0	0	0	0
Livestock			54,500		0		0
Cattle	10,000	5	50,000	0	0	0	0
Goat	1,500	3	4,500	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			54,500		0		0
5 Fakir							
Casualty		0	0	0	0	0	0
Livestock			54,500		0		0
Cattle	10,000	5	50,000	0	0	0	0
Goat	1,500	3	4,500	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			54,500		0		0
6 Jal							
Casualty		0	0	0	0	0	0
Livestock			0		0		0
Cattle	10,000	0	0	0	0	0	0
Goat	1,500	0	0	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			0		0		0
7 Kuna							
Casualty		0	0	0	0	0	0
Livestock			56,000		34,500		0
Cattle	10,000	5	50,000	3	30,000	0	0
Goat	1,500	4	6,000	3	4,500	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			56,000		34,500		0
8 Mosjid							
Casualty		0	0	0	0	0	0
Livestock			213,500		0		0
Cattle	10,000	20	200,000	0	0	0	0
Goat	1,500	9	13,500	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			213,500		0		0

Table G.3.33 Record of Flood Damage on Villegers and Livestocks (Unit: Tk)

Para	Name	Unit Price	1988 Number	1988 Total	1998 Number	1998 Total	2001 Number	2001 Total
9	Namasud							
	Casualty		0	0	0	0	0	0
	Livestock			60,000		30,000		0
	Cattle	10,000	6	60,000	3	30,000	0	0
	Goat	1,500	0	0	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			60,000		30,000		0
10	Dakhin							
	Casualty		0	0	0	0	0	0
	Livestock			165,000		0		0
	Cattle	10,000	15	150,000	0	0	0	0
	Goat	1,500	10	15,000	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			165,000		0		0
11	Purba							
	Casualty		0	0	0	0	0	0
	Livestock			112,000		89,000		0
	Cattle	10,000	10	100,000	8	80,000	0	0
	Goat	1,500	8	12,000	6	9,000	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			112,000		89,000		0
12	Ghosh							
	Casualty		0	0	0	0	0	0
	Livestock			0		0		0
	Cattle	10,000	0	0	0	0	0	0
	Goat	1,500	0	0	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			0		0		0
13	Pashchim							
	Casualty		0	0	0	0	0	0
	Livestock			0		0		0
	Cattle	10,000	0	0	0	0	0	0
	Goat	1,500	0	0	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			0		0		0
14	Shibir							
	Casualty		0	0	0	0	0	0
	Livestock			66,000		21,500		0
	Cattle	10,000	6	60,000	2	20,000	0	0
	Goat	1,500	4	6,000	1	1,500	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			66,000		21,500		0
15	Pal							
	Casualty		0	0	0	0	0	0
	Livestock			0		0		0
	Cattle	10,000	0	0	0	0	0	0
	Goat	1,500	0	0	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			0		0		0
16	Naogaon							
	Casualty		0	0	0	0	0	0
	Livestock			0		0		0
	Cattle	10,000	0	0	0	0	0	0
	Goat	1,500	0	0	0	0	0	0
	Sheep	1,500	0	0	0	0	0	0
	Sub Total			0		0		0

Table G.3.33 Record of Flood Damage on Villegers and Livestocks (Unit: Tk)

Para Name	Unit Price	1988 Number	1988 Total	1998 Number	1998 Total	2001 Number	2001 Total
17 Moddon							
Casualty		5	0	2	0	0	0
Livestock			0		0		0
Cattle	10,000	0	0	0	0	0	0
Goat	1,500	0	0	0	0	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			0		0		0
Total							
Casualty		5	0	2	0	0	0
Livestock			943,500		271,000		0
Cattle	10,000	87	870,000	25	250,000	0	0
Goat	1,500	49	73,500	14	21,000	0	0
Sheep	1,500	0	0	0	0	0	0
Sub Total			943,500		271,000		0

Source; "Key Informant Survey, March 2002", JICA Study Team.

Table G.3.34 Estimation for Number of Beneficiary of Hand Tubewell Project (1)

	Para Name	Population	Without Project Case					
			No. of Available Tubewell	Coverage (popl./well)	Target Coverage Rate	Population for Out of Coverage		
		①	②	③	④	⑤=②×④	⑥=①−⑤	⑦
Algar char Gram								
2	Mokbul bapari	262	5	52	75	375	-113	0
4	Aklas member/ Samad fokir	579	12	48	75	900	-321	0
5	Joynal member/ Hassan khalifa	563	15	38	75	1125	-562	0
6	Zolil dewani	158	4	40	75	300	-142	0
7	Maher munshi	187	2	94	75	150	37	37
	Total							
Gurai Gram								
1	Chila	148	1	148	75	75	73	73
2	Bania	415	2	208	75	150	265	265
4	Uttar	438	34	13	75	2550	-2112	0
5	Fakir	103	2	52	75	150	-47	0
6	Jal	597	4	149	75	300	297	297
7	Kuna	272	10	27	75	750	-478	0
10	Dakhin	643	6	107	75	450	193	193
11	Purba	1833	18	102	75	1350	483	483
	Total							

TableG.3.34 Estimation for Number of Beneficiary of Hand Tubewell Project (2)

	Para Name	Population	With Project Case					
			No. of Available Tubewell	Coverage (popl./well)	Target Coverage Rate	Population for Out of Coverage		
		①	⑧	⑨	⑩	⑪=⑧×⑩	⑫=①−⑪	⑬
Algar char Gram								
2	Mokbul bapari	262	5	52	75	375	-113	0
4	Aklas member/ Samad fokir	579	12	48	75	900	-321	0
5	Joynal member/ Hassan khalifa	563	15	38	75	1125	-562	0
6	Zolil dewani	158	3	53	75	225	-67	0
7	Maher munshi	187	3	62	75	225	-38	0
	Total							
Gurai Gram								
1	Chila	148	2	74	75	150	-2	0
2	Bania	415	6	69	75	450	-35	0
4	Uttar	438	34	13	75	2550	-2112	0
5	Fakir	103	2	52	75	150	-47	0
6	Jal	597	8	75	75	600	-3	0
7	Kuna	272	10	27	75	750	-478	0
10	Dakhin	643	9	71	75	675	-32	0
11	Purba	1833	25	73	75	1875	-42	0
	Total							

Table G.3.34 Estimation for Number of Beneficiary of Hand Tubewell Project (3)

	Para Name	Beneficiary	Water Requirement	Drinking Water Requirement		Day	Unit Price	Benefit
		⑦−⑬	(l/day/person)	%	(l/day/person)		(Tk/l)	(Tk)
Algar char Gram								
2	Mokbul bapari	0	40	10%	4	365	0.050	0
4	Aklas member/ Samad fokir	0	40	10%	4	365	0.050	0
5	Joynal member/ Hassan khalifa	0	40	10%	4	365	0.050	0
6	Zolil dewani	0	40	10%	4	365	0.050	0
7	Maher munshi	37	40	10%	4	365	0.050	2,701
	Total							2,701
Gurai Gram								
1	Chila	73	40	10%	4	365	0.050	5,329
2	Bania	265	40	10%	4	365	0.050	19,345
4	Uttar	0	40	10%	4	365	0.050	0
5	Fakir	0	40	10%	4	365	0.050	0
6	Jal	297	40	10%	4	365	0.050	21,681
7	Kuna	0	40	10%	4	365	0.050	0
10	Dakhin	193	40	10%	4	365	0.050	14,089
11	Purba	483	40	10%	4	365	0.050	35,259
	Total							95,703

Table G.3.35 Result of Financial and Economic Analysis (Algar char Gram)

Project	Financial			Economic		
	NPV	B/C	EIRR	NPV	B/C	EIRR
1 Flood Proofing and Improveemnt of Living Environment						
1-1 Homestead Raising	-	-	-	-286,467	0.76	10.0%
1-2 School Ground Raising	-	-	-	69,276	1.04	15.7%
1-3 Approach Road to School	-	-	-	Included in School Ground Raising		
1-4 Raised Hand Tubewell	-	-	-	-1,869	0.83	9.3%
1-5 Flood Warning and Evacuation	-	-	-	Included in School Ground Raising		
2 Livelihood Development						
2-1 Home Gardening Promotion with Health and Nutrition Education	-	Intangible	-	-	Intangible	-
2-2 Poultry Promotion	472,766	1.51	32.2%	425,337	1.51	32.2%
2-3 Skill Training on Handicraft	305,072	1.22	37.0%	274,249	1.22	36.9%
2-4 Mulberry Plantation and Cocoon Production	198,099	1.20	19.1%	178,056	1.20	19.1%
3 Saving and Credit Scheme	-	-	-	-	-	-
Total	606,477	1.10	17.6%	403,118	1.07	16.9%

Table G.3.35 (1) Economic Evaluation for Proposed Project in Algar char Guram (Homestead Raising) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	342,440	0	342,440	0	-342,440	0.8696	297,786	0	-297,786
2	2004	746,030	13,482	759,512	49,980	-709,532	0.7561	574,267	37,790	-536,477
3	2005	134,530	42,854	177,384	158,865	-18,519	0.6575	116,630	104,454	-12,176
4	2006	0	48,150	48,150	178,500	130,350	0.5718	27,532	102,066	74,534
5	2007	0	48,150	48,150	178,500	130,350	0.4972	23,940	88,750	64,810
6	2008	0	48,150	48,150	178,500	130,350	0.4323	20,815	77,166	56,351
7	2009	0	48,150	48,150	178,500	130,350	0.3759	18,100	67,098	48,998
8	2010	0	48,150	48,150	178,500	130,350	0.3269	15,740	58,352	42,612
9	2011	0	48,150	48,150	178,500	130,350	0.2843	13,689	50,748	37,059
10	2012	0	48,150	48,150	178,500	130,350	0.2472	11,903	44,125	32,222
11	2013	0	48,150	48,150	178,500	130,350	0.2149	10,347	38,360	28,013
12	2014	0	48,150	48,150	178,500	130,350	0.1869	8,999	33,362	24,363
13	2015	0	48,150	48,150	178,500	130,350	0.1625	7,824	29,006	21,182
14	2016	0	48,150	48,150	178,500	130,350	0.1413	6,804	25,222	18,418
15	2017	0	48,150	48,150	178,500	130,350	0.1229	5,918	21,938	16,020
16	2018	0	48,150	48,150	178,500	130,350	0.1069	5,147	19,082	13,935
17	2019	0	48,150	48,150	178,500	130,350	0.0929	4,473	16,583	12,110
18	2020	0	48,150	48,150	178,500	130,350	0.0808	3,891	14,423	10,532
19	2021	0	48,150	48,150	178,500	130,350	0.0703	3,385	12,549	9,164
20	2022	0	48,150	48,150	178,500	130,350	0.0611	2,942	10,906	7,964
21	2023	0	48,150	48,150	178,500	130,350	0.0531	2,557	9,478	6,921
22	2024	0	48,150	48,150	178,500	130,350	0.0462	2,225	8,247	6,022
23	2025	0	48,150	48,150	178,500	130,350	0.0402	1,936	7,176	5,240
24	2026	0	48,150	48,150	178,500	130,350	0.0349	1,680	6,230	4,550
25	2027	0	48,150	48,150	178,500	130,350	0.0304	1,464	5,426	3,962
26	2028	0	48,150	48,150	178,500	130,350	0.0264	1,271	4,712	3,441
27	2029	0	48,150	48,150	178,500	130,350	0.0230	1,107	4,106	2,999
28	2030	0	48,150	48,150	178,500	130,350	0.0200	963	3,570	2,607
29	2031	0	48,150	48,150	178,500	130,350	0.0174	838	3,106	2,268
30	2032	0	48,150	48,150	178,500	130,350	0.0151	727	2,695	1,968
31	2033	0	48,150	48,150	178,500	130,350	0.0131	631	2,338	1,707
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		1,223,000	1,404,536	2,627,536	5,206,845	2,579,309		1,195,531	909,064	-286,467

N.P.V=	-286,467
B/C=	0.76
EIRR=	10.0%

Table G.3.35 (2) Economic Evaluation for Proposed Project in Algar char Guram (School Ground Raising) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	1,700,060	0	1,700,060	0	-1,700,060	0.8696	1,478,372	0	-1,478,372
2	2004	12,650	43,650	56,300	317,000	260,700	0.7561	42,568	239,684	197,116
3	2005	5,290	43,650	48,940	317,000	268,060	0.6575	32,178	208,428	176,250
4	2006	0	43,650	43,650	317,000	273,350	0.5718	24,959	181,261	156,302
5	2007	0	43,650	43,650	317,000	273,350	0.4972	21,703	157,612	135,909
6	2008	0	43,650	43,650	317,000	273,350	0.4323	18,870	137,039	118,169
7	2009	0	43,650	43,650	317,000	273,350	0.3759	16,408	119,160	102,752
8	2010	0	43,650	43,650	317,000	273,350	0.3269	14,269	103,627	89,358
9	2011	0	43,650	43,650	317,000	273,350	0.2843	12,410	90,123	77,713
10	2012	0	43,650	43,650	317,000	273,350	0.2472	10,790	78,362	67,572
11	2013	0	43,650	43,650	317,000	273,350	0.2149	9,380	68,123	58,743
12	2014	0	43,650	43,650	317,000	273,350	0.1869	8,158	59,247	51,089
13	2015	0	43,650	43,650	317,000	273,350	0.1625	7,093	51,513	44,420
14	2016	0	43,650	43,650	317,000	273,350	0.1413	6,168	44,792	38,624
15	2017	0	43,650	43,650	317,000	273,350	0.1229	5,365	38,959	33,594
16	2018	0	43,650	43,650	317,000	273,350	0.1069	4,666	33,887	29,221
17	2019	0	43,650	43,650	317,000	273,350	0.0929	4,055	29,449	25,394
18	2020	0	43,650	43,650	317,000	273,350	0.0808	3,527	25,614	22,087
19	2021	0	43,650	43,650	317,000	273,350	0.0703	3,069	22,285	19,216
20	2022	0	43,650	43,650	317,000	273,350	0.0611	2,667	19,369	16,702
21	2023	0	43,650	43,650	317,000	273,350	0.0531	2,318	16,833	14,515
22	2024	0	43,650	43,650	317,000	273,350	0.0462	2,017	14,645	12,628
23	2025	0	43,650	43,650	317,000	273,350	0.0402	1,755	12,743	10,988
24	2026	0	43,650	43,650	317,000	273,350	0.0349	1,523	11,063	9,540
25	2027	0	43,650	43,650	317,000	273,350	0.0304	1,327	9,637	8,310
26	2028	0	43,650	43,650	317,000	273,350	0.0264	1,152	8,369	7,217
27	2029	0	43,650	43,650	317,000	273,350	0.0230	1,004	7,291	6,287
28	2030	0	43,650	43,650	317,000	273,350	0.0200	873	6,340	5,467
29	2031	0	43,650	43,650	317,000	273,350	0.0174	760	5,516	4,756
30	2032	0	43,650	43,650	317,000	273,350	0.0151	659	4,787	4,128
31	2033	0	43,650	43,650	317,000	273,350	0.0131	572	4,153	3,581
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		1,718,000	1,309,500	3,027,500	9,510,000	6,482,500		1,740,635	1,809,911	69,276

N.P.V=	69,276
B/C=	1.04
EIRR=	15.7%

Table G.3.35 (3) Economic Evaluation for Proposed Project in Algar char Guram (Raised Hand Tubewell) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	0	0	0	0	0	0.8696	0	0	0
2	2004	3,300	0	3,300	0	-3,300	0.7561	2,495	0	-2,495
3	2005	6,700	0	6,700	0	-6,700	0.6575	4,405	0	-4,405
4	2006	0	386	386	891	505	0.5718	221	509	288
5	2007	0	1,170	1,170	2,700	1,530	0.4972	582	1,342	760
6	2008	0	1,170	1,170	2,700	1,530	0.4323	506	1,167	661
7	2009	0	1,170	1,170	2,700	1,530	0.3759	440	1,015	575
8	2010	0	1,170	1,170	2,700	1,530	0.3269	382	883	501
9	2011	0	1,170	1,170	2,700	1,530	0.2843	333	768	435
10	2012	0	1,170	1,170	2,700	1,530	0.2472	289	667	378
11	2013	0	1,170	1,170	2,700	1,530	0.2149	251	580	329
12	2014	0	1,170	1,170	2,700	1,530	0.1869	219	505	286
13	2015	0	1,170	1,170	2,700	1,530	0.1625	190	439	249
14	2016	0	1,170	1,170	2,700	1,530	0.1413	165	382	217
15	2017	0	1,170	1,170	2,700	1,530	0.1229	144	332	188
16	2018	0	1,170	1,170	2,700	1,530	0.1069	125	289	164
17	2019	0	0	0	0	0	0.0929	0	0	0
18	2020	0	0	0	0	0	0.0808	0	0	0
19	2021	0	0	0	0	0	0.0703	0	0	0
20	2022	0	0	0	0	0	0.0611	0	0	0
21	2023	0	0	0	0	0	0.0531	0	0	0
22	2024	0	0	0	0	0	0.0462	0	0	0
23	2025	0	0	0	0	0	0.0402	0	0	0
24	2026	0	0	0	0	0	0.0349	0	0	0
25	2027	0	0	0	0	0	0.0304	0	0	0
26	2028	0	0	0	0	0	0.0264	0	0	0
27	2029	0	0	0	0	0	0.0230	0	0	0
28	2030	0	0	0	0	0	0.0200	0	0	0
29	2031	0	0	0	0	0	0.0174	0	0	0
30	2032	0	0	0	0	0	0.0151	0	0	0
31	2033	0	0	0	0	0	0.0131	0	0	0
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		10,000	14,426	24,426	33,291	8,865		10,747	8,878	-1,869

N.P.V=	-1,869
B/C=	0.83
EIRR=	9.3%

Table G.3.35 (4) Economic Evaluation for Proposed Project in Algar char Guram (Poultry Promotion) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	18,260	25,542	43,802	0	-43,802	0.8850	38,765	0	-38,765
2	2004	45,650	89,397	135,047	13,811	-121,237	0.7831	105,755	10,815	-94,940
3	2005	19,090	116,100	135,190	48,337	-86,853	0.6931	93,700	33,502	-60,198
4	2006	0	116,100	116,100	125,550	9,450	0.6133	71,204	77,000	5,796
5	2007	0	116,100	116,100	251,100	135,000	0.5428	63,019	136,297	73,278
6	2008	0	116,100	116,100	251,100	135,000	0.4803	55,763	120,603	64,840
7	2009	0	116,100	116,100	251,100	135,000	0.4251	49,354	106,743	57,389
8	2010	0	116,100	116,100	251,100	135,000	0.3762	43,677	94,464	50,787
9	2011	0	116,100	116,100	251,100	135,000	0.3329	38,650	83,591	44,941
10	2012	0	116,100	116,100	251,100	135,000	0.2946	34,203	73,974	39,771
11	2013	0	116,100	116,100	251,100	135,000	0.2607	30,267	65,462	35,195
12	2014	0	116,100	116,100	251,100	135,000	0.2307	26,784	57,929	31,145
13	2015	0	116,100	116,100	251,100	135,000	0.2042	23,708	51,275	27,567
14	2016	0	116,100	116,100	251,100	135,000	0.1807	20,979	45,374	24,395
15	2017	0	116,100	116,100	251,100	135,000	0.1599	18,564	40,151	21,587
16	2018	0	116,100	116,100	251,100	135,000	0.1415	16,428	35,531	19,103
17	2019	0	116,100	116,100	251,100	135,000	0.1252	14,536	31,438	16,902
18	2020	0	116,100	116,100	251,100	135,000	0.1108	12,864	27,822	14,958
19	2021	0	116,100	116,100	251,100	135,000	0.0981	11,389	24,633	13,244
20	2022	0	116,100	116,100	251,100	135,000	0.0868	10,077	21,795	11,718
21	2023	0	116,100	116,100	251,100	135,000	0.0768	8,916	19,284	10,368
22	2024	0	116,100	116,100	251,100	135,000	0.0680	7,895	17,075	9,180
23	2025	0	116,100	116,100	251,100	135,000	0.0601	6,978	15,091	8,113
24	2026	0	116,100	116,100	251,100	135,000	0.0532	6,177	13,359	7,182
25	2027	0	116,100	116,100	251,100	135,000	0.0471	5,468	11,827	6,359
26	2028	0	116,100	116,100	251,100	135,000	0.0417	4,841	10,471	5,630
27	2029	0	116,100	116,100	251,100	135,000	0.0369	4,284	9,266	4,982
28	2030	0	116,100	116,100	251,100	135,000	0.0326	3,785	8,186	4,401
29	2031	0	116,100	116,100	251,100	135,000	0.0289	3,355	7,257	3,902
30	2032	0	116,100	116,100	251,100	135,000	0.0256	2,972	6,428	3,456
31	2033	0	116,100	116,100	251,100	135,000	0.0226	2,624	5,675	3,051
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		83,000	3,481,839	3,564,839	6,967,397	3,402,558		836,981	1,262,318	425,337

N.P.V=	425,337
B/C=	1.51
EIRR=	32.2%

Table G.3.35 (5) Economic Evaluation for Proposed Project in Algar char Guram (Skill Training on Handicraft) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	2,860	40,879	43,739	0	-43,739	0.8850	38,709	0	-38,709
2	2004	7,150	143,077	150,227	57,024	-93,203	0.7831	117,643	44,655	-72,988
3	2005	2,990	185,814	188,804	199,584	10,780	0.6931	130,860	138,332	7,472
4	2006	0	185,814	185,814	259,200	73,386	0.6133	113,960	158,967	45,007
5	2007	0	185,814	185,814	259,200	73,386	0.5428	100,860	140,694	39,834
6	2008	0	185,814	185,814	259,200	73,386	0.4803	89,246	124,494	35,248
7	2009	0	185,814	185,814	259,200	73,386	0.4251	78,990	110,186	31,196
8	2010	0	185,814	185,814	259,200	73,386	0.3762	69,903	97,511	27,608
9	2011	0	185,814	185,814	259,200	73,386	0.3329	61,857	86,288	24,431
10	2012	0	185,814	185,814	259,200	73,386	0.2946	54,741	76,360	21,619
11	2013	0	185,814	185,814	259,200	73,386	0.2607	48,442	67,573	19,131
12	2014	0	185,814	185,814	259,200	73,386	0.2307	42,867	59,797	16,930
13	2015	0	185,814	185,814	259,200	73,386	0.2042	37,943	52,929	14,986
14	2016	0	185,814	185,814	259,200	73,386	0.1807	33,577	46,837	13,260
15	2017	0	185,814	185,814	259,200	73,386	0.1599	29,712	41,446	11,734
16	2018	0	185,814	185,814	259,200	73,386	0.1415	26,293	36,677	10,384
17	2019	0	185,814	185,814	259,200	73,386	0.1252	23,264	32,452	9,188
18	2020	0	185,814	185,814	259,200	73,386	0.1108	20,588	28,719	8,131
19	2021	0	185,814	185,814	259,200	73,386	0.0981	18,228	25,428	7,200
20	2022	0	185,814	185,814	259,200	73,386	0.0868	16,129	22,499	6,370
21	2023	0	185,814	185,814	259,200	73,386	0.0768	14,271	19,907	5,636
22	2024	0	185,814	185,814	259,200	73,386	0.0680	12,635	17,626	4,991
23	2025	0	185,814	185,814	259,200	73,386	0.0601	11,167	15,578	4,411
24	2026	0	185,814	185,814	259,200	73,386	0.0532	9,885	13,789	3,904
25	2027	0	185,814	185,814	259,200	73,386	0.0471	8,752	12,208	3,456
26	2028	0	185,814	185,814	259,200	73,386	0.0417	7,748	10,809	3,061
27	2029	0	185,814	185,814	259,200	73,386	0.0369	6,857	9,564	2,707
28	2030	0	185,814	185,814	259,200	73,386	0.0326	6,058	8,450	2,392
29	2031	0	185,814	185,814	259,200	73,386	0.0289	5,370	7,491	2,121
30	2032	0	185,814	185,814	259,200	73,386	0.0256	4,757	6,636	1,879
31	2033	0	185,814	185,814	259,200	73,386	0.0226	4,199	5,858	1,659
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		13,000	5,572,562	5,585,562	7,514,208	1,928,646		1,245,511	1,519,760	274,249

N.P.V=	274,249
B/C=	1.22
EIRR=	36.9%

Table G.3.35 (6) Economic Evaluation for Proposed Project in Algar char Guram (Mulberry Plantation and Cocoon Proc (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	48,180	15,159	63,339	0	-63,339	0.8850	56,055	0	-56,055
2	2004	120,450	59,788	180,238	14,256	-165,982	0.7831	141,144	11,164	-129,980
3	2005	50,370	96,426	146,796	57,024	-89,772	0.6931	101,744	39,523	-62,221
4	2006	0	113,364	113,364	100,202	-13,162	0.6133	69,526	61,454	-8,072
5	2007	0	117,504	117,504	140,126	22,622	0.5428	63,781	76,061	12,280
6	2008	0	117,504	117,504	173,866	56,362	0.4803	56,437	83,508	27,071
7	2009	0	117,504	117,504	204,250	86,746	0.4251	49,951	86,827	36,876
8	2010	0	117,504	117,504	227,376	109,872	0.3762	44,205	85,539	41,334
9	2011	0	117,504	117,504	234,000	116,496	0.3329	39,117	77,899	38,782
10	2012	0	117,504	117,504	234,000	116,496	0.2946	34,617	68,936	34,319
11	2013	0	117,504	117,504	234,000	116,496	0.2607	30,633	61,004	30,371
12	2014	0	117,504	117,504	234,000	116,496	0.2307	27,108	53,984	26,876
13	2015	0	117,504	117,504	234,000	116,496	0.2042	23,994	47,783	23,789
14	2016	0	117,504	117,504	234,000	116,496	0.1807	21,233	42,284	21,051
15	2017	0	117,504	117,504	234,000	116,496	0.1599	18,789	37,417	18,628
16	2018	0	117,504	117,504	234,000	116,496	0.1415	16,627	33,111	16,484
17	2019	0	117,504	117,504	234,000	116,496	0.1252	14,712	29,297	14,585
18	2020	0	117,504	117,504	234,000	116,496	0.1108	13,019	25,927	12,908
19	2021	0	117,504	117,504	234,000	116,496	0.0981	11,527	22,955	11,428
20	2022	0	117,504	117,504	234,000	116,496	0.0868	10,199	20,311	10,112
21	2023	0	117,504	117,504	234,000	116,496	0.0768	9,024	17,971	8,947
22	2024	0	117,504	117,504	234,000	116,496	0.0680	7,990	15,912	7,922
23	2025	0	117,504	117,504	234,000	116,496	0.0601	7,062	14,063	7,001
24	2026	0	117,504	117,504	234,000	116,496	0.0532	6,251	12,449	6,198
25	2027	0	117,504	117,504	234,000	116,496	0.0471	5,534	11,021	5,487
26	2028	0	117,504	117,504	234,000	116,496	0.0417	4,900	9,758	4,858
27	2029	0	117,504	117,504	234,000	116,496	0.0369	4,336	8,635	4,299
28	2030	0	117,504	117,504	234,000	116,496	0.0326	3,831	7,628	3,797
29	2031	0	117,504	117,504	234,000	116,496	0.0289	3,396	6,763	3,367
30	2032	0	117,504	117,504	234,000	116,496	0.0256	3,008	5,990	2,982
31	2033	0	117,504	117,504	234,000	116,496	0.0226	2,656	5,288	2,632
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		219,000	3,457,345	3,676,345	6,299,100	2,622,755		902,406	1,080,462	178,056

N.P.V=	178,056
B/C=	1.20
EIRR=	19.1%

Table G.3.35 (7) Economic Evaluation for Proposed Project in Algar char Guram (Grand Total)

(Tk)

Year	Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1	2,115,760	81,580	2,197,340	0	-2,197,340	0.8696	1,910,807	0	-1,910,807
2	945,130	349,394	1,294,524	452,071	-842,454	0.7561	978,790	341,811	-636,979
3	223,110	484,844	707,954	780,810	72,856	0.6575	465,480	513,382	47,902
4	0	507,464	507,464	981,343	473,879	0.5718	290,168	561,132	270,964
5	0	512,388	512,388	1,148,626	636,238	0.4972	254,759	571,097	316,338
6	0	512,388	512,388	1,182,366	669,978	0.4323	221,505	511,137	289,632
7	0	512,388	512,388	1,212,750	700,362	0.3759	192,607	455,873	263,266
8	0	512,388	512,388	1,235,876	723,488	0.3269	167,500	404,008	236,508
9	0	512,388	512,388	1,242,500	730,112	0.2843	145,672	353,243	207,571
10	0	512,388	512,388	1,242,500	730,112	0.2472	126,662	307,146	180,484
11	0	512,388	512,388	1,242,500	730,112	0.2149	110,112	267,013	156,901
12	0	512,388	512,388	1,242,500	730,112	0.1869	95,765	232,223	136,458
13	0	512,388	512,388	1,242,500	730,112	0.1625	83,263	201,906	118,643
14	0	512,388	512,388	1,242,500	730,112	0.1413	72,400	175,565	103,165
15	0	512,388	512,388	1,242,500	730,112	0.1229	62,972	152,703	89,731
16	0	512,388	512,388	1,242,500	730,112	0.1069	54,774	132,823	78,049
17	0	511,218	511,218	1,239,800	728,582	0.0929	47,492	115,177	67,685
18	0	511,218	511,218	1,239,800	728,582	0.0808	41,306	100,176	58,870
19	0	511,218	511,218	1,239,800	728,582	0.0703	35,939	87,158	51,219
20	0	511,218	511,218	1,239,800	728,582	0.0611	31,235	75,752	44,517
21	0	511,218	511,218	1,239,800	728,582	0.0531	27,146	65,833	38,687
22	0	511,218	511,218	1,239,800	728,582	0.0462	23,618	57,279	33,661
23	0	511,218	511,218	1,239,800	728,582	0.0402	20,551	49,840	29,289
24	0	511,218	511,218	1,239,800	728,582	0.0349	17,842	43,269	25,427
25	0	511,218	511,218	1,239,800	728,582	0.0304	15,541	37,690	22,149
26	0	511,218	511,218	1,239,800	728,582	0.0264	13,496	32,731	19,235
27	0	511,218	511,218	1,239,800	728,582	0.0230	11,758	28,515	16,757
28	0	511,218	511,218	1,239,800	728,582	0.0200	10,224	24,796	14,572
29	0	511,218	511,218	1,239,800	728,582	0.0174	8,895	21,573	12,678
30	0	511,218	511,218	1,239,800	728,582	0.0151	7,719	18,721	11,002
31	0	511,218	511,218	1,239,800	728,582	0.0131	6,697	16,241	9,544
32	0	0	0	0	0	0.0114	0	0	0
33	0	0	0	0	0	0.0099	0	0	0
34	0	0	0	0	0	0.0086	0	0	0
35	0	0	0	0	0	0.0075	0	0	0
36	0	0	0	0	0	0.0065	0	0	0
37	0	0	0	0	0	0.0057	0	0	0
38	0	0	0	0	0	0.0049	0	0	0
39	0	0	0	0	0	0.0043	0	0	0
40	0	0	0	0	0	0.0037	0	0	0
41	0	0	0	0	0	0.0032	0	0	0
42	0	0	0	0	0	0.0028	0	0	0
43	0	0	0	0	0	0.0025	0	0	0
44	0	0	0	0	0	0.0021	0	0	0
45	0	0	0	0	0	0.0019	0	0	0
	3,284,000	15,240,208	18,524,208	35,530,841	17,006,633		5,552,695	5,955,813	403,118

N.P.V=	403,118
B/C=	1.07
EIRR=	16.9%

Table G.3.36 Result of Financial and Economic Analysis (Gurai Gram)

Project	Financial			Economic		
	NPV	B/C	EIRR	NPV	B/C	EIRR
1 Flood Proofing and Improveemnt of Living Environment						
1-1 Wave Protection Plan	-	-	-	318,022	1.03	15.6%
1-2 Raised Hand Tubewell	-	-	-	148,727	1.79	38.7%
1-3 Drying Yard with Parboiling Plant	Included in Business Management for a Parboiling Plant Operation			Included in Business Management for a Parboiling Plant Operation		
1-4 Flood Warning and Evacuation	-	-	-	-	Intangible	-
2 Livelihood Development						
2-1 Technical Training on Fish Culture Utilizing Borrow Pits	41,741	1.26	17.8%	43,182	1.30	18.8%
2-2 Poultry Promotion	30,517	1.37	23.7%	27,466	1.37	23.7%
2-3 Training on Enterpreneurship and Business Management for a Parboiling Plant Operation	813,721	1.05	36.0%	876,547	1.06	45.0%
2-4 Home Gardening Promotion with Health and Nutrition Education	-	Intangible	-	-	Intangible	-
2-5 Nursery Development for Social Forestry	25,722	1.07	15.8%	22,489	1.07	15.7%
3 Saving and Credit Scheme	-	-	-	-	-	-
Total	990,847	1.03	16.5%	1,362,413	1.05	17.3%

Table G.3.36 (1) Economic Evaluation for Proposed Project in Gurai Gram (Wave Protection Plan) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	805,680	0	805,680	0	-805,680	0.8696	700,619	0	-700,619
2	2004	3,222,720	11,426	3,234,146	139,080	-3,095,066	0.7561	2,445,338	105,158	-2,340,180
3	2005	5,236,920	57,132	5,294,052	695,400	-4,598,652	0.6575	3,480,839	457,226	-3,023,613
4	2006	4,162,680	131,404	4,294,084	1,599,420	-2,694,664	0.5718	2,455,357	914,548	-1,540,809
5	2007	0	190,440	190,440	2,318,000	2,127,560	0.4972	94,687	1,152,510	1,057,823
6	2008	0	190,440	190,440	2,318,000	2,127,560	0.4323	82,327	1,002,071	919,744
7	2009	0	190,440	190,440	2,318,000	2,127,560	0.3759	71,586	871,336	799,750
8	2010	0	190,440	190,440	2,318,000	2,127,560	0.3269	62,255	757,754	695,499
9	2011	0	190,440	190,440	2,318,000	2,127,560	0.2843	54,142	659,007	604,865
10	2012	0	190,440	190,440	2,318,000	2,127,560	0.2472	47,077	573,010	525,933
11	2013	0	190,440	190,440	2,318,000	2,127,560	0.2149	40,926	498,138	457,212
12	2014	0	190,440	190,440	2,318,000	2,127,560	0.1869	35,593	433,234	397,641
13	2015	0	190,440	190,440	2,318,000	2,127,560	0.1625	30,947	376,675	345,728
14	2016	0	190,440	190,440	2,318,000	2,127,560	0.1413	26,909	327,533	300,624
15	2017	0	190,440	190,440	2,318,000	2,127,560	0.1229	23,405	284,882	261,477
16	2018	0	190,440	190,440	2,318,000	2,127,560	0.1069	20,358	247,794	227,436
17	2019	0	190,440	190,440	2,318,000	2,127,560	0.0929	17,692	215,342	197,650
18	2020	0	190,440	190,440	2,318,000	2,127,560	0.0808	15,388	187,294	171,906
19	2021	0	190,440	190,440	2,318,000	2,127,560	0.0703	13,388	162,955	149,567
20	2022	0	190,440	190,440	2,318,000	2,127,560	0.0611	11,636	141,630	129,994
21	2023	0	190,440	190,440	2,318,000	2,127,560	0.0531	10,112	123,086	112,974
22	2024	0	190,440	190,440	2,318,000	2,127,560	0.0462	8,798	107,092	98,294
23	2025	0	190,440	190,440	2,318,000	2,127,560	0.0402	7,656	93,184	85,528
24	2026	0	190,440	190,440	2,318,000	2,127,560	0.0349	6,646	80,898	74,252
25	2027	0	190,440	190,440	2,318,000	2,127,560	0.0304	5,789	70,467	64,678
26	2028	0	190,440	190,440	2,318,000	2,127,560	0.0264	5,028	61,195	56,167
27	2029	0	190,440	190,440	2,318,000	2,127,560	0.0230	4,380	53,314	48,934
28	2030	0	190,440	190,440	2,318,000	2,127,560	0.0200	3,809	46,360	42,551
29	2031	0	190,440	190,440	2,318,000	2,127,560	0.0174	3,314	40,333	37,019
30	2032	0	190,440	190,440	2,318,000	2,127,560	0.0151	2,876	35,002	32,126
31	2033	0	190,440	190,440	2,318,000	2,127,560	0.0131	2,495	30,366	27,871
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		13,428,000	5,341,842	18,769,842	65,019,900	46,250,058		9,791,372	10,109,394	318,022

N.P.V=	318,022
B/C=	1.03
EIRR=	15.6%

Table G.3.36 (2) Economic Evaluation for Proposed Project in Gurai Gram (Raised Hand Tubewell) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	21,360	0	21,360	0	-21,360	0.8696	18,575	0	-18,575
2	2004	56,960	1,998	58,958	10,368	-48,590	0.7561	44,578	7,839	-36,739
3	2005	51,620	7,326	58,946	38,016	-20,930	0.6575	38,757	24,996	-13,761
4	2006	48,060	12,155	60,215	63,072	2,858	0.5718	34,431	36,065	1,634
5	2007	0	16,650	16,650	86,400	69,750	0.4972	8,278	42,958	34,680
6	2008	0	16,650	16,650	86,400	69,750	0.4323	7,198	37,351	30,153
7	2009	0	16,650	16,650	86,400	69,750	0.3759	6,259	32,478	26,219
8	2010	0	16,650	16,650	86,400	69,750	0.3269	5,443	28,244	22,801
9	2011	0	16,650	16,650	86,400	69,750	0.2843	4,734	24,564	19,830
10	2012	0	16,650	16,650	86,400	69,750	0.2472	4,116	21,358	17,242
11	2013	0	16,650	16,650	86,400	69,750	0.2149	3,578	18,567	14,989
12	2014	0	16,650	16,650	86,400	69,750	0.1869	3,112	16,148	13,036
13	2015	0	16,650	16,650	86,400	69,750	0.1625	2,706	14,040	11,334
14	2016	0	16,650	16,650	86,400	69,750	0.1413	2,353	12,208	9,855
15	2017	0	16,650	16,650	86,400	69,750	0.1229	2,046	10,619	8,573
16	2018	0	16,650	16,650	86,400	69,750	0.1069	1,780	9,236	7,456
17	2019	0	0	0	0	0	0.0929	0	0	0
18	2020	0	0	0	0	0	0.0808	0	0	0
19	2021	0	0	0	0	0	0.0703	0	0	0
20	2022	0	0	0	0	0	0.0611	0	0	0
21	2023	0	0	0	0	0	0.0531	0	0	0
22	2024	0	0	0	0	0	0.0462	0	0	0
23	2025	0	0	0	0	0	0.0402	0	0	0
24	2026	0	0	0	0	0	0.0349	0	0	0
25	2027	0	0	0	0	0	0.0304	0	0	0
26	2028	0	0	0	0	0	0.0264	0	0	0
27	2029	0	0	0	0	0	0.0230	0	0	0
28	2030	0	0	0	0	0	0.0200	0	0	0
29	2031	0	0	0	0	0	0.0174	0	0	0
30	2032	0	0	0	0	0	0.0151	0	0	0
31	2033	0	0	0	0	0	0.0131	0	0	0
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		178,000	221,279	399,279	1,148,256	748,978		187,944	336,671	148,727

N.P.V=	148,727
B/C=	1.79
EIRR=	38.7%

Table G.3.36 (3) Economic Evaluation for Proposed Project in Gurai Gram (Fish Culture Utilizing Borrow Pits) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	96,000	0	96,000	0	-96,000	0.8850	84,960	0	-84,960
2	2004	0	9,189	9,189	10,719	1,530	0.7831	7,196	8,394	1,198
3	2005	0	9,189	9,189	21,438	12,249	0.6931	6,369	14,859	8,490
4	2006	0	9,189	9,189	32,157	22,968	0.6133	5,636	19,722	14,086
5	2007	0	9,189	9,189	32,157	22,968	0.5428	4,988	17,455	12,467
6	2008	0	9,189	9,189	32,157	22,968	0.4803	4,413	15,445	11,032
7	2009	0	9,189	9,189	32,157	22,968	0.4251	3,906	13,670	9,764
8	2010	0	9,189	9,189	32,157	22,968	0.3762	3,457	12,097	8,640
9	2011	0	9,189	9,189	32,157	22,968	0.3329	3,059	10,705	7,646
10	2012	0	9,189	9,189	32,157	22,968	0.2946	2,707	9,473	6,766
11	2013	0	9,189	9,189	32,157	22,968	0.2607	2,396	8,383	5,987
12	2014	0	9,189	9,189	32,157	22,968	0.2307	2,120	7,419	5,299
13	2015	0	9,189	9,189	32,157	22,968	0.2042	1,876	6,566	4,690
14	2016	0	9,189	9,189	32,157	22,968	0.1807	1,660	5,811	4,151
15	2017	0	9,189	9,189	32,157	22,968	0.1599	1,469	5,142	3,673
16	2018	0	9,189	9,189	32,157	22,968	0.1415	1,300	4,550	3,250
17	2019	0	9,189	9,189	32,157	22,968	0.1252	1,150	4,026	2,876
18	2020	0	9,189	9,189	32,157	22,968	0.1108	1,018	3,563	2,545
19	2021	0	9,189	9,189	32,157	22,968	0.0981	901	3,155	2,254
20	2022	0	9,189	9,189	32,157	22,968	0.0868	798	2,791	1,993
21	2023	0	9,189	9,189	32,157	22,968	0.0768	706	2,470	1,764
22	2024	0	9,189	9,189	32,157	22,968	0.0680	625	2,187	1,562
23	2025	0	9,189	9,189	32,157	22,968	0.0601	552	1,933	1,381
24	2026	0	9,189	9,189	32,157	22,968	0.0532	489	1,711	1,222
25	2027	0	9,189	9,189	32,157	22,968	0.0471	433	1,515	1,082
26	2028	0	9,189	9,189	32,157	22,968	0.0417	383	1,341	958
27	2029	0	9,189	9,189	32,157	22,968	0.0369	339	1,187	848
28	2030	0	9,189	9,189	32,157	22,968	0.0326	300	1,048	748
29	2031	0	9,189	9,189	32,157	22,968	0.0289	266	929	663
30	2032	0	9,189	9,189	32,157	22,968	0.0256	235	823	588
31	2033	0	9,189	9,189	32,157	22,968	0.0226	208	727	519
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		96,000	275,670	371,670	932,553	560,883		145,915	189,097	43,182

N.P.V=	43,182
B/C=	1.30
EIRR=	18.8%

Table G.3.36 (4) Economic Evaluation for Proposed Project in Gurai Gram (Poultry Promotion) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	3,780	0	3,780	0	-3,780	0.8850	3,345	0	-3,345
2	2004	9,450	1,386	10,836	788	-10,049	0.7831	8,486	617	-7,869
3	2005	7,290	4,851	12,141	2,756	-9,385	0.6931	8,415	1,910	-6,505
4	2006	6,480	7,524	14,004	4,275	-9,729	0.6133	8,589	2,622	-5,967
5	2007	0	9,900	9,900	11,250	1,350	0.5428	5,374	6,107	733
6	2008	0	9,900	9,900	22,500	12,600	0.4803	4,755	10,807	6,052
7	2009	0	9,900	9,900	22,500	12,600	0.4251	4,208	9,565	5,357
8	2010	0	9,900	9,900	22,500	12,600	0.3762	3,724	8,465	4,741
9	2011	0	9,900	9,900	22,500	12,600	0.3329	3,296	7,490	4,194
10	2012	0	9,900	9,900	22,500	12,600	0.2946	2,917	6,629	3,712
11	2013	0	9,900	9,900	22,500	12,600	0.2607	2,581	5,866	3,285
12	2014	0	9,900	9,900	22,500	12,600	0.2307	2,284	5,191	2,907
13	2015	0	9,900	9,900	22,500	12,600	0.2042	2,022	4,595	2,573
14	2016	0	9,900	9,900	22,500	12,600	0.1807	1,789	4,066	2,277
15	2017	0	9,900	9,900	22,500	12,600	0.1599	1,583	3,598	2,015
16	2018	0	9,900	9,900	22,500	12,600	0.1415	1,401	3,184	1,783
17	2019	0	9,900	9,900	22,500	12,600	0.1252	1,239	2,817	1,578
18	2020	0	9,900	9,900	22,500	12,600	0.1108	1,097	2,493	1,396
19	2021	0	9,900	9,900	22,500	12,600	0.0981	971	2,207	1,236
20	2022	0	9,900	9,900	22,500	12,600	0.0868	859	1,953	1,094
21	2023	0	9,900	9,900	22,500	12,600	0.0768	760	1,728	968
22	2024	0	9,900	9,900	22,500	12,600	0.0680	673	1,530	857
23	2025	0	9,900	9,900	22,500	12,600	0.0601	595	1,352	757
24	2026	0	9,900	9,900	22,500	12,600	0.0532	527	1,197	670
25	2027	0	9,900	9,900	22,500	12,600	0.0471	466	1,060	594
26	2028	0	9,900	9,900	22,500	12,600	0.0417	413	938	525
27	2029	0	9,900	9,900	22,500	12,600	0.0369	365	830	465
28	2030	0	9,900	9,900	22,500	12,600	0.0326	323	734	411
29	2031	0	9,900	9,900	22,500	12,600	0.0289	286	650	364
30	2032	0	9,900	9,900	22,500	12,600	0.0256	253	576	323
31	2033	0	9,900	9,900	22,500	12,600	0.0226	224	509	285
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		27,000	281,061	308,061	604,069	296,008		73,820	101,286	27,466

N.P.V=	27,466
B/C=	1.37
EIRR=	23.7%

Table G.3.36 (5) Economic Evaluation for Proposed Project in Gurai Gram (Parboiling Plant Operation) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	614,000	0	614,000	0	-614,000	0.8696	533,934	0	-533,934
2	2004	0	2,823,097	2,823,097	3,100,500	277,403	0.7561	2,134,544	2,344,288	209,744
3	2005	0	2,823,097	2,823,097	3,100,500	277,403	0.6575	1,856,186	2,038,579	182,393
4	2006	0	2,823,097	2,823,097	3,100,500	277,403	0.5718	1,614,247	1,772,866	158,619
5	2007	0	2,823,097	2,823,097	3,100,500	277,403	0.4972	1,403,644	1,541,569	137,925
6	2008	0	2,823,097	2,823,097	3,100,500	277,403	0.4323	1,220,425	1,340,346	119,921
7	2009	0	2,823,097	2,823,097	3,100,500	277,403	0.3759	1,061,202	1,165,478	104,276
8	2010	0	2,823,097	2,823,097	3,100,500	277,403	0.3269	922,870	1,013,553	90,683
9	2011	0	2,823,097	2,823,097	3,100,500	277,403	0.2843	802,606	881,472	78,866
10	2012	0	2,823,097	2,823,097	3,100,500	277,403	0.2472	697,870	766,444	68,574
11	2013	0	2,823,097	2,823,097	3,100,500	277,403	0.2149	606,684	666,297	59,613
12	2014	0	2,823,097	2,823,097	3,100,500	277,403	0.1869	527,637	579,483	51,846
13	2015	0	2,823,097	2,823,097	3,100,500	277,403	0.1625	458,753	503,831	45,078
14	2016	0	2,823,097	2,823,097	3,100,500	277,403	0.1413	398,904	438,101	39,197
15	2017	0	2,823,097	2,823,097	3,100,500	277,403	0.1229	346,959	381,051	34,092
16	2018	0	2,823,097	2,823,097	3,100,500	277,403	0.1069	301,789	331,443	29,654
17	2019	0	0	0	0	0	0.0929	0	0	0
18	2020	0	0	0	0	0	0.0808	0	0	0
19	2021	0	0	0	0	0	0.0703	0	0	0
20	2022	0	0	0	0	0	0.0611	0	0	0
21	2023	0	0	0	0	0	0.0531	0	0	0
22	2024	0	0	0	0	0	0.0462	0	0	0
23	2025	0	0	0	0	0	0.0402	0	0	0
24	2026	0	0	0	0	0	0.0349	0	0	0
25	2027	0	0	0	0	0	0.0304	0	0	0
26	2028	0	0	0	0	0	0.0264	0	0	0
27	2029	0	0	0	0	0	0.0230	0	0	0
28	2030	0	0	0	0	0	0.0200	0	0	0
29	2031	0	0	0	0	0	0.0174	0	0	0
30	2032	0	0	0	0	0	0.0151	0	0	0
31	2033	0	0	0	0	0	0.0131	0	0	0
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		614,000	42,346,455	42,960,455	46,507,500	3,547,045		14,888,254	15,764,801	876,547

N.P.V=	876,547
B/C=	1.06
EIRR=	45.0%

Table G.3.36 (6) Economic Evaluation for Proposed Project in Gurai Gram (Nursery Development for Social Forestry) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	3,640	0	3,640	0	-3,640	0.8850	3,221	0	-3,221
2	2004	9,100	8,064	17,164	0	-17,164	0.7831	13,441	0	-13,441
3	2005	7,020	28,224	35,244	3,150	-32,094	0.6931	24,428	2,183	-22,245
4	2006	6,240	43,776	50,016	11,025	-38,991	0.6133	30,675	6,762	-23,913
5	2007	0	57,600	57,600	15,750	-41,850	0.5428	31,265	8,549	-22,716
6	2008	0	57,600	57,600	45,000	-12,600	0.4803	27,665	21,614	-6,051
7	2009	0	57,600	57,600	90,000	32,400	0.4251	24,486	38,259	13,773
8	2010	0	57,600	57,600	90,000	32,400	0.3762	21,669	33,858	12,189
9	2011	0	57,600	57,600	90,000	32,400	0.3329	19,175	29,961	10,786
10	2012	0	57,600	57,600	90,000	32,400	0.2946	16,969	26,514	9,545
11	2013	0	57,600	57,600	90,000	32,400	0.2607	15,016	23,463	8,447
12	2014	0	57,600	57,600	90,000	32,400	0.2307	13,288	20,763	7,475
13	2015	0	57,600	57,600	90,000	32,400	0.2042	11,762	18,378	6,616
14	2016	0	57,600	57,600	90,000	32,400	0.1807	10,408	16,263	5,855
15	2017	0	57,600	57,600	90,000	32,400	0.1599	9,210	14,391	5,181
16	2018	0	57,600	57,600	90,000	32,400	0.1415	8,150	12,735	4,585
17	2019	0	57,600	57,600	90,000	32,400	0.1252	7,212	11,268	4,056
18	2020	0	57,600	57,600	90,000	32,400	0.1108	6,382	9,972	3,590
19	2021	0	57,600	57,600	90,000	32,400	0.0981	5,651	8,829	3,178
20	2022	0	57,600	57,600	90,000	32,400	0.0868	5,000	7,812	2,812
21	2023	0	57,600	57,600	90,000	32,400	0.0768	4,424	6,912	2,488
22	2024	0	57,600	57,600	90,000	32,400	0.0680	3,917	6,120	2,203
23	2025	0	57,600	57,600	90,000	32,400	0.0601	3,462	5,409	1,947
24	2026	0	57,600	57,600	90,000	32,400	0.0532	3,064	4,788	1,724
25	2027	0	57,600	57,600	90,000	32,400	0.0471	2,713	4,239	1,526
26	2028	0	57,600	57,600	90,000	32,400	0.0417	2,402	3,753	1,351
27	2029	0	57,600	57,600	90,000	32,400	0.0369	2,125	3,321	1,196
28	2030	0	57,600	57,600	90,000	32,400	0.0326	1,878	2,934	1,056
29	2031	0	57,600	57,600	90,000	32,400	0.0289	1,665	2,601	936
30	2032	0	57,600	57,600	90,000	32,400	0.0256	1,475	2,304	829
31	2033	0	57,600	57,600	90,000	32,400	0.0226	1,302	2,034	732
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		26,000	1,635,264	1,661,264	2,324,925	663,661		333,500	355,989	22,489

N.P.V=	22,489
B/C=	1.07
EIRR=	15.7%

Table G.3.36 (7) Economic Evaluation for Proposed Project in Gurai Gram (Grand Total)

(Tk)

Year	Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 12%			
						Discount Rate	Cost	Benefit	N.P.V
1	1,550,200	0	1,550,200	0	-1,550,200	0.8696	1,348,054	0	-1,348,054
2	3,312,580	2,855,160	6,167,740	3,261,455	-2,906,286	0.7561	4,663,429	2,465,986	-2,197,443
3	5,313,920	2,929,819	8,243,739	3,861,260	-4,382,479	0.6575	5,420,258	2,538,779	-2,881,479
4	4,233,300	3,027,144	7,260,444	4,810,449	-2,449,995	0.5718	4,151,522	2,750,615	-1,400,907
5	0	3,106,876	3,106,876	5,564,057	2,457,181	0.4972	1,544,739	2,766,449	1,221,710
6	0	3,106,876	3,106,876	5,604,557	2,497,681	0.4323	1,343,102	2,422,850	1,079,748
7	0	3,106,876	3,106,876	5,649,557	2,542,681	0.3759	1,167,875	2,123,668	955,793
8	0	3,106,876	3,106,876	5,649,557	2,542,681	0.3269	1,015,638	1,846,840	831,202
9	0	3,106,876	3,106,876	5,649,557	2,542,681	0.2843	883,285	1,606,169	722,884
10	0	3,106,876	3,106,876	5,649,557	2,542,681	0.2472	768,020	1,396,570	628,550
11	0	3,106,876	3,106,876	5,649,557	2,542,681	0.2149	667,668	1,214,090	546,422
12	0	3,106,876	3,106,876	5,649,557	2,542,681	0.1869	580,675	1,055,902	475,227
13	0	3,106,876	3,106,876	5,649,557	2,542,681	0.1625	504,867	918,053	413,186
14	0	3,106,876	3,106,876	5,649,557	2,542,681	0.1413	439,002	798,282	359,280
15	0	3,106,876	3,106,876	5,649,557	2,542,681	0.1229	381,835	694,331	312,496
16	0	3,106,876	3,106,876	5,649,557	2,542,681	0.1069	332,125	603,938	271,813
17	0	267,129	267,129	2,462,657	2,195,528	0.0929	24,816	228,781	203,965
18	0	267,129	267,129	2,462,657	2,195,528	0.0808	21,584	198,983	177,399
19	0	267,129	267,129	2,462,657	2,195,528	0.0703	18,779	173,125	154,346
20	0	267,129	267,129	2,462,657	2,195,528	0.0611	16,322	150,468	134,146
21	0	267,129	267,129	2,462,657	2,195,528	0.0531	14,185	130,767	116,582
22	0	267,129	267,129	2,462,657	2,195,528	0.0462	12,341	113,775	101,434
23	0	267,129	267,129	2,462,657	2,195,528	0.0402	10,739	98,999	88,260
24	0	267,129	267,129	2,462,657	2,195,528	0.0349	9,323	85,947	76,624
25	0	267,129	267,129	2,462,657	2,195,528	0.0304	8,121	74,865	66,744
26	0	267,129	267,129	2,462,657	2,195,528	0.0264	7,052	65,014	57,962
27	0	267,129	267,129	2,462,657	2,195,528	0.0230	6,144	56,641	50,497
28	0	267,129	267,129	2,462,657	2,195,528	0.0200	5,343	49,253	43,910
29	0	267,129	267,129	2,462,657	2,195,528	0.0174	4,648	42,850	38,202
30	0	267,129	267,129	2,462,657	2,195,528	0.0151	4,034	37,186	33,152
31	0	267,129	267,129	2,462,657	2,195,528	0.0131	3,499	32,261	28,762
32	0	0	0	0	0	0.0114	0	0	0
33	0	0	0	0	0	0.0099	0	0	0
34	0	0	0	0	0	0.0086	0	0	0
35	0	0	0	0	0	0.0075	0	0	0
36	0	0	0	0	0	0.0065	0	0	0
37	0	0	0	0	0	0.0057	0	0	0
38	0	0	0	0	0	0.0049	0	0	0
39	0	0	0	0	0	0.0043	0	0	0
40	0	0	0	0	0	0.0037	0	0	0
41	0	0	0	0	0	0.0032	0	0	0
42	0	0	0	0	0	0.0028	0	0	0
43	0	0	0	0	0	0.0025	0	0	0
44	0	0	0	0	0	0.0021	0	0	0
45	0	0	0	0	0	0.0019	0	0	0
	14,410,000	50,101,571	64,511,571	116,537,203	52,025,632		25,379,024	26,741,437	1,362,413

N.P.V=	1,362,413
B/C=	1.05
EIRR=	17.3%

CHAPTER 4 FINANCIAL EVALUATION

4.1 General

Financial analysis is carried out to assess individual household economy, and only profitable projects are the target of the analysis. Only livelihood development activities, for instance, poultry promotion, mulberry plantation and cocoon development, fish culture using borrow pits, and parboiling plant operation, are the target of this analysis. The projects for homestead raising, school ground raising, etc., are not suitable for financial analysis because these projects are not profitable. Financial analysis is conducted by using actual market prices, so called financial prices.

4.2 Basic Evaluation Criteria

Basic evaluation criteria, such as opportunity cost of capital, Standard Conversion Factor (SCF) and Shadow Wedge Rate (SWR), adopted in this analysis is based on that stipulated in the Flood Planning Coordination Organization's Guidelines for Project Assessment (hereinafter called as "FPCO's GPA") prepared for the Flood Action Plan (FAP) in May 1992, and that stipulated in the "Estimation of Economic Prices of Selected Products for Use in Valuation of Water Management Projects in Bangladesh", published in March 1998 by Dr. Q Shahabuddin and Iqbal Ahmed Syed, updating version of FPCO's GPA (hereinafter called as "Updated GPA").

Basic criteria in above mentioned guidelines have been applied for water sector projects in Bangladesh by Government of Bangladesh and foreign donor agencies since it was established. National Water Management Plan Project (NWMPP) Study, managed by Water Resources Planning Organization (WARPO) also applied these criteria. Basic evaluation criteria adopted in this analysis are mentioned below.

4.2.1 Project Life

Project Life will be set up with considering the utility life of the proposed facilities.

4.2.2 Discount Rate

Discounting is a necessary process to relate project costs and benefits occurring at different points of time onto a common time base, usually the present. Generally if it is a case of private firm investment, actual capital market rate will be applied, and in case the project is implemented by borrowed money, the interest rate for the borrowed money will be applied and if it is analyzed in terms of national economy, opportunity cost will be the discount rate.

4.3 Project Cost

Project cost comprises direct and indirect project const, and annual operation and maintenance cost. Financial costs used in this analysis are expressed in market price in 2001/2002. Total projects cost in financial terms are estimated at Tk 468,760 in Algar Char gram, and Tk 3,366,500 and Gurai gram.

4.4 Project Benefit

Project benefit is also express in market price in 2001/2002. Those profitable projects as poultry promotion, skill training on handicraft, and mulberry plantation and cocoon promotion are evaluated in the financial analysis. Total amount of the annual gross benefits both in Algar Char gram and Gurai gram are Tk 832,200 and Tk 3,616,000, and annual net benefits are estimated at Tk 363,500 and Tk 239,500 respectively.

Parboiling plant operation is planned as one of income generating activities. At present, two private-own parboiling facilities are operating in Gurai Gram, which covered around 50% of produced boro paddy in this gram. Remaining amount of paddy is parboiling, drying and milling out side of the gram. To increase deal amount of paddy in Gurai Gram is one of the project purpose so that villagers can get more income from their only-major crop. Scale of planned parboiling plant is same as existing 2 plants, which is possible to deal with 400,000 tone of brown rice per year. Net benefit in market price is estimated at Tk 170,000 per annum.

4.5 Evaluation Results

(1) Algar char Gram

The results of the analysis for the proposed project in Algar char Gram is summarized below.

Table G.4.1 Result of Financial Analysis (Algar char Gram)

Project Component	N.P.V. (Tk.)	B/C	FIRR (%)
Poultry Promotion (chicken)	472,766	1.51	32.2
Skill Training on Handicraft	305,072	1.22	37.0
Mulberry Plantation for Sericulture Promotion	198,099	1.20	19.1

The results show that all support services for livelihood development is financially viable. Among three activities, skill training on handicraft, Nakshi katha waving, is the most profitable. As for these livelihood activities, we can refer to another evaluation results. According to Grameen Bank's estimation, the rate of return at first year on poultry production, handicraft (Nakshi katha) production, and sericulture are estimated at 35%, 292%, and 38% respectively.

(2) Gurai Gram

The results of the analysis are summarized below.

Table G.4.2 Result of Financial Analysis (Gurai Gram)

Project Component	N.P.V. (Tk.)	B/C	FIRR (%)
Technical Training on Fish Culture Utilizing Borrow Pit	41,741	1.26	17.8
Poultry Promotion (duck)	30,517	1.37	23.7
Training on Entrepreneurship and Business Management for a Parboiling Plant Operation	813,721	1.05	36.0
Nursery Development for Social Forestry	25,722	1.07	15.8

The above result shows that the all support services for livelihood development is financially feasible. All results of FIRR are more than 13%, the interest rate of medium term agriculture sector loan in Bangladesh. According to Grameen Bank's estimation, the rate of return at first year on pond fishery, duck farming, and rice mill are estimated at 76%, 72%, and 25% respectively.

4.6 Sensitivity Analysis

Sensitivity analysis is the effective measures for testing the risk of the Project. Among 5 support services for livelihood development, N.P.V of parboiling plant operation is quite large. N.P.V shows magnitude of the project, and the result of financial analysis for the parboil operation might be mush different under different conditions. Further more, Hoar area sometimes, once per three years, hit by early flood (flash flood), and amount of paddy production is reduced in such year. Therefore, parboiling plant operation should be analyzed in sensitivity analysis. The analysis is made for the following cases;

Case 1 : Increase in project costs by 10%

Case 2 : Increase in project costs by 20%

Case 3 : Decrease in procurement of Boro paddy by 20%

Case 4 : Decrease in procurement of Boro paddy by 50%

Case 5 : Combination of (2) and (4)

Following is the result of sensitivity analysis for the parboiling project. The result is expressed in FIRR.

Table G.4.3 Result of Sensitivity Analysis for Parboiling Plant Operation

Conditions	FIRR
Case 1 Increase in project costs by 10%	32.5%
Case 2 Increase in project costs by 20%	29.6%
Case 3 Decrease in procurement of Boro paddy by 20%	27.6%
Case 4 Decrease in procurement of Boro paddy by 50%	14.1%
Case 5 Combination of (2) and (4)	10.7%

The result shows that decrease in handling amount of paddy products is more sensitive to the parboiling plant operation than increase in project cost. In case procurement of boro paddy decreases 20%, FIRR resulted in 27.6%, more than 15%, the effective interest rate for running capital loan at Bangladesh Agriculture Bank. On the other hand, if deal amount of paddy decreases to 50%, the result shows 14.1%, financially unfeasible. When decreasing rate is 40%, FIRR resulted in 18.8%. Therefore, it can be said that the operators of parboiling plant, organized village people, have to keep operation more than 60% of plant capacity.

Table G.4.5 Per Year Income from Different Income Source

Income Source/ Occupation	Place	Date	Income: Survey Result	Income: Per Year Income (Estimation)	Remarks
Villager (Algar cahr Gram)	(Key Informant Survey, JICA Study Team)				
Daily Labor + Fishing + Livestock	Algar char	Mar, 2002	21,400 Tk/year	21,000 Tk/year	Absolute Landless
Daily Labor + Fishing	Algar char	Mar, 2002	21,670 Tk/year	22,000 Tk/year	Absolute Landless
Daily Labor + Fishing	Algar char	Mar, 2002	21,600 Tk/year	22,000 Tk/year	Absolute Landless
Daily Labor	Algar char	Mar, 2002	15,700 Tk/year	16,000 Tk/year	Landless (0.004～0.20ha)
Permanent Work	Algar char	Mar, 2002	12,210 Tk/year	12,000 Tk/year	Landless (0.004～0.20ha)
Daily Labor + Farming	Algar char	Mar, 2002	32,250 Tk/year	32,000 Tk/year	Landless (0.004～0.20ha)
Farming + Daily Labor + Livestock	Algar char	Mar, 2002	25,750 Tk/year	26,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Permanent Work + Farming	Algar char	Mar, 2002	65,500 Tk/year	66,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Permanent Work	Algar char	Mar, 2002	33,480 Tk/year	33,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Farming	Algar char	Mar, 2002	38,700 Tk/year	39,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Farming + Livestock	Algar char	Mar, 2002	16,350 Tk/year	16,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Permanent Work + Farming	Algar char	Mar, 2002	39,375 Tk/year	39,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Villager (Gurai Gram)	(Key Informant Survey, JICA Study Team)				
Fishing + Daily Labor	Gurai	Mar, 2002	16,300 Tk/year	16,000 Tk/year	Absolute Landless
Fishing + Daily Labor + Others	Gurai	Mar, 2002	24,800 Tk/year	25,000 Tk/year	Absolute Landless
Daily Labor	Gurai	Mar, 2002	3,473 Tk/year	3,000 Tk/year	Absolute Landless
Permanent Work + Farming	Gurai	Mar, 2002	39,610 Tk/year	40,000 Tk/year	Landless (0.004～0.20ha)
Permanent Work + Livestock	Gurai	Mar, 2002	70,200 Tk/year	70,000 Tk/year	Landless (0.004～0.20ha)
Permanent Work	Gurai	Mar, 2002	67,400 Tk/year	67,000 Tk/year	Landless (0.004～0.20ha)
Farming + Daily Labor + Livestock	Gurai	Mar, 2002	62,200 Tk/year	62,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Farming + Livestock + Daily Work	Gurai	Mar, 2002	48,100 Tk/year	48,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Permanent Work + Farming	Gurai	Mar, 2002	73,800 Tk/year	74,000 Tk/year	Small Size Landowner (0.21～1.02ha)
Permanent Work + Farming	Gurai	Mar, 2002	188,000 Tk/year	188,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Farming + Permanent Work + Livestock	Gurai	Mar, 2002	83,900 Tk/year	84,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Permanent Work + Farming + Livestock	Gurai	Mar, 2002	151,800 Tk/year	152,000 Tk/year	Medium/Large Size Landowner (more than 1.03ha)
Permanent Work + Fishing + Farming + Livestock	Gurai	Mar, 2002	567,500 Tk/year	568,000 Tk/year	Fish pond owner
Farming + Permanent Work + Fishing + Livestock	Gurai	Mar, 2002	591,800 Tk/year	592,000 Tk/year	Fish pond owner
Farming + Livestock + Permanent Work + Fishing	Gurai	Mar, 2002	192,600 Tk/year	193,000 Tk/year	Fish pond owner
Retailer/ Shop Keeper	(Interview Survey, JICA Study Team)				
Retailer (Fish)	Jigabari Bazaar	Mar, 2002	75 Tk/day	16,400 Tk/year	
Retailer (Fish)	Jigabari Bazaar	Mar, 2002	1,500 Tk/month	16,500 Tk/year	Tax (hat day); 10Tk
Retailer (vegetable)	Jigabari Bazaar	Mar, 2002	1,500 Tk/month	16,500 Tk/year	Tax (hat day); 10Tk
Retailer (Milk)	Jigabari Bazaar	Mar, 2002	80 Tk/day	17,600 Tk/year	No tax
Tea Shop Keeper (small restaurant)	Gaibandha	Feb, 2001	150 Tk/day	45,000 Tk/year	Sales Amount; 1,500Tk/day
Retailer (Fish)	Gaibandha	Feb, 2001	30,000 Tk/year	20,000 Tk/year	Lease fee; 50,000Tk/year, Lease period; 5years
Retailer (Fish)	Gurai Bazaar	Mar, 2002	70 Tk/day	16,300 Tk/year	Lease fee; 800Tk/4or5month, Lease period; 3years
Retailer (Fish)	Gurai Bazaar	Mar, 2002	45 Tk/day	9,200 Tk/year	
Retailer (Fish)	Gurai Bazaar	Mar, 2002	60 Tk/day	12,800 Tk/year	
Tea Shop Keeper (variety store)	Gurai Bazaar	Mar, 2002	50 Tk/day	15,000 Tk/year	Tenant Fee; 7,000Tk
Tea Shop Keeper (tea shop)	Gurai Bazaar	Mar, 2002	100 Tk/day	30,000 Tk/year	Tenant Fee; 10,000Tk, Construction cost; 20,000Tk
Others	(Interview Survey, JICA Study Team)				
Hotel Stuff	Dhaka	Feb, 2001	2,000 Tk/month	24,000 Tk/year	
Public Officer	Dhaka	Feb, 2001	15,000 Tk/month	180,000 Tk/year	
Assistant Officer	Dhaka	Feb, 2001	7,000 Tk/month	84,000 Tk/year	
Consulting Engineer (Senior Class)	Dhaka	Mar, 2002	40,000 Tk/month	480,000 Tk/year	
Consulting Engineer (Middle Class)	Dhaka	Mar, 2002	30,000 Tk/month	360,000 Tk/year	
Rickshaw Puller	Gaibandha	Feb, 2001	100 Tk/day	25,500 Tk/year	Lease fee; 15Tk/day
Car Driver	Dhaka	Feb, 2001	6,000 Tk/month	72,000 Tk/year	
Car Driver	Dhaka	Mar, 2002	7,000 Tk/month	84,000 Tk/year	
Car Driver (inc. over time, long trip)	Dhaka	Mar, 2002	20,000 Tk/month	240,000 Tk/year	
Bus Driver	Gaibandha	Feb, 2001	200 Tk/day	60,000 Tk/year	
Grameen Phone	Bodgar Bazaar	Mar, 2002	700 Tk/week	18,800 Tk/year	Repayment; 360Tk/week×45weeks

Table G.4.6 Per Hectare Net Income from Agricultural Production.

Crop Name	NWMPP		SSWRDSP	JICA Study					
				Char Area		Algar char	Haor Area		Gurai
	Present	Projected	Present	Present	Projected	Gram	Present	Projected	Gram
	1998-99	2005-10	1997	1999/00	2010	2001-02	1999/00	2010	2001-02
Aus (LV)	6,619	6,172	5,691	8,923	8,164		7,860	6,909	
Aus (HYV)	15,219	14,330	1,677	15,439	14,039		9,405	8,261	
Aman (LV)	11,030	10,328	9,029	14,500	13,132	10,800	16,220	14,604	
Aman (HYV)	21,964	20,728	11,893	20,677	19,012		20,204	18,005	
Boro (LV)				10,866	10,023		13,295	12,000	
Boro (HYV)	26,911	25,566	15,314	14,442	13,717	16,800	24,725	22,256	28,100
Wheat	11,042	10,279	10,274	13,511	12,424	7,300	14,932	13,472	
Jute	8,478	8,756	15,587	13,461	13,450	7,000	5,777	5,764	5,100
Pulses (Lentiles)				3,120	3,377		4,131	4,271	
Potato	20,708	21,239	30,471	37,658	42,448		35,291	36,187	
Sweet Potato			1,839			9,500			
Vegetables	16,838	17,384					11,826	13,376	
Onion	49,257	49,780	44,848			8,600			
Sugar Cane	21,297	12,174	48,913	19,275	13,024	13,900	34,770	22,569	
Spices				6,529	8,221		2,511	3,396	
Spices (Chilli)			100,789						86,700
G. Nut				10,253	10,577	14,000	8,199	8,867	
Oil seed									16,300
Oil seed (Mustard)	9,275	9,432	12,268	7,479	8,139	7,800	5,552	6,179	

Source: 1) NWMPP; "National Water Management Plan Project, Draft Development Strategy, August 2000", Water Resources Planning Organization.

2) SSWRDSP; "Small Scale Water Resources Development Sector Project, Appraizal and Siee Overview Report, August 1998", LGED

3) Char Area; Average per hectare net income in the master plan study areas (Gaibandha, Jamalpur, Kurigram, Sirajganj)

4) Haor Area; average per hectare net income in the master plan study areas (Habiganj, Kishoreganj, Netrokona, Sunamganj)

5) Algar char gram and Gurai gram; "Key Informant Survey, March 2002", JICA Study Team.

Table G.4.7 Net Income from Agricultural Products (Char Area: Algar char Gram) (1)

Name of Crops	Unit	HYV Boro (BR-8)			LV Aman (Noyaraz)			Wheat			Jute		
		Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha
Value of Output													
(1) Main Products	kg	4,730	7.4	34,968	1,783	7.3	13,078	2,322	8.2	19,040	1,606	8.1	13,051
(2) By-products	kg	2,301	0.6	1,450	1,650	0.6	1,040			0			0
Total				36,418			14,117			19,040			13,051
Input Cost													
(1) Seed	kg	30	9.6	287	85	10.0	850	120	13.8	1,656	30.0	48.5	1,455
(2) Fertilizers													
Urea	kg	210	6.4	1,350	70	6.5	455	170	6.4	1,088	121	6.5	788
TSP	kg	125	13.0	1,625	0	0.0	0	119	12.4	1,476	0	10.0	0
MP	kg	70	8.4	585	0	0.0	0	40	10.2	407	0	8.5	0
Manure	kg			0			0			0			0
(3) Insecticide	kg			0			0			0			0
(4) Irrigation				6,600									
(5) Farm Tools													
(6) Post Harvest													
Drying													
Parbiling				692									
Threshing	kg	4,903	0.44	2,157	1,875	1.09	2,034	2,450	0.93	2,266	2,000	1.90	3,800
Milling	kg	0	0.00	0	0	0.00	0	2,400	0.98	2,340	0	0.00	0
(7) Land	ha			0			0			0			0
Sub Total (Before Labor Costs)				13,296			3,339			9,233			6,043
(8) Labor													
Family Labor	man day	60			100			44			152		
Hired Labor	man day	90	70	6,300		70	0	36	70	2,520		70	0
Sub Total (Labor Costs)				6,300			0			2,520			0
Total Costs				19,596			3,339			11,753			6,043
Income Before Labor Costs				23,123			10,778			9,807			7,008
Net Income				16,800			10,800			7,300			7,000

Source: Key Informant Survey, March 2002

Table G.4.7 Net Income from Agricultural Products (Char Area: Algar char Gram) (2)

Name of Crops	Unit	Sweet Potato			Mastard			Ground Nuts			Sugarcane		
		Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha
Value of Output													
(1) Main Products	kg	10,500	1.5	15,295	1,125	10.1	11,391	2,000	10.0	20,000	62,500	0.4	25,000
(2) By-products	kg			0			0			0			0
Total				15,295			11,391			20,000			25,000
Input Cost													
(1) Seed	kg	2,500	1.0	2,500	10	21.0	210	111	40.0	4,440	883	2.3	1,987
(2) Fertilizers													
Urea	kg	63	6.5	406	108	6.5	699			0	125	6.5	813
TSP	kg	0	0.0	0	69	12.3	845			0	73	10.5	767
MP	kg	0	0.0	0	12	8.5	102			0	10	8.5	88
Manure	kg			0			0			0			0
(3) Insecticide	kg			0			0			0			0
(4) Irrigation													
(5) Farm Tools													
(6) Post Harvest													
Drying													
Parbiling													
Threshing	kg	0	0.0	0	0	0.0	0			0			0
Milling	kg	0	0.0	0	0	0.0	0			0			0
(7) Land	ha			0			0			0			0
Sub Total (Before Labor Costs)				2,906			1,856			4,440			3,655
(8) Labor													
Family Labor	man day	44			27			25			63		
Hired Labor	man day	41	70	2,870	25	70	1,750	23	70	1,610	106	70	7,420
Sub Total (Labor Costs)				2,870			1,750			1,610			7,420
Total Costs				5,776			3,606			6,050			11,075
Income Before Labor Costs				12,389			9,535			15,560			21,345
Net Income				9,500			7,800			14,000			13,900

Source: Key Informant Survey, March 2002

Table G.4.7 Net Income from Agricultural Products (Char Area: Algar char Gram) (3)

Name of Crops	Unit	Onion		
		Amount/ha	Unit Price	Tk/ha
Value of Output				
(1) Main Products	kg	2,230	10.0	22,300
(2) By-products	kg			0
Total				22,300
Input Cost				
(1) Seed	kg	12	900.0	10,377
(2) Fertilizers				
Urea	kg	13	6.5	85
TSP	kg	77	11.0	847
MP	kg	153	9.0	1,377
Manure	kg			0
(3) Insecticide	kg	11.5	90.0	1,038
(4) Irrigation				
(5) Farm Tools				
(6) Post Harvest				
Drying		2,230	0.3	
Parbiling				
Threshing	kg			0
Milling	kg			0
(7) Land	ha			0
Sub Total (Before Labor Costs)				13,724
(8) Labor				
Family Labor	man day	140		
Hired Labor	man day		70	0
Sub Total (Labor Costs)				0
Total Costs				13,724
Income Before Labor Costs				8,576
Net Income				8,600

Source: Key Informant Survey, March 2002

Table G.4.8 Net Income from Agricultural Products (Haor Area: Gurai Gram)

Name of Crops	Unit	Boro (HYV)			Chillie			Oil Seed			Jute		
		Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha	Amount/ha	Unit Price	Tk/ha
Value of Output													
(1) Main Products	kg	6,126	6.6	40,153	1,878	50.0	93,880	1,285	15.0	19,268	990	8.0	7,921
(2) By-products	kg	2,421	1.1	2,663			0			0			0
Total				42,816			93,880			19,268			7,921
Input Cost													
(1) Seed	kg	30	12.7	380	8	60.0	500	10	20.0	200	30.0	70.0	2,100
(2) Fertilizers													
Urea	kg	37	6.0	222	81	6.0	486	41	6.0	246	100	6.0	600
TSP	kg	36	12.6	454	89	12.8	1,135	49	12.5	606			0
MP	kg	15	10.0	150	32	10.0	320	16	10.0	160			0
Manure	kg			0			0			0			0
(3) Insecticide	kg	1.0	114.5	119	0.3	172.0	58	0.2	90.0	18	0.6	240.0	144
(4) Irrigation				5,481									
(5) Farm Tools													
(6) Post Harvest													
Drying													
Parbiling				0									
Threshing	kg			1,599			0			0			0
Milling	kg			0			0			0			0
(7) Land	ha			0			0			0			0
Sub Total (Before Labor Costs)				8,405			2,499			1,230			2,844
(8) Labor													
Family Labor	man day	60			73			27			164		
Hired Labor	man day	90	70	6,300	67	70	4,690	25	70	1,750		70	0
Sub Total (Labor Costs)				6,300			4,690			1,750			0
Total Costs				14,705			7,189			2,980			2,844
Income Before Labor Costs				34,411			91,381			18,038			5,077
Net Income				28,100			86,700			16,300			5,100

Source: Key Informant Survey, March 2002

Table G.4.9 Financial Analysis of Parboiling Facility (A Case Study in Gurai gram)

Item		Spec	Quantity		Days	Nos. of Labors	Unit Price		Total
I. Income									
	Rice	HYV Boro, 70% of milling rice	189,000	kg			14.8	Tk/kg	2,797,200
	Broken rice	30% of milling rice	81,000	kg			8.0	Tk/kg	648,000
	Total								3,445,200
II. Expenditure									
(1) Operation Cost									
a	Raw Material	Boro paddy (brown rice)	400,000	kg			7.5	Tk/kg	3,000,000
b	Parboiling	Capability: 8,000kg/day*0.8	400,000	kg	63	5	70.0	Tk/day	22,050
		Fuel: Rice husk	Self						
c	Drying	6,000kg/day	440,000	kg	73	20	50.0	Tk/day	73,000
		(=5kg/m^2×800m^2×1.5times/day)							
d	Milling	Weight reduction from paddy: 67.5%	270,000	kg	135	2	50.0	Tk/day	13,500
		Capability: 2,00kg/hr×10hr/day							
		Electricity: 1.5kW×10hr/day	15	kW	135		2.40	Tk/kW/hr	4,860
e	Storing	1worker×365days			365	1	70.0	Tk/day	25,550
(2) Maintenance Cost		Building (1% of building works)	3,530	Tk					3,530
(3) Depreciation		Depreciation Period: 15 years	353,000	Tk			15.0	years	23,533
(4) Loan Repayment		Agri. Sector Long Term Loan, BKB	833,000	Tk			13.0	%	65,263
		Running Capital Loan	300,000	Tk			14.5	%	43,500
									3,274,787
III. Net Income									170,413

Source: Field Survey, JICA Study Team, March 2002.
"Key Informant Survey", JICA Study Team, March 2002.

Note: (1) Caloric value of rice husks is assumed to be 3,600kcal/kg, 1/3 of petroleum fuels.
Weight of rice huskd is 25% of brown rice. Thus, 360×106 kcal is equivalent to 1,400 liter of petroleum fuels.
(2) Construction cost of 400,000 Tk include construction cost for dry yard, building, well, and milling facility.
(3) Weight of brown rice include around 24% of water. After parboiling, the weight increase 10% more.

Table G.4.10 Financial Analysis of Parboiling Facility (A Case Study in Gurai gram)

Year	Construction Cost		Running Cost =3,142,490			Total Cost	Total Income	Net Income Before Repayment	Loan Repayment			Depreciation	Net Income After Repayment	I = 15%			
	Loan	Self	Loan	Self	Total				Construction (13%)	O/M (14.5%)	Total			Discount Rate	Cost	Benefit	N.P.V
1	833,000	0				833,000		-833,000	(941,290)					0.8696	724,377	0	-724,377
2			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500	(941,290)	122,368	43,500	165,868	23,533	113,099	0.7561	2,376,044	2,604,765	228,720
3			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		114,210	43,500	157,710	23,533	121,257	0.6575	2,066,194	2,265,088	198,894
4			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		106,053	43,500	149,553	23,533	129,414	0.5718	1,796,882	1,969,851	172,970
5			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		97,895	43,500	141,395	23,533	137,572	0.4972	1,562,451	1,712,854	150,403
6			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		89,737	43,500	133,237	23,533	145,730	0.4323	1,358,503	1,489,274	130,771
7			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		81,579	43,500	125,079	23,533	153,888	0.3759	1,181,266	1,294,976	113,710
8			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		73,421	43,500	116,921	23,533	162,046	0.3269	1,027,283	1,126,171	98,887
9			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		65,263	43,500	108,763	23,533	170,204	0.2843	893,413	979,414	86,001
10			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		57,105	43,500	100,605	23,533	178,362	0.2472	776,826	851,604	74,778
11			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		48,948	43,500	92,448	23,533	186,519	0.2149	675,323	740,331	65,007
12			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		40,790	43,500	84,290	23,533	194,677	0.1869	587,333	643,871	56,537
13			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		32,632	43,500	76,132	23,533	202,835	0.1625	510,656	559,813	49,156
14			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		24,474	43,500	67,974	23,533	210,993	0.1413	444,035	486,779	42,743
15			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		16,316	43,500	59,816	23,533	219,151	0.1229	386,213	423,391	37,177
16			300,000	2,842,500	3,142,500	3,142,500	3,445,000	302,500		8,158	43,500	51,658	23,533	227,309	0.1069	335,933	368,271	32,337
Total	833,000	0	4,500,000	42,637,500	47,137,500	47,970,500	51,675,000	3,704,500		978,949	652,500	1,631,449	353,000	1,720,051		16,702,732	17,516,447	813,715
(Average)								(302,500)		(65,263)	(43,500)	(108,763)		(170,203)				
																	FIRR=	36.0%
																	B/C=	1.05
																	N.P.V.=	813,715

Table G.4.11 Net Income from Fish Culture Production (Model Farm; Uttar para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Putty Carp			Silver			Total (Tk/ha)	Project (Tk/0.36ha)
		Amount (ha)	Unit price	Tk/ha	Amount (ha)	Unit price	Tk/ha	Amount (ha)	Unit price	Tk/ha	Amount (ha)	Unit price	Tk/ha	Amount (ha)	Unit price	Tk/ha		
Value of Output																		
Main Products	kg	450.0	60	27,000	350.0	50	17,500	450.0	55	24,750	350.0	40	14,000	400.0	40	16,000	99,250	35,730
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			6.0				
Total				27,000			17,500			24,750			14,000			16,000	99,250	35,730
Input Cost																		
(1) Fingerlings	kg	3.0	600	1,800	2.0	500	1,000	2.0	400	800	3.0	400	1,200	3.0	400	1,200	6,000	2,160
Survival Rate	%	90%			90%			90%			65%			70%				
Transportation (Kishoreganj: 35km)	kg	3.0	0.6	60	2.0	0.6	40	2.0	0.6	40	3.0	0.6	60	3.0	0.6	60	260	94
(2) Feed	kg	180.0	8	1,440	180.0	8	1,440	180.0	8	1,440	180.0	8	1,440	180.0	8	1,440	7,200	2,592
Oil cake																		
Urea																		
Paddy husks																		
Transportation (Bajitpur: 8km)	kg	180.0	0.6	860	180.0	0.6	860	180.0	0.6	860	180.0	0.6	860	180.0	0.6	860	4,300	1,548
(3) Maintenance Cost																	2,600	936
(4) Roan Repayment																		
Sub Total (Before Labor Costs)				4,160			3,340			3,140			3,560			3,560	20,360	7,330
(4) Labor																		
Family Labor	mad/day																	
Hired Labor	mad/day	160.0	50		160.0	50		160.0	50		160.0	50		160.0	50		8,000	2,880
Sub Total (Labor Costs)				0			0			0			0			0	8,000	2,880
Total Costs				4,160			3,340			3,140			3,560			3,560	28,360	10,210
Income Before Labor Costs				22,840			14,160			21,610			10,440			12,440	78,890	28,400
Net Income				22,840			14,160			21,610			10,440			12,440	70,890	25,520

Source: Key Informant Survey, March 2002

Table G.4.12 . Financial Analysis of Inland Fishery (A Case Study in Gurai gram)

Year	Construction Cost		Running Cost			Total Cost	Total Income	Net Income Before Repayment	Loan Repayment			Depreciation	Net Income After Repayment	Discount Rate	I = 13%		
	Loan	Self	Laon	Self	Total				Construction (13%)	O/M (13%)	Total				Cost	Benefit	N.P.V
1	107,000	0				107,000		-107,000	(120,910)				-107,000	0.8850	94,695	0	-94,695
2			7,330	2,880	10,210	10,210	17,865	12,760	(120,910)	15,719	953	16,672	0	-3,912	0.7831	7,995	13,990	5,995
3			7,330	2,880	10,210	10,210	35,730	25,520		14,671	953	15,624	0	9,896	0.6931	7,077	24,764	17,688
4			7,330	2,880	10,210	10,210	35,730	25,520		13,623	953	14,576	0	10,944	0.6133	6,262	21,913	15,651
5			7,330	2,880	10,210	10,210	35,730	25,520		12,575	953	13,528	0	11,992	0.5428	5,542	19,394	13,852
6			7,330	2,880	10,210	10,210	35,730	25,520		11,527	953	12,480	0	13,040	0.4803	4,904	17,161	12,257
7			7,330	2,880	10,210	10,210	35,730	25,520		10,479	953	11,432	0	14,088	0.4251	4,340	15,189	10,849
8			7,330	2,880	10,210	10,210	35,730	25,520		9,431	953	10,384	0	15,136	0.3762	3,841	13,442	9,601
9			7,330	2,880	10,210	10,210	35,730	25,520		8,384	953	9,337	0	16,183	0.3329	3,399	11,895	8,496
10			7,330	2,880	10,210	10,210	35,730	25,520		7,336	953	8,289	0	17,231	0.2946	3,008	10,526	7,518
11			7,330	2,880	10,210	10,210	35,730	25,520		6,288	953	7,241	0	18,279	0.2607	2,662	9,315	6,653
12			7,330	2,880	10,210	10,210	35,730	25,520		5,240	953	6,193	0	19,327	0.2307	2,355	8,243	5,887
13			7,330	2,880	10,210	10,210	35,730	25,520		4,192	953	5,145	0	20,375	0.2042	2,085	7,296	5,211
14			7,330	2,880	10,210	10,210	35,730	25,520		3,144	953	4,097	0	21,423	0.1807	1,845	6,456	4,611
15			7,330	2,880	10,210	10,210	35,730	25,520		2,096	953	3,049	0	22,471	0.1599	1,633	5,713	4,081
16			7,330	2,880	10,210	10,210	35,730	25,520		1,048	953	2,001	0	23,519	0.1415	1,445	5,056	3,611
17			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.1252	1,278	4,473	3,195
18			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.1108	1,131	3,959	2,828
19			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0981	1,002	3,505	2,504
20			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0868	886	3,101	2,215
21			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0768	784	2,744	1,960
22			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0680	694	2,430	1,735
23			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0601	614	2,147	1,534
24			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0532	543	1,901	1,358
25			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0471	481	1,683	1,202
26			7,330	2,880	10,210	10,210	35,730	25,520		0	953	953	0	24,567	0.0417	426	1,490	1,064
Total	107,000	0	183,250	72,000	255,250	362,250	875,385	518,240		125,753	23,823	149,576	0	368,665		160,926	217,787	56,861
(Average)								(25,010)		(5,030)	(953)	(5,983)		(19,027)				

FIRR=	21.6%
B/C=	1.35
N.P.V.=	56,861

Table G.4.13 Net Income from Fish Culture Production (Jal para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output														
Main Products	kg	570.0	60	34,200	300.0	50	15,000	500.0	55	27,500	400.0	40	16,000	92,700
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			
Total				34,200			15,000			27,500			16,000	92,700
Input Cost														
(1) Fingerlings	kg	3.0	600	1,800	2.5	450	1,125	3.0	500	1,500	4.0	400	1,600	6,025
Survival Rate	%	90%			85%			80%			90%			
Transportation (Kishoreganj: 35km)	kg	3.0	0.5	50	2.5	0.5	40	3.0	0.5	50	4.0	0.5	70	210
(2) Feed	kg	500.0	8	4,000	500.0	8	4,000	500.0	8	4,000	500.0	8	4,000	16,000
Oil cake														
Urea														
Paddy husks														
Transportation (Hilchia: 1.5km)	kg	500.0	0.5	380	500.0	0.5	380	500.0	0.5	380	500.0	0.5	380	1,520
(3) Maintenance Cost														2,600
Sub Total (Before Labor Costs)				6,230			5,545			5,930			6,050	26,355
(4) Labor														
Family Labor	mad/day													
Hired Labor	mad/day	160.0	50		160.0	50		160.0	50		160.0	50		8,000
Sub Total (Labor Costs)				0			0			0			0	8,000
Total Costs				6,230			5,545			5,930			6,050	34,355
Income Before Labor Costs				27,970			9,455			21,570			9,950	66,345
Net Income				27,970			9,455			21,570			9,950	58,345

Source: Key Informant Survey, March 2002

Table G.4.14 Net Income from Fish Culture Production (Mosjid para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output														
Main Products	kg	450.0	60	27,000	360.0	50	18,000	320.0	50	16,000	500.0	40	20,000	81,000
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			
Total				27,000			18,000			16,000			20,000	81,000
Input Cost														
(1) Fingerlings	kg	2.0	600	1,200	2.0	400	800	2.0	500	1,000	3.0	400	1,200	4,200
Survival Rate	%	90%			85%			85%			90%			
Transportation (Kishoreganj: 35km)	kg	2.0	0.6	40	2.0	0.6	40	2.0	0.6	40	3.0	0.6	60	180
(2) Feed	kg	250.0	8	2,000	250.0	8	2,000	250.0	8	2,000	250.0	8	2,000	8,000
Oil cake														
Urea														
Paddy husks														
Transportation (Sararchar: 7km)	kg	250.0	0.6	1,050	250.0	0.6	1,050	250.0	0.6	1,050	250.0	0.6	1,050	4,200
(3) Maintenance Cost				2,600			2,600			2,600			2,600	2,600
Sub Total (Before Labor Costs)				6,890			6,490			6,690			6,910	19,180
(4) Labor														
Family Labor	mad/day													
Hired Labor	mad/day	160.0	50		160.0	50		160.0	50		160.0	50		8,000
Sub Total (Labor Costs)				0			0			0			0	8,000
Total Costs				6,890			6,490			6,690			6,910	27,180
Income Before Labor Costs				20,110			11,510			9,310			13,090	61,820
Net Income				20,110			11,510			9,310			13,090	53,820

Source: Key Informant Survey, March 2002

Table G.4.15 Net Income from Fish Culture Production (Ghosh para, Gurai Gram)

Name of Fish	Unit	Rui (Large)			Rui (Small)			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output																	
Main Products	kg	600.0	60	36,000	300.0	50	15,000	400.0	50	20,000	500.0	55	27,500	400.0	40	16,000	114,500
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			6.0			
Total				36,000			15,000			20,000			27,500			16,000	114,500
Input Cost																	
(1) Fingerlings	kg	2.0	600	1,200	1.5	500	750	2.0	400	800	2.0	500	1,000	3.0	400	1,200	4,950
Survival Rate	%	80%			75%			80%			80%			85%			
Transportation (Kishoreganj: 35km)	kg	2.0	0.5	40	1.5	0.5	30	2.0	0.5	40	2.0	0.5	40	3.0	0.5	50	200
(2) Feed	kg	650.0	8	5,200	650.0	8	5,200	650.0	8	5,200	650.0	8	5,200	650.0	8	5,200	26,000
Oil cake																	
Urea																	
Paddy husks																	
Transportation (Bajitpur: 9km)	kg	650.0	0.5	2,930	650.0	0.5	2,930	650.0	0.5	2,930	650.0	0.5	2,930	650.0	0.5	2,930	14,650
(3) Maintenance Cost																	2,600
Sub Total (Before Labor Costs)				9,370			8,910			8,970			9,170			9,380	48,400
(4) Labor																	
Family Labor	mad/day																
Hired Labor	mad/day	160.0	50		160.0	50		160.0	50		160.0	50		160.0	50		8,000
Sub Total (Labor Costs)				0			0			0			0			0	8,000
Total Costs				9,370			8,910			8,970			9,170			9,380	56,400
Income Before Labor Costs				26,630			6,090			11,030			18,330			6,620	66,100
Net Income				26,630			6,090			11,030			18,330			6,620	58,100

Source: Key Informant Survey, March 2002

Table G.4.16 Net Income from Fish Culture Production (Pashchim para, Gurai Gram)

Name of Fish	Unit	Rui (Large)			Rui (Small)			Milka			Katura			Putty Carp			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output																				
Main Products	kg	580.0	60	34,800	410.0	50	20,500	350.0	50	17,500	280.0	55	15,400	220.0	50	11,000	600.0	40	24,000	123,200
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			6.0			6.0			
Total				34,800			20,500			17,500			15,400			11,000			24,000	123,200
Input Cost																				
(1) Fingerlings	kg	3.0	600	1,800	2.0	550	1,100	2.0	400	800	2.0	500	1,000	4.0	400	1,600	3.0	400	1,200	7,500
Survival Rate	%	66%			70%			66%			70%			82%			70%			
Transportation (Kishoreganj: 35km)	kg	3.0	0.6	60	2.0	0.6	40	2.0	0.6	40	2.0	0.6	40	4.0	0.6	80	3.0	0.6	60	320
(2) Feed	kg	900.0	9	8,100	900.0	9	8,100	900.0	9	8,100	900.0	9	8,100	900.0	9	8,100	900.0	9	8,100	48,600
Oil cake																				
Urea																				
Paddy husks																				
Transportation (Sararchar: 8km)	kg	900.0	0.6	4,320	900.0	0.6	4,320	900.0	0.6	4,320	900.0	0.6	4,320	900.0	0.6	4,320	900.0	0.6	4,320	25,920
(3) Maintenance Cost																				1,500
Sub Total (Before Labor Costs)				14,280			13,560			13,260			13,460			14,100			13,680	83,840
(4) Labor																				
Family Labor	mad/day																			
Hired Labor	mad/day	90.0	70		90.0	70		90.0	70		90.0	70		90.0	70		90.0	70		6,300
Sub Total (Labor Costs)				0			0			0			0			0			0	6,300
Total Costs				14,280			13,560			13,260			13,460			14,100			13,680	90,140
Income Before Labor Costs				20,520			6,940			4,240			1,940			-3,100			10,320	39,360
Net Income				20,520			6,940			4,240			1,940			-3,100			10,320	33,060

Source: Key Informant Survey, March 2002

Table G.4.17 Net Income from Fish Culture Production (Shibir para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output														
Main Products	kg	600.0	60	36,000	400.0	50	20,000	500.0	60	30,000	400.0	40	16,000	102,000
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			
Total				36,000			20,000			30,000			16,000	102,000
Input Cost														
(1) Fingerlings	kg	3.0	600	1,800	2.0	450	900	2.0	550	1,100	3.0	400	1,200	5,000
Survival Rate	%	90%			80%			80%			85%			
Transportation	kg	3.0	0.4	100	2.0	0.4	70	2.0	0.4	70	3.0	0.4	100	340
(B. Baria: 85km)														
(2) Feed	kg	600.0	9	5,400	600.0	9	5,400	600.0	9	5,400	600.0	9	5,400	21,600
Oil cake														
Urea														
Paddy husks														
Transportation	kg	600.0	0.4	360	600.0	0.4	360	600.0	0.4	360	600.0	0.4	360	1,440
(Hilchia: 1.5km)														
(3) Maintenance Cost														1,600
Sub Total (Before Labor Costs)				7,660			6,730			6,930			7,060	29,980
(4) Labor														
Family Labor	mad/day													
Hired Labor	mad/day	100.0	70		100.0	70		100.0	70		100.0	70		7,000
Sub Total (Labor Costs)				0			0			0			0	7,000
Total Costs				7,660			6,730			6,930			7,060	36,980
Income Before Labor Costs				28,340			13,270			23,070			8,940	72,020
Net Income				28,340			13,270			23,070			8,940	65,020

Source: Key Informant Survey, March 2002

Table G.4.18 Net Income from Fish Culture Production (Pal para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output														
Main Products	kg	450.0	60	27,000	325.0	50	16,250	300.0	55	16,500	500.0	40	20,000	79,750
Turn Over Rate	mouth	6.0			6.0			6.0			6.0			
Total				27,000			16,250			16,500			20,000	79,750
Input Cost														
(1) Fingerlings	kg	3.0	600	1,800	2.0	400	800	2.0	500	1,000	3.0	400	1,200	4,800
Survival Rate	%	90%			85%			90%			90%			
Transportation	kg	3.0	0.6	150	2.0	0.6	100	2.0	0.6	100	3.0	0.6	150	500
(B. Baria: 85km)														
(2) Feed	kg	650.0	8	5,200	650.0	8	5,200	650.0	8	5,200	650.0	8	5,200	20,800
Oil cake														
Urea														
Paddy husks														
Transportation	kg	650.0	0.6	2,730	650.0	0.6	2,730	650.0	0.6	2,730	650.0	0.6	2,730	10,920
(Sararchar: 7km)														
(3) Maintenance Cost														4,000
Sub Total (Before Labor Costs)				9,880			8,830			9,030			9,280	41,020
(4) Labor														
Family Labor	mad/day													
Hired Labor	mad/day	120.0	70		120.0	70		120.0	70		120.0	70		8,400
Sub Total (Labor Costs)				0			0			0			0	8,400
Total Costs				9,880			8,830			9,030			9,280	49,420
Income Before Labor Costs				17,120			7,420			7,470			10,720	38,730
Net Income				17,120			7,420			7,470			10,720	30,330

Source: Key Informant Survey, March 2002

Table G.4.19 Net Income from Fish Culture Production (Naogaon para, Gurai Gram)

Name of Fish	Unit	Rui			Milka			Katura			Silver			Total (Tk/ha)
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	
Value of Output														
Main Products	kg	600.0	60	36,000	300.0	50	15,000	500.0	50	25,000	400.0	40	16,000	92,000
Turn Over Rate	mouth													
Total				36,000			15,000			25,000			16,000	92,000
Input Cost														
(1) Fingerlings	kg	3.0	600	1,800	2.0	400	800	2.0	500	1,000	2.0	400	800	4,400
Survival Rate	%	90%			80%			80%			80%			
Transportation	kg	3.0	0.4	100	2.0	0.4	70	2.0	0.4	70	2.0	0.4	70	310
(B. Baria: 85km)														
(2) Feed	kg	600.0	8	4,800	600.0	8	4,800	600.0	8	4,800	600.0	8	4,800	19,200
Oil cake														
Urea														
Paddy husks														
Transportation	kg	600.0	0.4	360	600.0	0.4	360	600.0	0.4	360	600.0	0.4	360	1,440
(Hilchia: 1.5km)														
(3) Maintenance Cost														1,900
Sub Total (Before Labor Costs)				7,060			6,030			6,230			6,030	27,250
(4) Labor														
Family Labor	mad/day													
Hired Labor	mad/day	110.0	50		110.0	50		110.0	50		110.0	50		5,500
Sub Total (Labor Costs)				0			0			0			0	5,500
Total Costs				7,060			6,030			6,230			6,030	32,750
Income Before Labor Costs				28,940			8,970			18,770			9,970	64,750
Net Income				28,940			8,970			18,770			9,970	59,250

Source: Key Informant Survey, March 2002

Table G.4.20 Average Output and Input of Fish Culture Production (1)

Para Name	Unit	Rui; Large			Rui; Small			Milka		
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha
Value of Output										
Main Products	kg	540.0	60	32,400	360.0	50	18,000	350.0	50	17,500
Turn Over Rate	mouth									
Total				32,400			18,000			17,500
Input Cost										
(1) Fingerlings	kg	3.0	600	1,800	2.0	530	1,060	2.0	430	860
Survival Rate	%	90%			70%			80%		
Transportation (Kishoreganj: 35km)	kg	3.0	0.5	130	0.0	0.6	0	2.0	0.5	90
(2) Feed	kg	540.0	10	5,400	780.0	10	7,800	540.0	10	5,400
Oil cake										
Urea										
Paddy husks										
Transportation (Bajitpur: 8km)	kg	540.0	0.5	410	780.0	0.6	700	540.0	0.5	410
(3) Maintenance Cost										
Total Costs (Before Labor Costs)				7,740			9,560			6,760
Net Income (Before Labor Cost)				24,660			8,440			10,740

Table G.4.20 Average Output and Input of Fish Culture Production (2)

Para Name	Unit	Katura			Silver			Putty Carp		
		Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha	Amount (ha)	Unit price (Tk)	Tk/ha
Value of Output										
Main Products	kg	420.0	50	21,000	450.0	40	18,000	290.0	50	14,500
Turn Over Rate	mouth									
Total				21,000			18,000			14,500
Input Cost										
(1) Fingerlings	kg	2.0	490	980	3.0	400	1,200	4.0	400	1,600
Survival Rate	%	80%			80%			70%		
Transportation (Kishoreganj: 35km)	kg	2.0	0.5	90	3.0	0.5	130	0.0	0.6	0
(2) Feed	kg	540.0	10	5,400	540.0	10	5,400	540.0	10	5,400
Oil cake										
Urea										
Paddy husks										
Transportation (Bajitpur: 8km)	kg	540.0	0.5	410	540.0	0.5	410	540.0	0.6	490
(3) Maintenance Cost										
Total Costs (Before Labor Costs)				6,880			7,140			7,490
Net Income (Before Labor Cost)				14,120			10,860			7,010

Source: Key Informant Survey, March 2002

Table G.4.21 Record of Existing Fish Pond

	Para Name	Number of Ponds	Area (ha)	Water Depth (m)	Owner	Net Income (Tk/year)	Net Income (Tk/year/ha)	Market		
								Fingerlings	Feeds	Selling
Algar char Gram										
1	Jalal sarker/ Hossain member	1	1.00	3.00	Private	30,000	30,000	River/ Nowgaon	Gaibandha	River Bank
2	Mokbul bapari									
3	Razzak chairman	1	0.80	3.65	Private	12,000	15,000	Gaibandha	Self	Algar char
4	Aklas member/ Samad dokir	2	0.25	2.00	Private	5,000	20,000	Gaibandha/ Algar char	Algar char	Algar char
5	Joynal member/ Hassan khali	8	1.40	10.00	Joint			Gaibandha	Villagers	
6	Zolil dewani									River Bank
7	Maher munshi									
	Average		0.86	4.66			22,000			
Gurai Gram										
1	Chila									Hiluchia
2	Bania	1	0.17	1.50						Hiluchia
3	Atka	1	0.25	2.50						Hiluchia
4	Uttar	1	0.21	2.13	Private	16,000	76,000	Kishoreganj	Bajitour	Hiluchia
5	Fakir									Hiluchia
6	Jal	5	1.15	1.50	Private/ Joint	64,000	56,000	Kishoreganj	Hiluchia	Hiluchia
7	Kuna	1	0.81	3.60						Hiluchia
8	Mosjid	2	0.69	2.73	Private	45,400	66,000	Kishoreganj	Sararchar	Hiluchia
9	Namasud	1	0.40	1.50						Hiluchia
10	Dakhin	1	1.21	1.00						Hiluchia
11	Purba	1	2.45	2.00						Hiluchia
12	Ghosh	2	0.61	3.00	Private	47,400	78,000	Kishoreganj	Bajitour	Hiluchia
13	Pashchim	5	2.02	2.43	Private/ Joint	183,000	91,000	Kishoreganj	Sararchar	Hiluchia
14	Shibir	5	1.82	2.00	Private/ Joint	143,000	79,000	Baria	Hiluchia	Hiluchia
15	Pal	7	1.53	2.00	Joint	79,000	52,000	Kishoreganj	Sararchar	Hiluchia
16	Naogaon	9	1.62	1.50	Joint	114,000	70,000	Kishoreganj	Bajitour	Hiluchia
17	Moddon	1	0.004	1.25						Hiluchia
	Average		1.00	2.04			71,000			

Source; "Key Informant Survey, March 2002", JICA Study Team.

Table G.4.22 Selling Place and Price of Fish in the F/S Study Area

Para Name	Selling Place	Fish Mane and Catching Place (R: River, P: Pond, H: Haor)											
		Rui (large)	Rui (small)	Milka	Katura	Irish	Silver	Putty carp	Shrimp	Club/ Tangra	Baila	Balm	Boul
Algar char Gram		R/ P	R/ P	R/ P	R/ P	R	R/ P	R/ P	-	-	-	-	-
1 Jalal sarker/ Hossain member	River Bank	50		30	35		28	38					
2 Mokbul bapari													
3 Razzak chairman	Algar char			30				40					
4 Aklas member/ Samad dokir	Algar char	12											
5 Joynal member/ Hassan khalifa													
6 Zolil dewani	River Bank					43							
7 Maher munshi													
Average		30		30	40	40	30	40					
Gurai Gram		P	P	P	P	-	P	H, P	H	H	H	H	H
1 Chila	Hiluchia							40			60		
2 Bania	Hiluchia							25	180	120	70		
3 Atka	Hiluchia							20	180	120	70		
4 Uttar	Hiluchia	60		50	55		40	40	180				
5 Fakir	Hiluchia							20	180		60	60	
6 Jal	Hiluchia	60		50	55		40	30	130		40		
7 Kuna	Hiluchia							25	180	60	70		70
8 Mosjid	Hiluchia	60		50	50		40	25	120	40			25
9 Namasud	Hiluchia							20	170	50	60		65
10 Dakhin	Hiluchia							15	130	60	50		70
11 Purba	Hiluchia							20	180	60	70		60
12 Ghosh	Hiluchia	60	50	50	55			40	150	50			
13 Pashchim	Hiluchia	60	50	50	55			50	180	50	60		50
14 Shibir	Hiluchia	60		50	60		40	30	120	45	45		
15 Pal	Hiluchia	60		50	55		40	35	130	50	50		
16 Naogaon	Hiluchia	60		50	50		40	25	150		40		
17 Moddon	Hiluchia							30	150		70		
Average		60	50	50	50		40	30	160	60	60	60	60

Source; "Key Informant Survey, March 2002", JICA Study Team.

Table G.4.23 Annual Net Income from Poultry and Livestock Program (A Case Study in Algar Char gram)

Item	Spec	Unit Price	Quantity (year, HH)	Total
I. Capital Investment				
(1) H.Y.V. birds	8nos×Tk55/-chick	440 Tk	50	22,000
(2) Local Hens	2nos.×Tk70/- Hen	140 Tk	50	7,000
(3) Feed	Feed (50%) for another 3.5 months for 8 H.Y.V. birds	322 Tk	50	16,100
	(3.5 months) = 3.5 kg/birds*8nos.*11.5/-per kg of feed			
(4) Housing	Night Shelter	500 Tk	50	25,000
(5) Vaccine	10×Tk2/-	20 Tk	50	1,000
(6) Medicine	10×Tk2.5/-	25 Tk	50	1,250
Total		1447		72,350
II. Income	(monthry)			
(1) Eggs	Daily egg laying (60%) = 5 nos.			
	Monthly egg production = 5 eggs×30days=150 nos.			
	Value of eggs = 150 × Tk 2.5/- per egg	375 Tk/month	600	225,000
(2) Chicks	2 local hens × 6 chicks × 2 times in year = 24 chicks			
	Value of chicks = 24 × Tk45/- = Tk 1,080/-			
	Monthry = Tk 1,080/- ÷12 months	90 Tk/month	600	54,000
Total		465		279,000
III. Expenditure	(monthry)			
(3) Feed	50% supplementary feeding			
	50g/bird/day×30day×10bird=15,000g ÷1,000=15kg			
	Value=15kg×Tk12/kg	180 Tk/month	600	108,000
Vaccine/Medicine	Tk1.5/-×10 birds	15 Tk/month	600	9,000
Loan interest	per month	19 Tk/month	600	11,400
Total		214		129,000
III. Net Income (II-III)				150,000

Source: BRAC-BDP Poultry and Livestock Program

Table G.4.24 Annual Net Income from Nakshikatha Production (A Case Study in Algar Char gram)

Item	Spec	Unit Price	Quantity (HH)	Total
I. Income				
Sale of Kathas	120 nos.×Tk 800/-	96,000 Tk	3	288,000
Total		96,000		288,000
II. Expenditure				
(1) Shari	480 nos.×Tk100/-	48,000 Tk	3	144,000
(2) Thread	1,200 ball.×Tk 8/- (10balls for a Kaths)	9,600 Tk	3	28,800
(3) Swing needle	120 nos.×Tk 1/-	120 Tk	3	360
(4) Loan interest	5% per three months for Tk12,000	600 Tk	3	1,800
(5) Labor Cost	1hired labor×Tk35×300days	10,500 Tk	3	31,500
Total		68,820		206,460
III. Net Income (I-II)				81,540

Source: Gender Development Reserch Centre (GDRC)

Table G.4.25 . Annual Net Income from Sericulture Program (A Case Study in Algar Char gram)

Item	Spec	Unit Price	Quantity (HH)	Total
I. Fixed cost				
(1) Establish Garden		2,500 Tk	20	50,000
(2) Rearning House		6,000 Tk	20	120,000
(3) Bamboo Tray	32×20	640 Tk	20	12,800
(4) Bamboo mountage	40×40	1,600 Tk	20	32,000
(5) Rearning stand		200 Tk	20	4,000
(6) Other equipment		200 Tk	20	4,000
Total		11,140		222,800
II. Income (after 5 years)				
(1) Cocoon production	140kg×Tk80/-	11,200 Tk	20	224,000
(2) Fuel wood		1,000 Tk	20	20,000
(3) Compost		800 Tk	20	16,000
Total		13,000		260,000
III. Recurrent Expenditure				
(1) Mulberry garden/ tree maintenance		2,000 Tk	20	40,000
(2) Rearning labor (15 female per crop at Tk 30)		1,800 Tk	20	36,000
(3) Chawki worms		1,600 Tk	20	32,000
(4) Disinfection		200 Tk	20	4,000
(5) Depreciation of rearning house		400 Tk	20	8,000
(6) Depreciation of rearning equipment		528 Tk	20	10,560
Total		6,528		130,560
III. Net Income (II-III)				129,440

Source: BRAC-BDP Sericulture Program

Table G.4.26 Annual Net Income from Duck Rearing (A Case Study in Gurai gram)

Item	Spec	Unit Price	Quantity (1 unit)	Total
I. Fixed cost				
(1) Bamboo		3,000 Tk	1	3,000
(2) Soil		400 Tk	1	400
(3) String		100 Tk	1	100
(4) Tin		4,000 Tk	1	4,000
Total		7,500		7,500
II. Income				
Eggs	5,000 eggs ×Tk5/- per egg	25,000 Tk	1	25,000
Total		25,000		25,000
III. Recurrent Expenditure				
(1) Purchase of sucklings		1,000 Tk	1	1,000
(2) Labor		3,000 Tk	1	3,000
(3) Feed		3,000 Tk	1	3,000
(4) Medicare		1,000 Tk	1	1,000
(5) Depriciation	(10% of fixed cost)	750 Tk	1	750
(6) Sale expences		1,750 Tk	1	1,750
Total		10,500		10,500
III. Net Income (II-III)				14,500

Table G.4.27 Annual Net Income from Nursary Development for Social Forestry (A Case Study in Gurai gram)

Item	Spec	Unit Price	Quantity (1 unit)	Total
I. Fixed cost				
(1) Bamboo		2,000	1	2,000
(2) Soil	Seed bed	4,000	1	4,000
(3) String		800	1	800
(4) Water pot		700	1	700
(5) Sprayer		2,500	1	2,500
(6) Labor		5,000	1	5,000
Total		15,000		15,000
II. Income				
Young plant	20000×Tk5/-	100,000	1	100,000
Total		100,000		100,000
III. Recurrent Expenditure				
(1) Land rent	50 feet ×40 feet	6,000	1	6,000
(2) Poly bag		1,500	1	1,500
(3) Insectisides		1,500	1	1,500
(4) Fertilizer		7,000	1	7,000
(5) Soil		3,000	1	3,000
(6) Labor		24,000	1	24,000
(7) Seed		10,000	1	10,000
(8) Depreciation	20% of fixed cost	3,000	1	3,000
(9) Transportation and sales		8,000	1	8,000
Total		64,000		64,000
III. Net Income (II-III)				36,000

Table G.4.28 Price of Young Plant at Nikli Upazila Office and Its Ways of Use

Name of Tree		Price	Ways of Use	Remarks
Local	English	(Tk/tree)		
Amloki	(Citrus)	0.025	Fruit Production	Possible to harvest after 3 to 4 years of plantation
Bokain		0.025	Furniture	
Cilrasi	Cilrasi	0.025	Furniture	
Gamar		0.025	Furniture	
Hijal		10～20	Wave Protection (water proof tree)	
Jack Fruit	Jack Fruit	0.025	Fruit Production, Furniture, Feed for Cattel (husk, leaf)	Possible to harvest after 7 to 8 years of plantation
Jam	(Berry)	0.025	Fruit Production, Furniture	Possible to harvest after 7 to 8 years of plantation
Jaro		0.025	Boat	
Koroch		10～20	Wave Protection (water proof tree)	
Mahagoni	Mahagoni	0.025	Furniture	
Mingiri	Mingiri	0.025	Furniture	
Nagoshor	Nagoshor	0.025	Furniture	
Orgon		0.025	Medical Purpose (good for heart disease, eyes condition)	
Papa	Papaya	0.025	Fruit Production	Possible to harvest after 2 years of plantation
Piara	Guava	0.025	Fruit Production	Possible to harvest after 2 years of plantation
Rain Tri	Rain Tri	0.025	Furniture	
Siso		0.025	Furniture, Pillar, Electric Light Pole	

Source: (1) Nursary in Nikli Upazila Office, March 2002, except for Koroch and Hijal tree.
(2) Information for Koroch and Hijal tree is provided by Center for Natural Resources Studies (CNRS).

Table G.4.29 Rate of Return on Investment in Selected Enterprises

Enterprise	Return on Investment First Year(%)	Grameen Bank loan from inception to December 1996 (Taka)	Weight	Weighted return
Metal workshop	5	492,250	0.000061	0.000307370
Groocery store	15	179,399,447	0.022404	0.336060664
Tailoring	16	14,439,500	0.001803	0.028852102
Pottery	22	5,423,500	0.000677	0.014900734
Handloom weaving	24	40,031,135	0.004999	0.119981550
Rice mill	25	770,000	0.000096	0.002404009
Goat rearing	30	32,759,397	0.004091	0.122733318
Paddy cultivation	30	5,032,949,210	0.628533	18.855980700
Poultry	35	55,340,675	0.006911	0.241889947
Rickshaw van assembly	35	8,970,300	0.001120	0.039208510
Sericulture	38	5,674,500	0.000709	0.026928770
Muri making	38	40,963,167	0.005116	0.194393816
Food making	40	9,506,100	0.001187	0.047486230
Bee keeping	43	355,500	0.000044	0.001909033
Paddy husking	43	479,618,340	0.059896	2.575547475
Restaurant	44	8,613,020	0.001076	0.047327488
Umbrella assembling	48	871,900	0.000109	0.005226527
Semi auto loom	58	40,031,135	0.004999	0.289955412
Milch cow	63	287,105,016	0.035855	2.258846149
Jute carpets	67	1,301,000	0.000162	0.010885727
Jute handicrafts	68	1,301,000	0.000162	0.011048200
Duck/fish farming	72	2,615,300	0.000327	0.023189169
Pond fishery	76	163,514,876	0.020420	1.551944493
Jute rope making	78	1,301,000	0.000162	0.012672935
Handicrafts	79	16,720,500	0.002088	0.164961149
Cart wheel making	80	711,500	0.000089	0.007108373
Lime making	82	510,500	0.000064	0.005227751
Fish farm	92	163,514,876	0.02042	1.878669649
Rickshaw van assembly	100	71,902,284	0.008979	0.897941427
Black smith	104	2,013,920	0.000252	0.026156575
Boat making	106	11,021,439	0.001376	0.145898051
Gur making	111	467,000	0.000058	0.006473590
Fish net making	112	36,183,301	0.004519	0.506094398
Readymade garments	124	11,516,000	0.001438	0.178331747
Sweetmeat shop	129	19,979,735	0.002495	0.321873155
Chanachur making	133	388,500	0.000049	0.006452797
Vegetable cultivation	136	613,104,378	0.076567	10.413066650
Coir products	136	1,285,500	0.000161	0.021833146
Wooden furniture	141	6,536,000	0.000816	0.155089705
Hand fan making	150	11,281,000	0.001409	0.211321741
Bamboo products	181	76,825,903	0.009594	1.736567108
Plastic household products	185	54,500	0.000007	0.001259139
Mat from reeds	189	34,058,200	0.004253	0.803875547
Rickshaw repairing	200	8,970,300	0.001120	0.224048626
Oil ghani	208	3,582,500	0.000447	0.093058245
Beef fattening	209	272,787,690	0.034067	7.119940703
Pati making	212	34,058,200	0.004253	0.901701672
Bamboo walling	227	76,825,903	0.009594	2.177904605
Veterinary service	249	1,093,000	0.000136	0.033987939
Papaya cultivation	287	38,725,850	0.004836	1.387995884
Nakshi katha	292	451,000	0.000056	0.016446168
Fruit processing	387	2,715,500	0.000339	0.131239962
Bamboo and cane products	427	76,825,903	0.009594	4.096763288
Total		8,007,458,150	1.000000	60.450969110

Source: ADB, Rural Livelihood Project, Preparation Report, 1996 and Annual Report 1996, Grameen Bank.

Table G.4.30 (1) Financial Evaluation for Proposed Project in Algar char Guram (Poultry Promotion) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	20,240	28,380	48,620	0	-48,620	0.8850	43,029	0	-43,029
2	2004	50,600	99,330	149,930	15,345	-134,585	0.7831	117,410	12,017	-105,393
3	2005	21,160	129,000	150,160	53,708	-96,453	0.6931	104,076	37,225	-66,851
4	2006	0	129,000	129,000	139,500	10,500	0.6133	79,116	85,555	6,439
5	2007	0	129,000	129,000	279,000	150,000	0.5428	70,021	151,441	81,420
6	2008	0	129,000	129,000	279,000	150,000	0.4803	61,959	134,004	72,045
7	2009	0	129,000	129,000	279,000	150,000	0.4251	54,838	118,603	63,765
8	2010	0	129,000	129,000	279,000	150,000	0.3762	48,530	104,960	56,430
9	2011	0	129,000	129,000	279,000	150,000	0.3329	42,944	92,879	49,935
10	2012	0	129,000	129,000	279,000	150,000	0.2946	38,003	82,193	44,190
11	2013	0	129,000	129,000	279,000	150,000	0.2607	33,630	72,735	39,105
12	2014	0	129,000	129,000	279,000	150,000	0.2307	29,760	64,365	34,605
13	2015	0	129,000	129,000	279,000	150,000	0.2042	26,342	56,972	30,630
14	2016	0	129,000	129,000	279,000	150,000	0.1807	23,310	50,415	27,105
15	2017	0	129,000	129,000	279,000	150,000	0.1599	20,627	44,612	23,985
16	2018	0	129,000	129,000	279,000	150,000	0.1415	18,254	39,479	21,225
17	2019	0	129,000	129,000	279,000	150,000	0.1252	16,151	34,931	18,780
18	2020	0	129,000	129,000	279,000	150,000	0.1108	14,293	30,913	16,620
19	2021	0	129,000	129,000	279,000	150,000	0.0981	12,655	27,370	14,715
20	2022	0	129,000	129,000	279,000	150,000	0.0868	11,197	24,217	13,020
21	2023	0	129,000	129,000	279,000	150,000	0.0768	9,907	21,427	11,520
22	2024	0	129,000	129,000	279,000	150,000	0.0680	8,772	18,972	10,200
23	2025	0	129,000	129,000	279,000	150,000	0.0601	7,753	16,768	9,015
24	2026	0	129,000	129,000	279,000	150,000	0.0532	6,863	14,843	7,980
25	2027	0	129,000	129,000	279,000	150,000	0.0471	6,076	13,141	7,065
26	2028	0	129,000	129,000	279,000	150,000	0.0417	5,379	11,634	6,255
27	2029	0	129,000	129,000	279,000	150,000	0.0369	4,760	10,295	5,535
28	2030	0	129,000	129,000	279,000	150,000	0.0326	4,205	9,095	4,890
29	2031	0	129,000	129,000	279,000	150,000	0.0289	3,728	8,063	4,335
30	2032	0	129,000	129,000	279,000	150,000	0.0256	3,302	7,142	3,840
31	2033	0	129,000	129,000	279,000	150,000	0.0226	2,915	6,305	3,390
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		92,000	3,868,710	3,960,710	7,741,553	3,780,843		929,805	1,402,571	472,766

N.P.V=	472,766
B/C=	1.51
EIRR=	32.2%

Table G.4.30 (2) Financial Evaluation for Proposed Project in Algar char Guram (Skill Training on Handicraft) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	3,080	45,421	48,501	0	-48,501	0.8850	42,924	0	-42,924
2	2004	7,700	158,974	166,674	63,360	-103,314	0.7831	130,523	49,617	-80,906
3	2005	3,220	206,460	209,680	221,760	12,080	0.6931	145,329	153,702	8,373
4	2006	0	206,460	206,460	288,000	81,540	0.6133	126,622	176,630	50,008
5	2007	0	206,460	206,460	288,000	81,540	0.5428	112,066	156,326	44,260
6	2008	0	206,460	206,460	288,000	81,540	0.4803	99,163	138,326	39,163
7	2009	0	206,460	206,460	288,000	81,540	0.4251	87,766	122,429	34,663
8	2010	0	206,460	206,460	288,000	81,540	0.3762	77,670	108,346	30,676
9	2011	0	206,460	206,460	288,000	81,540	0.3329	68,731	95,875	27,144
10	2012	0	206,460	206,460	288,000	81,540	0.2946	60,823	84,845	24,022
11	2013	0	206,460	206,460	288,000	81,540	0.2607	53,824	75,082	21,258
12	2014	0	206,460	206,460	288,000	81,540	0.2307	47,630	66,442	18,812
13	2015	0	206,460	206,460	288,000	81,540	0.2042	42,159	58,810	16,651
14	2016	0	206,460	206,460	288,000	81,540	0.1807	37,307	52,042	14,735
15	2017	0	206,460	206,460	288,000	81,540	0.1599	33,013	46,051	13,038
16	2018	0	206,460	206,460	288,000	81,540	0.1415	29,214	40,752	11,538
17	2019	0	206,460	206,460	288,000	81,540	0.1252	25,849	36,058	10,209
18	2020	0	206,460	206,460	288,000	81,540	0.1108	22,876	31,910	9,034
19	2021	0	206,460	206,460	288,000	81,540	0.0981	20,254	28,253	7,999
20	2022	0	206,460	206,460	288,000	81,540	0.0868	17,921	24,998	7,077
21	2023	0	206,460	206,460	288,000	81,540	0.0768	15,856	22,118	6,262
22	2024	0	206,460	206,460	288,000	81,540	0.0680	14,039	19,584	5,545
23	2025	0	206,460	206,460	288,000	81,540	0.0601	12,408	17,309	4,901
24	2026	0	206,460	206,460	288,000	81,540	0.0532	10,984	15,322	4,338
25	2027	0	206,460	206,460	288,000	81,540	0.0471	9,724	13,565	3,841
26	2028	0	206,460	206,460	288,000	81,540	0.0417	8,609	12,010	3,401
27	2029	0	206,460	206,460	288,000	81,540	0.0369	7,618	10,627	3,009
28	2030	0	206,460	206,460	288,000	81,540	0.0326	6,731	9,389	2,658
29	2031	0	206,460	206,460	288,000	81,540	0.0289	5,967	8,323	2,356
30	2032	0	206,460	206,460	288,000	81,540	0.0256	5,285	7,373	2,088
31	2033	0	206,460	206,460	288,000	81,540	0.0226	4,666	6,509	1,843
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		14,000	6,191,735	6,205,735	8,349,120	2,143,385		1,383,551	1,688,623	305,072

N.P.V=	305,072
B/C=	1.22
EIRR=	37.0%

Table G.4.30 (3) Financial Evaluation for Proposed Project in Algar char Guram (Mulberry Plantation and Cocoon Prod (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	53,460	16,843	70,303	0	-70,303	0.8850	62,218	0	-62,218
2	2004	133,650	66,431	200,081	15,840	-184,241	0.7831	156,684	12,404	-144,280
3	2005	55,890	107,140	163,030	63,360	-99,670	0.6931	112,996	43,915	-69,081
4	2006	0	125,960	125,960	111,336	-14,624	0.6133	77,251	68,282	-8,969
5	2007	0	130,560	130,560	155,696	25,136	0.5428	70,868	84,512	13,644
6	2008	0	130,560	130,560	193,184	62,624	0.4803	62,708	92,786	30,078
7	2009	0	130,560	130,560	226,944	96,384	0.4251	55,501	96,474	40,973
8	2010	0	130,560	130,560	252,640	122,080	0.3762	49,117	95,043	45,926
9	2011	0	130,560	130,560	260,000	129,440	0.3329	43,463	86,554	43,091
10	2012	0	130,560	130,560	260,000	129,440	0.2946	38,463	76,596	38,133
11	2013	0	130,560	130,560	260,000	129,440	0.2607	34,037	67,782	33,745
12	2014	0	130,560	130,560	260,000	129,440	0.2307	30,120	59,982	29,862
13	2015	0	130,560	130,560	260,000	129,440	0.2042	26,660	53,092	26,432
14	2016	0	130,560	130,560	260,000	129,440	0.1807	23,592	46,982	23,390
15	2017	0	130,560	130,560	260,000	129,440	0.1599	20,877	41,574	20,697
16	2018	0	130,560	130,560	260,000	129,440	0.1415	18,474	36,790	18,316
17	2019	0	130,560	130,560	260,000	129,440	0.1252	16,346	32,552	16,206
18	2020	0	130,560	130,560	260,000	129,440	0.1108	14,466	28,808	14,342
19	2021	0	130,560	130,560	260,000	129,440	0.0981	12,808	25,506	12,698
20	2022	0	130,560	130,560	260,000	129,440	0.0868	11,333	22,568	11,235
21	2023	0	130,560	130,560	260,000	129,440	0.0768	10,027	19,968	9,941
22	2024	0	130,560	130,560	260,000	129,440	0.0680	8,878	17,680	8,802
23	2025	0	130,560	130,560	260,000	129,440	0.0601	7,847	15,626	7,779
24	2026	0	130,560	130,560	260,000	129,440	0.0532	6,946	13,832	6,886
25	2027	0	130,560	130,560	260,000	129,440	0.0471	6,149	12,246	6,097
26	2028	0	130,560	130,560	260,000	129,440	0.0417	5,444	10,842	5,398
27	2029	0	130,560	130,560	260,000	129,440	0.0369	4,818	9,594	4,776
28	2030	0	130,560	130,560	260,000	129,440	0.0326	4,256	8,476	4,220
29	2031	0	130,560	130,560	260,000	129,440	0.0289	3,773	7,514	3,741
30	2032	0	130,560	130,560	260,000	129,440	0.0256	3,342	6,656	3,314
31	2033	0	130,560	130,560	260,000	129,440	0.0226	2,951	5,876	2,925
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		243,000	3,841,494	4,084,494	6,999,000	2,914,506		1,002,413	1,200,512	198,099

N.P.V=	198,099
B/C=	1.20
EIRR=	19.1%

Table G.4.31 (1) Financial Evaluation for Proposed Project in Gurai Gram (Fish Culture Utilizing Borrow Pits) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	107,000	0	107,000	0	-107,000	0.8850	94,695	0	-94,695
2	2004	0	10,210	10,210	6,431	-3,779	0.7831	7,995	5,036	-2,959
3	2005	0	10,210	10,210	21,438	11,228	0.6931	7,077	14,859	7,782
4	2006	0	10,210	10,210	35,730	25,520	0.6133	6,262	21,913	15,651
5	2007	0	10,210	10,210	35,730	25,520	0.5428	5,542	19,394	13,852
6	2008	0	10,210	10,210	35,730	25,520	0.4803	4,904	17,161	12,257
7	2009	0	10,210	10,210	35,730	25,520	0.4251	4,340	15,189	10,849
8	2010	0	10,210	10,210	35,730	25,520	0.3762	3,841	13,442	9,601
9	2011	0	10,210	10,210	35,730	25,520	0.3329	3,399	11,895	8,496
10	2012	0	10,210	10,210	35,730	25,520	0.2946	3,008	10,526	7,518
11	2013	0	10,210	10,210	35,730	25,520	0.2607	2,662	9,315	6,653
12	2014	0	10,210	10,210	35,730	25,520	0.2307	2,355	8,243	5,888
13	2015	0	10,210	10,210	35,730	25,520	0.2042	2,085	7,296	5,211
14	2016	0	10,210	10,210	35,730	25,520	0.1807	1,845	6,456	4,611
15	2017	0	10,210	10,210	35,730	25,520	0.1599	1,633	5,713	4,080
16	2018	0	10,210	10,210	35,730	25,520	0.1415	1,445	5,056	3,611
17	2019	0	10,210	10,210	35,730	25,520	0.1252	1,278	4,473	3,195
18	2020	0	10,210	10,210	35,730	25,520	0.1108	1,131	3,959	2,828
19	2021	0	10,210	10,210	35,730	25,520	0.0981	1,002	3,505	2,503
20	2022	0	10,210	10,210	35,730	25,520	0.0868	886	3,101	2,215
21	2023	0	10,210	10,210	35,730	25,520	0.0768	784	2,744	1,960
22	2024	0	10,210	10,210	35,730	25,520	0.0680	694	2,430	1,736
23	2025	0	10,210	10,210	35,730	25,520	0.0601	614	2,147	1,533
24	2026	0	10,210	10,210	35,730	25,520	0.0532	543	1,901	1,358
25	2027	0	10,210	10,210	35,730	25,520	0.0471	481	1,683	1,202
26	2028	0	10,210	10,210	35,730	25,520	0.0417	426	1,490	1,064
27	2029	0	10,210	10,210	35,730	25,520	0.0369	377	1,318	941
28	2030	0	10,210	10,210	35,730	25,520	0.0326	333	1,165	832
29	2031	0	10,210	10,210	35,730	25,520	0.0289	295	1,033	738
30	2032	0	10,210	10,210	35,730	25,520	0.0256	261	915	654
31	2033	0	10,210	10,210	35,730	25,520	0.0226	231	807	576
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		107,000	306,300	413,300	1,028,309	615,009		162,424	204,165	41,741

N.P.V=	41,741
B/C=	1.26
EIRR=	17.8%

Table G.4.31 (2) Financial Evaluation for Proposed Project in Gurai Gram (Poultry Promotion) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	4,200	0	4,200	0	-4,200	0.8850	3,717	0	-3,717
2	2004	10,500	1,540	12,040	875	-11,165	0.7831	9,429	685	-8,744
3	2005	8,100	5,390	13,490	3,063	-10,428	0.6931	9,350	2,123	-7,227
4	2006	7,200	8,360	15,560	4,750	-10,810	0.6133	9,543	2,913	-6,630
5	2007	0	11,000	11,000	12,500	1,500	0.5428	5,971	6,785	814
6	2008	0	11,000	11,000	25,000	14,000	0.4803	5,283	12,008	6,725
7	2009	0	11,000	11,000	25,000	14,000	0.4251	4,676	10,628	5,952
8	2010	0	11,000	11,000	25,000	14,000	0.3762	4,138	9,405	5,267
9	2011	0	11,000	11,000	25,000	14,000	0.3329	3,662	8,323	4,661
10	2012	0	11,000	11,000	25,000	14,000	0.2946	3,241	7,365	4,124
11	2013	0	11,000	11,000	25,000	14,000	0.2607	2,868	6,518	3,650
12	2014	0	11,000	11,000	25,000	14,000	0.2307	2,538	5,768	3,230
13	2015	0	11,000	11,000	25,000	14,000	0.2042	2,246	5,105	2,859
14	2016	0	11,000	11,000	25,000	14,000	0.1807	1,988	4,518	2,530
15	2017	0	11,000	11,000	25,000	14,000	0.1599	1,759	3,998	2,239
16	2018	0	11,000	11,000	25,000	14,000	0.1415	1,557	3,538	1,981
17	2019	0	11,000	11,000	25,000	14,000	0.1252	1,377	3,130	1,753
18	2020	0	11,000	11,000	25,000	14,000	0.1108	1,219	2,770	1,551
19	2021	0	11,000	11,000	25,000	14,000	0.0981	1,079	2,453	1,374
20	2022	0	11,000	11,000	25,000	14,000	0.0868	955	2,170	1,215
21	2023	0	11,000	11,000	25,000	14,000	0.0768	845	1,920	1,075
22	2024	0	11,000	11,000	25,000	14,000	0.0680	748	1,700	952
23	2025	0	11,000	11,000	25,000	14,000	0.0601	661	1,503	842
24	2026	0	11,000	11,000	25,000	14,000	0.0532	585	1,330	745
25	2027	0	11,000	11,000	25,000	14,000	0.0471	518	1,178	660
26	2028	0	11,000	11,000	25,000	14,000	0.0417	459	1,043	584
27	2029	0	11,000	11,000	25,000	14,000	0.0369	406	923	517
28	2030	0	11,000	11,000	25,000	14,000	0.0326	359	815	456
29	2031	0	11,000	11,000	25,000	14,000	0.0289	318	723	405
30	2032	0	11,000	11,000	25,000	14,000	0.0256	282	640	358
31	2033	0	11,000	11,000	25,000	14,000	0.0226	249	565	316
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		30,000	312,290	342,290	671,188	328,898		82,026	112,543	30,517

N.P.V=	30,517
B/C=	1.37
EIRR=	23.7%

Table G.4.31 (3) Financial Evaluation for Proposed Project in Gurai Gram (Parboiling Plant Operation) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	Discount Rate	I = 15% Cost	I = 15% Benefit	N.P.V
1	2003	833,000	0	833,000	0	-833,000	0.8696	724,377	0	-724,377
2	2004	0	3,142,500	3,142,500	3,445,000	302,500	0.7561	2,376,044	2,604,765	228,721
3	2005	0	3,142,500	3,142,500	3,445,000	302,500	0.6575	2,066,194	2,265,088	198,894
4	2006	0	3,142,500	3,142,500	3,445,000	302,500	0.5718	1,796,882	1,969,851	172,969
5	2007	0	3,142,500	3,142,500	3,445,000	302,500	0.4972	1,562,451	1,712,854	150,403
6	2008	0	3,142,500	3,142,500	3,445,000	302,500	0.4323	1,358,503	1,489,274	130,771
7	2009	0	3,142,500	3,142,500	3,445,000	302,500	0.3759	1,181,266	1,294,976	113,710
8	2010	0	3,142,500	3,142,500	3,445,000	302,500	0.3269	1,027,283	1,126,171	98,888
9	2011	0	3,142,500	3,142,500	3,445,000	302,500	0.2843	893,413	979,414	86,001
10	2012	0	3,142,500	3,142,500	3,445,000	302,500	0.2472	776,826	851,604	74,778
11	2013	0	3,142,500	3,142,500	3,445,000	302,500	0.2149	675,323	740,331	65,008
12	2014	0	3,142,500	3,142,500	3,445,000	302,500	0.1869	587,333	643,871	56,538
13	2015	0	3,142,500	3,142,500	3,445,000	302,500	0.1625	510,656	559,813	49,157
14	2016	0	3,142,500	3,142,500	3,445,000	302,500	0.1413	444,035	486,779	42,744
15	2017	0	3,142,500	3,142,500	3,445,000	302,500	0.1229	386,213	423,391	37,178
16	2018	0	3,142,500	3,142,500	3,445,000	302,500	0.1069	335,933	368,271	32,338
17	2019	0	0	0	0	0	0.0929	0	0	0
18	2020	0	0	0	0	0	0.0808	0	0	0
19	2021	0	0	0	0	0	0.0703	0	0	0
20	2022	0	0	0	0	0	0.0611	0	0	0
21	2023	0	0	0	0	0	0.0531	0	0	0
22	2024	0	0	0	0	0	0.0462	0	0	0
23	2025	0	0	0	0	0	0.0402	0	0	0
24	2026	0	0	0	0	0	0.0349	0	0	0
25	2027	0	0	0	0	0	0.0304	0	0	0
26	2028	0	0	0	0	0	0.0264	0	0	0
27	2029	0	0	0	0	0	0.0230	0	0	0
28	2030	0	0	0	0	0	0.0200	0	0	0
29	2031	0	0	0	0	0	0.0174	0	0	0
30	2032	0	0	0	0	0	0.0151	0	0	0
31	2033	0	0	0	0	0	0.0131	0	0	0
32	2034	0	0	0	0	0	0.0114	0	0	0
33	2035	0	0	0	0	0	0.0099	0	0	0
34	2036	0	0	0	0	0	0.0086	0	0	0
35	2037	0	0	0	0	0	0.0075	0	0	0
36	2038	0	0	0	0	0	0.0065	0	0	0
37	2039	0	0	0	0	0	0.0057	0	0	0
38	2040	0	0	0	0	0	0.0049	0	0	0
39	2041	0	0	0	0	0	0.0043	0	0	0
40	2042	0	0	0	0	0	0.0037	0	0	0
41	2043	0	0	0	0	0	0.0032	0	0	0
42	2044	0	0	0	0	0	0.0028	0	0	0
43	2045	0	0	0	0	0	0.0025	0	0	0
44	2046	0	0	0	0	0	0.0021	0	0	0
45	2047	0	0	0	0	0	0.0019	0	0	0
		833,000	47,137,500	47,970,500	51,675,000	3,704,500		16,702,732	17,516,453	813,721

N.P.V=	813,721
B/C=	1.05
EIRR=	36.0%

Table G.4.31 (4) Financial Evaluation for Proposed Project in Gurai Gram (Nursery Development for Social Forestry) (Tk)

Year		Project Cost	O&M Cost	Total Cost	Project Benefit	Net Benefit	I = 13%			
							Discount Rate	Cost	Benefit	N.P.V
1	2003	4,060	0	4,060	0	-4,060	0.8850	3,593	0	-3,593
2	2004	10,150	8,960	19,110	0	-19,110	0.7831	14,965	0	-14,965
3	2005	7,830	31,360	39,190	3,500	-35,690	0.6931	27,163	2,426	-24,737
4	2006	6,960	48,640	55,600	12,250	-43,350	0.6133	34,099	7,513	-26,586
5	2007	0	64,000	64,000	19,000	-45,000	0.5428	34,739	10,313	-24,426
6	2008	0	64,000	64,000	50,000	-14,000	0.4803	30,739	24,015	-6,724
7	2009	0	64,000	64,000	100,000	36,000	0.4251	27,206	42,510	15,304
8	2010	0	64,000	64,000	100,000	36,000	0.3762	24,077	37,620	13,543
9	2011	0	64,000	64,000	100,000	36,000	0.3329	21,306	33,290	11,984
10	2012	0	64,000	64,000	100,000	36,000	0.2946	18,854	29,460	10,606
11	2013	0	64,000	64,000	100,000	36,000	0.2607	16,685	26,070	9,385
12	2014	0	64,000	64,000	100,000	36,000	0.2307	14,765	23,070	8,305
13	2015	0	64,000	64,000	100,000	36,000	0.2042	13,069	20,420	7,351
14	2016	0	64,000	64,000	100,000	36,000	0.1807	11,565	18,070	6,505
15	2017	0	64,000	64,000	100,000	36,000	0.1599	10,234	15,990	5,756
16	2018	0	64,000	64,000	100,000	36,000	0.1415	9,056	14,150	5,094
17	2019	0	64,000	64,000	100,000	36,000	0.1252	8,013	12,520	4,507
18	2020	0	64,000	64,000	100,000	36,000	0.1108	7,091	11,080	3,989
19	2021	0	64,000	64,000	100,000	36,000	0.0981	6,278	9,810	3,532
20	2022	0	64,000	64,000	100,000	36,000	0.0868	5,555	8,680	3,125
21	2023	0	64,000	64,000	100,000	36,000	0.0768	4,915	7,680	2,765
22	2024	0	64,000	64,000	100,000	36,000	0.0680	4,352	6,800	2,448
23	2025	0	64,000	64,000	100,000	36,000	0.0601	3,846	6,010	2,164
24	2026	0	64,000	64,000	100,000	36,000	0.0532	3,405	5,320	1,915
25	2027	0	64,000	64,000	100,000	36,000	0.0471	3,014	4,710	1,696
26	2028	0	64,000	64,000	100,000	36,000	0.0417	2,669	4,170	1,501
27	2029	0	64,000	64,000	100,000	36,000	0.0369	2,362	3,690	1,328
28	2030	0	64,000	64,000	100,000	36,000	0.0326	2,086	3,260	1,174
29	2031	0	64,000	64,000	100,000	36,000	0.0289	1,850	2,890	1,040
30	2032	0	64,000	64,000	100,000	36,000	0.0256	1,638	2,560	922
31	2033	0	64,000	64,000	100,000	36,000	0.0226	1,446	2,260	814
32	2034	0	0	0	0	0	0.0200	0	0	0
33	2035	0	0	0	0	0	0.0177	0	0	0
34	2036	0	0	0	0	0	0.0157	0	0	0
35	2037	0	0	0	0	0	0.0139	0	0	0
36	2038	0	0	0	0	0	0.0123	0	0	0
37	2039	0	0	0	0	0	0.0109	0	0	0
38	2040	0	0	0	0	0	0.0096	0	0	0
39	2041	0	0	0	0	0	0.0085	0	0	0
40	2042	0	0	0	0	0	0.0075	0	0	0
41	2043	0	0	0	0	0	0.0067	0	0	0
42	2044	0	0	0	0	0	0.0059	0	0	0
43	2045	0	0	0	0	0	0.0052	0	0	0
44	2046	0	0	0	0	0	0.0046	0	0	0
45	2047	0	0	0	0	0	0.0041	0	0	0
		29,000	1,816,960	1,845,960	2,584,750	738,790		370,635	396,357	25,722

N.P.V=	25,722
B/C=	1.07
EIRR=	15.8%

Table G.4.32 A Case Study for Savings and Credit Scheme in Algar Char gram (Aklas member/ Samad dokir para, Joynal member/ Hassan khalifa para)

Year	Total Household	Average Income (Tk/H.H.)	Beneficially (HH)		Non-beneficially		Annual Saving	Livelihood Development					Flood Proof Project		Total Saving	Remarks
			Number of Household	Savings (5%)	Number of Household	Savings (3%)		Project Cost	Surcharge (20%)	Profit	Interest Rate (15%)	Net Income	Cost	O&M Cost		
													1,880,000			
1	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	208,400	Amount of Damages Caused by 1998 Flood
2	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	416,800	= Tk 245,400/-
3	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	625,200	
4	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	833,600	
5	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	1,042,000	
6	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	1,250,400	
7	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	1,458,800	
8	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	1,667,200	
9	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	1,875,600	Amount of Damages Caused by 1988 Flood
10	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	2,084,000	= Tk 2,070,340/-
11	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	2,292,400	
12	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	2,500,800	
13	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	2,709,200	
14	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	2,917,600	
15	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	3,126,000	
16	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	3,334,400	
17	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	3,542,800	
18	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	3,751,200	
19	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	3,959,600	
20	225	30,000	33	49,500	192	172,800	222,000	121,000	24,000	110,000	18,000	92,000		37,600	4,168,000	

Table G.4.33 A Case Study for Savings and Credit Scheme in Gurai gram (Pubra para)

Year	Total Household	Average Income (Tk/H.H.)	Beneficially (HH)		Non-beneficially		Annual Saving	Livelihood Development					Flood Proof Project		Total Saving	Remarks
			Number of Household	Savings (5%)	Number of Household	Savings (5%)		Project Cost	Surcharge (10%)	Profit	Interest Rate (15%)	Net Income	Cost	O&M Cost		
													2,900,000			
1	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	337,800	Amount of Damages Caused by 1998 Flood = Tk 265,450/-
2	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	675,600	Amount of Damages Caused by 1988 Flood = Tk 481,000/-
3	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	1,013,400	
4	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	1,351,200	
5	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	1,689,000	
6	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	2,026,800	
7	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	2,364,600	
8	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	2,702,400	
9	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	3,040,200	
10	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	3,378,000	
11	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	3,715,800	
12	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	4,053,600	
13	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	4,391,400	
14	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	4,729,200	
15	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	5,067,000	
16	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	5,404,800	
17	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	5,742,600	
18	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	6,080,400	
19	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	6,418,200	
20	256	29,000	256	371,200	0	0	371,200	11,000	1,100	13,400	1,650	11,750		34,500	6,756,000	