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An Evaluation on Bangladesh Agribusiness Development Project

Syeda Sitwat Shahed

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Acronyms

ADB	Asian Development Bank
ASA	Association for Social Advancement
BASIC Bank Limited	Bank Bangladesh Small Industries and Commerce Bank Limited
BBS	Bangladesh Bureau of Statistics
DAM	Department of Agricultural Marketing
EBL	Eastern Bank Limited
GAP	Gender Action Plan
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
MIS	Management Information System
MoA	Ministry of Agriculture
MoF	Ministry of Finance
PIU	Project Implementation Unit
TMSS	Thengamara Mohila Sabuj Sangha

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Abstract

The rural economy of Bangladesh is largely occupied by primary agricultural activities resulting low-productivity of inputs and unemployment of rural labour. Due to limited soil productivity, the possibility of escalating rural output from harvest-oriented activity alone has not been successful. Hence, for increasing productivity, diversification and value-addition in rural economy, advancing agribusiness has been proposed as a plausible approach. The 'Bangladesh Agribusiness Development Programme' (BADP) is a combined endeavour initiated by the government of Bangladesh (GoB), where BRAC is involved along with two other non-government organisations (NGOs). The project aimed to reduce poverty in rural and semi-urban areas by increasing agribusiness activities through the provision of credit and extension services. Beneficiaries were selected from successful microfinance graduates with the potential to develop small scale business activities. BRAC operated the first phase of BADP in 180 *upazilas* of 33 districts. The scope of the research looked at whether interventions improved business performance, employment opportunities and female entrepreneurship, using both quantitative and qualitative methods. For quantitative evaluation, random sample was drawn from operative area of the programme targeting beneficiary individuals only and for qualitative evaluation, in-depth interview was conducted with fifteen randomly chosen beneficiaries from quantitative samples. Results showed that 85% of credit was used for operating current businesses and 3.7% was actually used for opening new business ventures. Across all sectors, credit was mostly required on a short term basis. The participants were heavily trained in livestock and poultry rearing. Furthermore, it was observed that, among all production sectors, livestock breeding and poultry farming seemed to be most vulnerable. BADP succeeded to increase mobility of women entrepreneurs. However, its success in increasing entrepreneurial activities was not widespread. The surveyed participants expressed positive opinion regarding contribution of BADP towards poverty reduction.

1. Introduction

In 2011, about 73%[1] of the total population was living outside the four major metropolitan cities of Bangladesh. However, rural residents face greater vulnerability as their access to livelihood opportunities is more conservative than their counterparts residing in urban/peri-urban area. Agriculture is the single-largest employment opportunity for these rural inhabitants and among all the investment categories involvement in non-farm activities is highest. However, despite such high dependency, the productivity level in agriculture is relatively low, and this raises the question of poverty and providing adequate nutrition for all. According to a World Bank report (as cited in Islam et. *al.*, 2010) 33 million Bangladeshis fail to procure 1,800 kcal daily whereas, the global average is 2,828 kcal. Although, we still have a chance of attaining self-sufficiency in agricultural production, yet the prospect seems to be uncertain due to the decreasing farming land, weak rural institutions, vulnerability to natural disasters and a poorly functioning input and output market. Hence, alternative approach to eradicate rural poverty has been explored repetitively.

Nevertheless, observing the trend of agricultural production, it can be seen that our agriculture system has decreased production in staple food crop sectors but enhanced the production of cash crops and horticulture indicating a turn towards commercial agriculture (Dev et *al*. 2007). Realising the potential of producing cash crops, the World Bank has also prioritised investment promotion in production and marketing of cash crops as method of increasing productivity, diversification and value-addition in agriculture.

For realising the full potential of producing non-food agriculture, the supply chain management of agriculture has to be made more efficient and here agribusiness can play a pivotal role. Focusing from a commercial profitmaking perspective, agribusiness creates efficient interlinkages between agricultural input, the production sector and processing-manufacturing sectors which contributes to production and post-production operations including processing, storage transportation and marketing. Given the limited potential of further growth in mainstream agriculture, agribusiness opens up an option to overcome impediments and boost farm production to diversify. It also supports the inherent requirements for its successful development, already built in to the current agricultural system. It is also evident that here has been an increasing trend towards shifting towards nonfarming occupation in rural areas, compared to agricultural activities (Hossain 2004).

The report is organised as follows, after giving details on the background of agribusiness in Bangladesh, additional information regarding the BADP project is provided in the introduction section. In the following section, research objective is given followed by specific research methodology. The final section elaborates on research findings followed by concluding remarks.

[1] Population and Housing Census, Preliminary Results of BBS 2011

2. Agribusiness in Bangladesh

After the observed increase in non-farm business activities during late eighties, the private agribusiness sector in Bangladesh emerged and exhibited sustained growth well into the early 2000s. It is estimated that this sector contributes over 10 per cent to total GDP and its growth is almost double the growth of agricultural GDP. Therefore, there is scope for accelerating the growth further considering the existing opportunities in the sector, especially since growth in the sector is still low compared to other Asian countries at a similar stage of development.

According to reports on agribusiness practice in Bangladesh, the core problem for agribusiness development is the lack of effective value chain linkages among input providers, farmers, traders, processors, and service providers (Agrico Limited 2014). In a value chain, any barrier against supply of output to consumers could lead to depression of overall trade productivity and this in turn can hinders realisation of optimal benefit of higher rural income and employment, limiting the scope for rural growth. Due to these limitations, in spite of government intervention with subsidised credit, improved infrastructure, tax incentives, and other fiscal incentives, the growth of the agribusiness sector has been modest by regional standards and has not yet taken off to a level that would make a noticeable impact on overall growth and poverty reduction.

3. Project background

To support the government's endeavours in poverty eradication through development of expanded activities in small-scale agribusiness enterprises, the Asian Development Bank (ADB) approved a loan of USD 42.5 million for the Agribusiness Development Project, together with an Advisory Technical Assistance provision. Accordingly, a loan agreement was signed between the Government of the People's Republic of Bangladesh and the Asian Development Bank on 22 June, 2006. The executing agencies of the Project are the Ministry of Agriculture (MoA) and the Ministry of Finance (MoF). Implementing agencies are the Department of Agricultural Marketing (DAM) through the Project Implementation Unit (PIU) and two Banks, the Bangladesh Small Industries and Commerce Bank Limited (BASIC) and Eastern Bank Limited (EBL), and three partner NGOs- BRAC, ASA (Association for Social Advancement) and TMSS (Thengamara Mohila Sabuj Sangha). BRAC started the project in May 2007 in collaboration with other stakeholders.

The project focused on poverty reduction in rural and semi-urban areas through increasing agribusiness activities, providing credit facilities for small-scale agribusiness enterprises to expand or open up new business. It also included expansion of activities in rural enterprises engaged in commercial agricultural production, input supply, marketing, processing and transport, which would generate employment in rural and semi-urban areas. Furthermore, it aimed to increase value creation in non-traditional agricultural commodities for generating employment and income for rural poor and increase the capacity of financial institutions to provide credit for long term agribusiness investments in a sustainable manner. This would establish effective forward and backward linkages of agricultural production for improving the marketing system of farm produce.

3.1 Components of BADP

As shown in the Figure-1, the first component, Credit for small-scale agribusinesses would be implemented through the participating NGOs, along with the two banks, and the Ministry of Finance as the executing agency. In the second component, technical and marketing support would be provided through dissemination of agribusiness related information and technology and strengthening of agribusiness associations. The third component included strengthening the capacity of the participating NGOs and wholesale banking in agribusiness lending. The fourth component focused on improvement of the existing environment for agribusiness by identification and correction of the major policy constraints and strengthening of public sector agencies in agribusiness governance, support and promotion. The fifth component provided support related to policy implementation under the Policy Implementation Unit in the Department of Agricultural Marketing (DAM) in coordination with MoF and MoA.

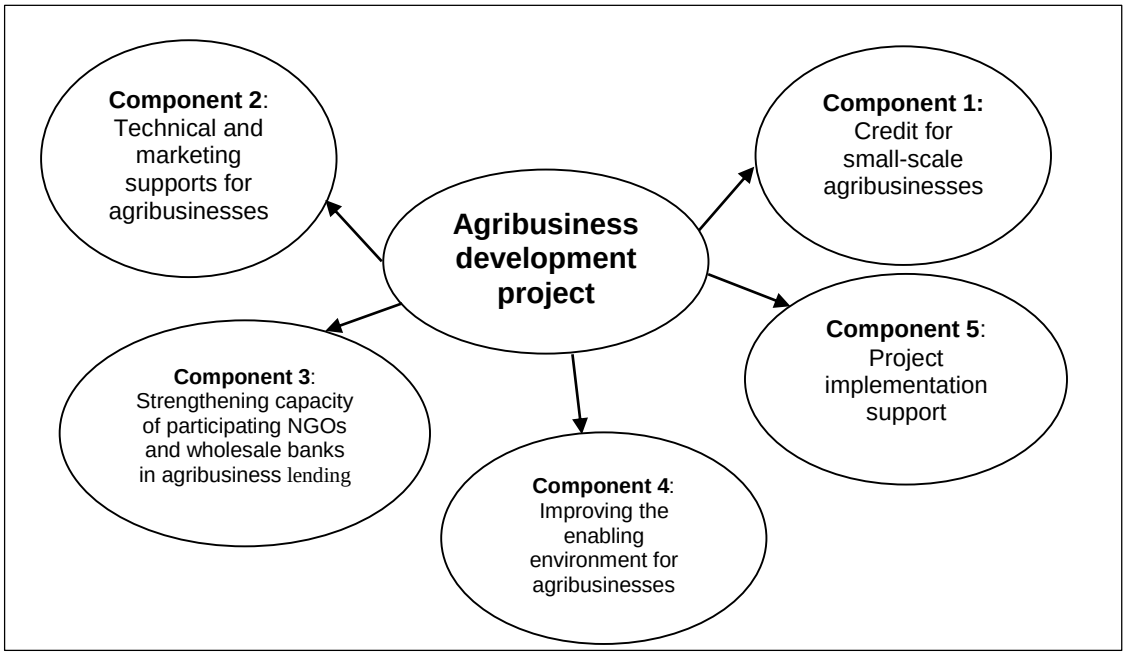
3.2 BADP and BRAC

BRAC's involvement with this project required entrepreneur selection, credit disbursement and loan instalment collection. In addition to that, BRAC also provided training to BADP members and also arranged communication with agriculture/ fisheries/livestock officers of GoB as and when required by the borrowers.

3.3 Entrepreneur and enterprise selection

Entrepreneurs were selected through a survey, conducted by BRAC, from BRAC Microfinance members graduating into agribusiness having good growth potential and no outstanding microcredit loans. Among those, targeted beneficiaries were selected from the pool of entrepreneurs on the basis of efficiency, ambition, experience and knowledge in the age group of 20-60 years.

Figure 1. Components of BADP



Apart from the entrepreneur selection from survey results, if any non-BRAC member expressed interest in a loan, then the approval process required the Project Officer to verify that the information provided by the loan applicant was genuine, the applicant had a profitable and continuing business operation, he/she did not have an additional debt burden with other NGOs and more importantly, he/she had a current income which was sufficient to cover instalment expenses of the loan applied for. In usual cases, any business which was operating for at least a year and had a current profit or potential to generate profit sufficient to meet the cost of instalments was appraised. The loan period under the project ranged from 1-2 years subject to a production/investment plan and the credit ceiling for the selected enterprises was limited to BDT 1-5 Lakh. The loan repayment commenced after 45 days of the loan delivery with a declining rate of repayment inclusive of principal and interest.

3.4 Area wise distribution

BRAC disbursed sub-borrower loans in 180 *upazilas* in 33 districts through its area and branch offices. Priority in enterprise selection was given to sector wise potential areas and product clusters. The project area was dispersed all across Bangladesh: Barisal, Chittagong, Dhaka, Khulna, Noakhali, Rajshahi, Rangpur, Sylhet and there was significant loan operations in Rajshahi, Chittagong and Dhaka.

3.5 Programme category

In order to properly address the potential of the entrepreneur, total business enterprises of the agribusiness type were first classified into three main sub-sectors under agriculture. These sub-sectors were: Fisheries, Poultry and Livestock and Crops. All these activities were classified into four major activities for each main sector. These were production, processing, marketing and input supply.

In order to provide financial and extension services under the project, four major areas were clustered where credit would play a pivotal role. These were (i) processing of raw materials for further value addition (ii) marketing (iii) input supplies and (iv) transportation. The loan disbursement as reported revealed that the livestock sector, with 36% of the credit amount disbursed, occupied top position, followed by 33% in crop, and 31% in fisheries respectively. In terms of activities 60% of the loan fund were provided for marketing followed by 30% in production and only 7% in processing. In terms of product design range, the sub-borrowers' loans ranged from BDT 40,000 to BDT 400,000. According to the latest report, the average loan size was BDT 108, 412. Total credit disbursed up to December, 2011 amounted to BDT 981,562,627, as reported by BADP.

4. Research objectives

The purpose of this study was to assess the outcomes of the project in terms of applied indicators. Specifically, the study intended to find out:

1. Whether the programme intervention of credit, with or without training facilities, caused business performance to improve;
2. Whether sustainable involvement in agriculture through agribusiness development caused business activities to become more profitable compared to the entrepreneur's situation before the intervention;
3. Whether development of these activities created more employment opportunity;
4. Whether female involvement in entrepreneurship increased;
5. Whether there was any reduction in vulnerabilities due to business risks faced.

5. Method

5.1 Data Collection

For conducting mixed method research, both quantitative and qualitative methods was applied. For quantitative data, random samples were drawn from programme beneficiaries and in-depth qualitative interviews were conducted to collect detailed information[2].

Survey

Programme coverage in Rajshahi Division was the largest, with 45% of the total programme population living there and in Rajshahi division, Pabna district had about 40% of the total participating population. Therefore, random samples were drawn from Pabna district at 99% confidence level, 5% confidence interval[3]. After scaling up, the final sample size was 520.

In-depth qualitative interview

As part of its Gender Action Plan (GAP), the BADP targeted about 30% female beneficiaries from the eligible members to create employment opportunities for women. As detailed information for women entrepreneurs might not be captured through quantitative data, fifteen in-depth interviews with both male and female beneficiaries were conducted to capture the soft impact of the project on food security, social and economic mobility, and women's empowerment, and also to enquire further about pros and cons of BADP.

5.2 Analytical technique

For analysing the cross-sectional data, descriptive analysis was performed on credit obtained, loan dynamics and enterprise wise profit/loss dynamics, sales gap within the duration before and after the programme intervention, employment generation and the perceived impact of the programme. The findings from the cross-sectional data are discussed below and details related to the qualitative reports are given in the final section.

[2] Research findings based on qualitative information is given in the section 5.6 of the research report.

[3] In statistics, **confidence interval** refers to an interval estimate, in principal different from sample to sample, that frequently includes the estimated population parameter of interest, if the experiment is repeated. And **confidence level** refers to the percentage of all possible samples that can be expected to include the true population parameter. For example, suppose all possible samples were selected from the same population, and a confidence interval were computed for each sample. A 95% confidence level implies that 95% of the confidence intervals would include the true population parameter.

6. Results and discussion

6.1 Respondent profile

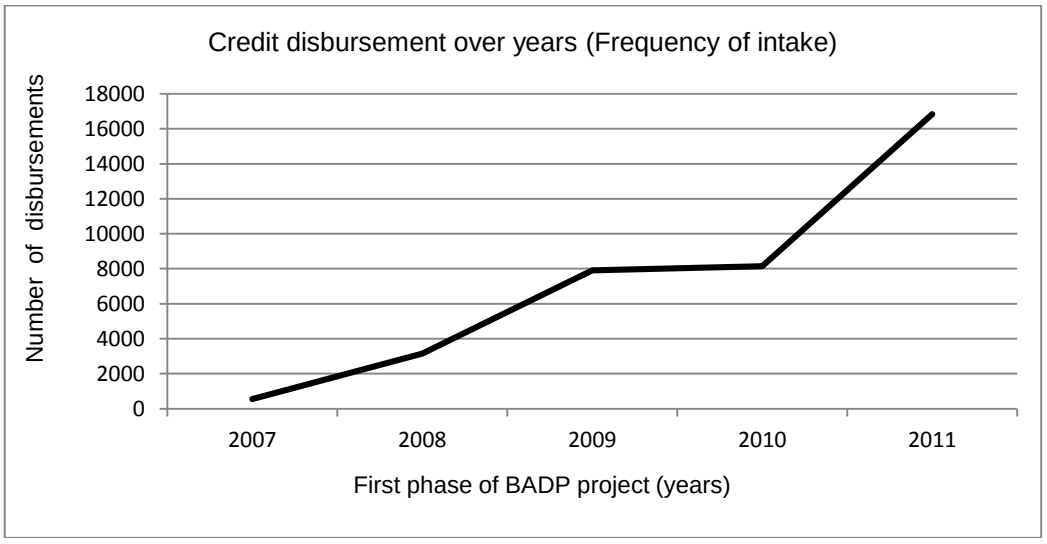
To get a brief idea about the pool of entrepreneurs, first a short profile description of the respondents has been given. Here in the result survey, a total of 522 respondents were interviewed who provided us with their business and demography related information. From sample entrepreneurs it was observed that 79.5% of them were male and 20.5% female and 98% of them were married. Across the entire pool, 73% of the entrepreneurs were aged below 50 and among them 44% were aged between 40 and 50, but most of the female entrepreneurs were aged between 30 and 40 years. Literacy rate was 76.34% for all; 83.5% of the male entrepreneurs were literate and 17% of them have completed post-secondary education whereas, 16.5% of the female entrepreneurs were literate and only 20.5% of them have completed primary education. About 63.1% of the respondents were engaged in agriculture and their second common occupation was government service. Among the respondents depending on service, 12.05% of them are also engaged in agriculture as their secondary occupation.

If we disaggregate the loan received according to the age distribution of the respondents (Annex Table A1), we find that about 2% of the loans were taken by entrepreneurs aged below 25. Respondents receiving 44.2% of a loan were aged between 26 and 39 and from the age group between 40 to 55, about 47.5% obtained credit and in the older age group only 0.06% had access to credit.

6.2 Effect of BADP in improving business performance

According to the MIS data of BADP, since its inception in 2007, the coverage of BADP increased exponentially. In 2007, the number of borrowers were below 2000 whereas in 2009 it reached almost 8,000 and in 2011, it ended the first phase of the programme with 18,000 revolving borrowers.

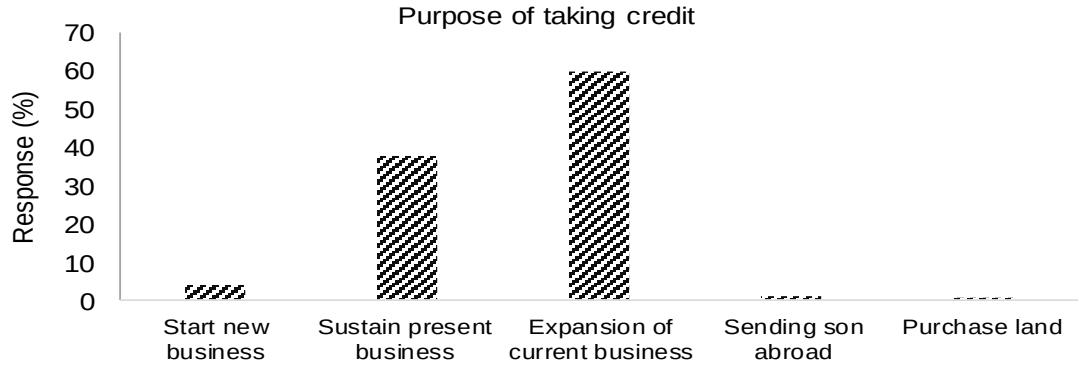
Figure 2. Credit Disbursement by BRAC in BADP Project



6.2.1 Training received

The study found that 11% of the beneficiaries received training and 91% of the training was provided by BRAC and it largely consisted of training on timing, procedures for animal medicine and proper food intake for cattle. Therefore, the impact on the entrepreneurs of receiving training could not be directly correlated with improvement in their business performance as, up to data collection period, only a minority of the representative sample had received training.

Figure 3. Purpose of taking credit



From the survey, a range of credit-intake purposes were found. Across all the types of credit taken by the respondents, 57.2% was taken for extending current business, 38.3% for maintaining their current business and only 3.7% of the loans were taken to initiate new business. Apart from productive purposes, some of the loans were taken for non-business purposes such as 0.7% of the credit, was used for sending sons abroad, and 0.18% of the loans were used to purchase land.

If frequencies of obtaining loans were tabulated, it appeared that 46.5% of the entrepreneurs opted for single loans, but one entrepreneur had taken up to seven installments of credit.

However, only 28.3% had taken double loans and only 2.5% had taken up to five loans. For first time borrowing, the average loan was BDT 93,630.3 but for the second loan this was BDT.112, 984 which increased to an average of BDT. 134,529.4 at the third disbursement. For the fourth and fifth installments, average loan size ranged from BDT.138,338 to BDT.160,000. As with higher frequency of credit intake, average credit size expanded, so we could presume that greater investment for business activities were made.

Table 1. Loan frequency details

Credit frequency	Number of borrowers (%)	Average credit size (BDT)
1	522 (46.57)	93,630.27
2	318 (28.37)	112,984.3
3	170 (15.17)	134,529.4
4	71 (6.33)	138,338
5	28 (2.5)	160,000
6	11 (0.98)	156,818.2

For observing the relationship between average size of sales and loans for different enterprises, the above mentioned figures are drawn from the data. For cattle breeding

and dairy products, crop production and fish farming the average sales for these enterprises was comparatively lower than that of layer, broiler poultry and rice husking business enterprises.

In relation to that, the loan size is approximately 34% of the generated sales for lower sales but with a gradual increase in sales, loans went up disproportionately. For the largest sales generated from rice husking business, the loan is approximately 2.5% of the sales. This indicates that after higher income generation, demand for credit declines as it is largely replaced by own financing.

Table 2. Sale and credit size

	Average sales (BDT)	Average size of loan (BDT)
Cattle	5,68,546	1,92,900
Fish farming	7,69,800	1,90,984
Layer poultry	24,28,200	2,41,143
Broiler poultry	11,35,600	3,08,000
Crop production	3,58,708	1,92,990
Rice husking	1,79,00,000	5,07,647

6.2.1 Dynamics of credit obtained

In order to observe the credit spending in each category of enterprise we saw the distribution of disbursed credit across different business sectors.

Production category

In the production category, the study found five different enterprises such as broiler, layer and duck production, beef rearing and fattening, dairy production and aquaculture. In all of these categories it was found that 23%-50% of the debts were liquidated at the first disbursement. This indicated that major demand for credit actually came for capital requirement for business establishment or expansion. At the second loan intake, a maximum of 29% credits were taken by broiler producers and about 27% of second disbursements were required for dairy and fish farming. At the third phase, broiler production required 21.2% of credits implying a needed for long term investment, whereas, the rest of the categories needed 15% of their total disbursements for the third phase. For the fourth to sixth disbursement phases, less than 10% of credits were taken, apart from cattle rearing and fattening, which showed 15.3% credit intake up to the fourth phase and showed the need for long term and consistent spending under beef production activities.

Processing category

For rice used for husking and drying paddy, 62.3% of the credits were taken within the second phase and though credits were taken up to six consecutive disbursements, the percentage was, however, very low.

Input supply category

Here business enterprises mostly focused on seed, fertiliser and agro-machinery supply. For these enterprises, capital requirement was mostly short run as 47.06% of the credits were taken for the first phase only. Only 14.12% of total credit disbursement went up to third phase.

Marketing category

Under marketing we have both horticulture and processing of farm produce. Horticulture mostly included turmeric marketing and nursery business. Here, credit requirement ranged up to three disbursements and initial requirement took up about 50% of the total. The second category focused on processing and marketing of farm produce, vegetables, fruits etc. Here the storage business was also highlighted. In this sector, credit was required for up to seven consecutive disbursements. The initial investment took up almost 50% of the credits and up to the third phase about 13% of total disbursements were taken whereas, the latter intakes demanded less than 5% of total disbursements.

Transport category

This sector mostly focused on the CNG scooter business. Here, the first phase take- up was 50% of total disbursed amount and the rest in the two later phases.

Other categories for investment

This mostly focused on non-agricultural loan disbursements such as transport business of agricultural goods, shoe, oil, brick, car parts and leasing out village market business etc. Here consecutive loans were required up to six phases where 35% were taken within the initial phase, and at fifth and sixth phases only 5.9% was taken. Apart from productive purposes, some credit disbursements were made in Pabna mostly concentrating on sending adult family members abroad, where a borrowed sum was paid off using remittance earnings of the migrant family member.

So, it appeared that credit demand mostly expired after two phases, indicating the scarcity of short run capital for enterprise development. Under the production activities, demand for credit was wider due to greater concentration of production based activities. Though credit was largely demanded for agro-based entrepreneurial activities, however, investment in the transport business and its backward linkages, oil, brick and village market leasing was also noticed.

6.3 Effect on profit generation

In order to evaluate the sustainability of agribusiness projects we captured the concentration of interest in business investment, enterprise wise disaggregation of credit investment in long term fixed capital, annual sales growth and business wise profit change over time.

6.3.1 Perceived demand for enterprises

In the case of borrowing for starting a new business, almost 60% of the disbursements were provided for livestock rearing and 12% of credit was demanded for fish farming. Credit intakes were predominantly taken for current business maintenance and extension. Here, in both cases, investment for livestock rearing took the first place, indicating that these enterprises demand consistent investment throughout the entire period of operation. In the second place, there was crop production, where 17% of total disbursements were invested. About 4-6% of credit was invested in poultry related business extension and 4.9% of credit was being used for new business initiation for layer poultry. (Annex Table A3-A5)

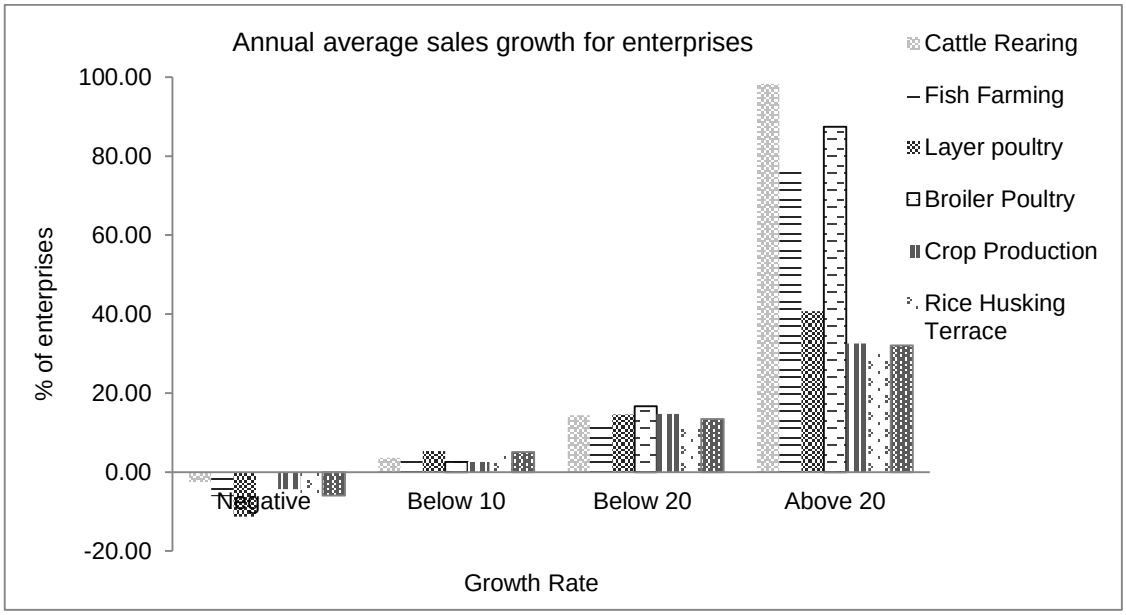
In Annex Table A6 distribution of credit in fixed and working capital was overviewed enterprise wise. In this case, non-agricultural investment avenues such as CNG business and furniture shops invest more for working capital whereas, livestock fattening, layer poultry, crop production and processing required equal investment in both fixed and working capital from the borrowed finance.

6.3.2 Changes in sales: before and after the project

In order to understand the ingenuity of business entrepreneurship, the study also observed the difference in value of sales across all the continued business enterprises to evaluate their performance effectiveness incorporating better business knowledge and training components from the Bangladesh Agribusiness Development Project. The annual average sales growth was calculated from the change in sales value in the duration of this project. Growth was adjusted for duration on business operations and later on, percentages were calculated as average rates of annual sales growth.

Therefore, as shown in the graph, among the enterprises having lowest growth, layer poultry farms showed negative growth of 11.3% followed by fish farming at negative 6.1%. In the second category, where enterprises showed positive sales growth between 0 and 10%, the largest growth was claimed by agricultural and food marketing, accounting for 84% of sales growth distribution followed by layer poultry farming having an average of 5.31% for 47% of the poultry farms.

Figure 4. Annual average growth of sales

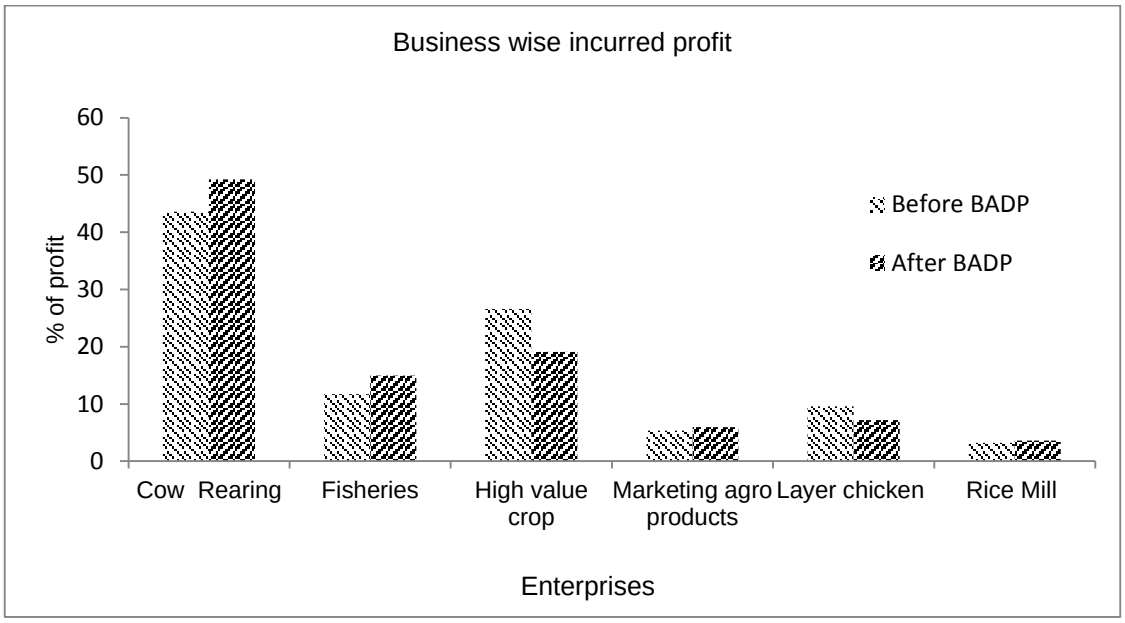


For higher sales growth, it was found that 19% of the cattle farms achieved growth of 14.4% whereas, 10% of the broiler poultry farms had 16.7% of average growth. For the highest growth achievers, it was found that fish farming dominated with 23% of the farms having achieved 76% average growth, but 40% of the broiler poultry farms had higher growth rates of 87.46%.

6.3.3 Growth of profit for selected enterprises

In order to assess performance of business enterprises, we have looked into the gap between sales and expense during the entire period of business operation.

Figure 5. Profit generation



The duration has been divided in two dimensions to capture the before and after effect of project. In this context, livestock rearing, fisheries and marketing of agricultural products shows positive change in profit before and after the project intervention as their average profit size has increased considerably. However, in production of high value crops, layer poultry and rice processing enterprises, profits have decreased after the project initiation.

6.3.4 Business management systems for enterprises with losses

The business enterprises are mostly managed under different kinds of business management-ownership systems. They are: individual ownership, family ownership or partnership managed with non-family business partner. In this project there was a pre-dominance of individual units with contribution of family members mostly as labourers. However, it was observed that about 54.5% of the losses were incurred in these enterprises. On the other hand, looking at profitable enterprises, 50% of these were managed by family units where family members were managing the business together as partners.

6.4 Promotion of employment opportunities

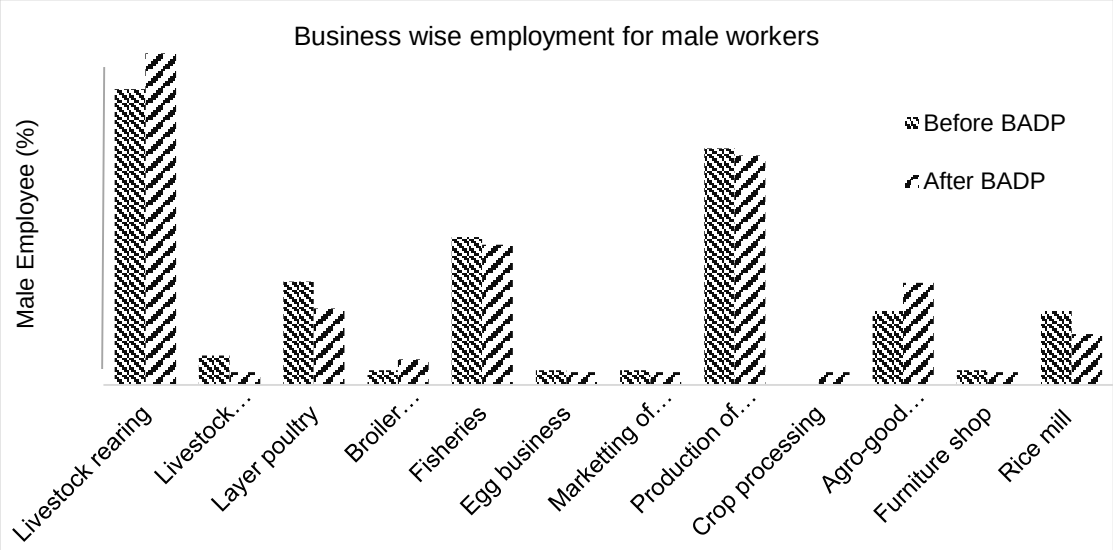
It could be seen that, during the whole project duration, wage rates for full time male workers were higher than that of females. However, rise in female wage rate was higher than that of male's when compared to the pre-project period. The female wage rate increased by almost 63% between project initiation and collection of survey data (about 4 years).

Figure 6. Growth of wage rate for males and females

Business wise employment generation for full time male workers

Among all the enterprises, livestock consistently employed more people than other sectors, though rise in employment was highest for fish farming.

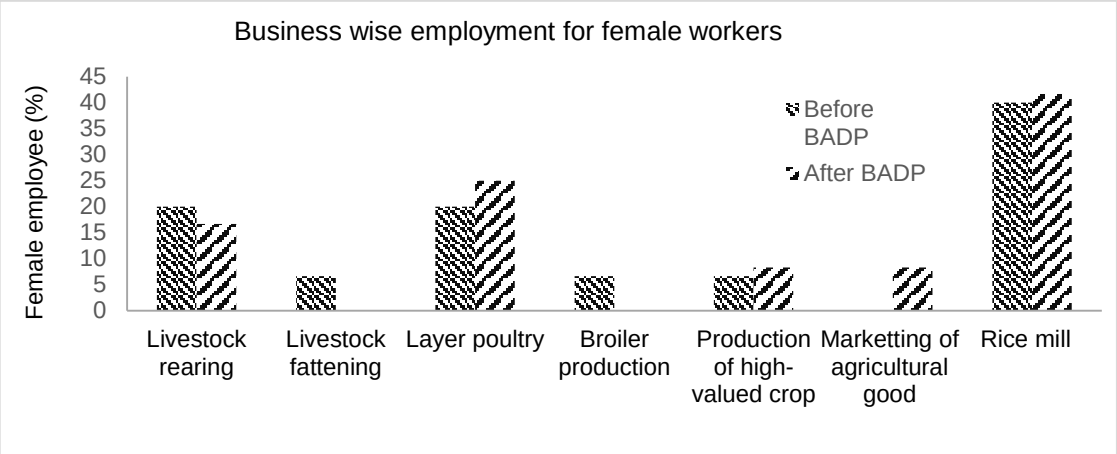
Figure 7. Employment generation for male labourers



Business wise employment generation for female workers

Female labourers were mostly engaged in livestock rearing and fattening, poultry production, high value crop production and rice processing and marketing of agricultural goods. Employment thus increased in layer poultry and production of high valued crop and also in rice mill business.

Figure 8. Employment generation for female labour



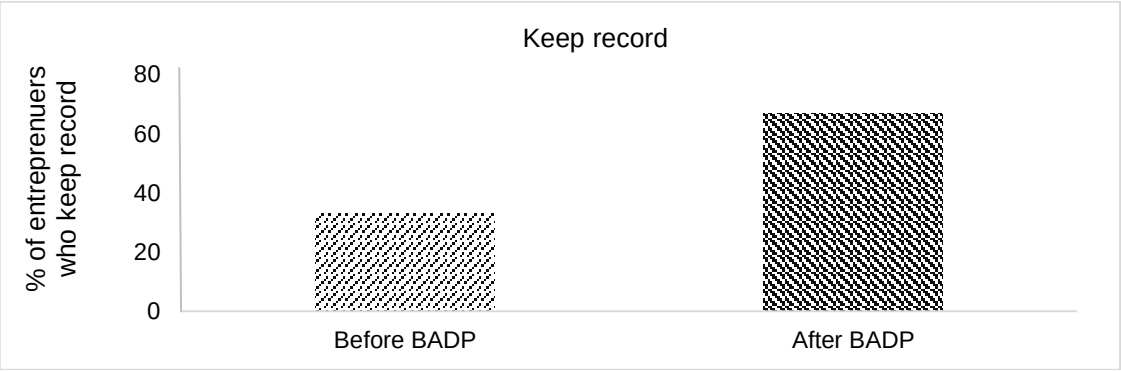
However, average demand for labour usually stayed below 5 persons per day as rice mills engaged, at most, 50 people daily in rice mill business.

Assessed impacts of the programme

One of the core objectives of the project was to expand the practice of record keeping, trade mark and trade license for operating business systems. In this regard it seemed that the project was quite successful in increasing the practice of record keeping.

In order to get a respondent based assessment of the project's success, selected questions were asked regarding specific areas of performance by the project. Here three preferences were defined as significant, few and 'no effect' in relation to benefits, by respondents.

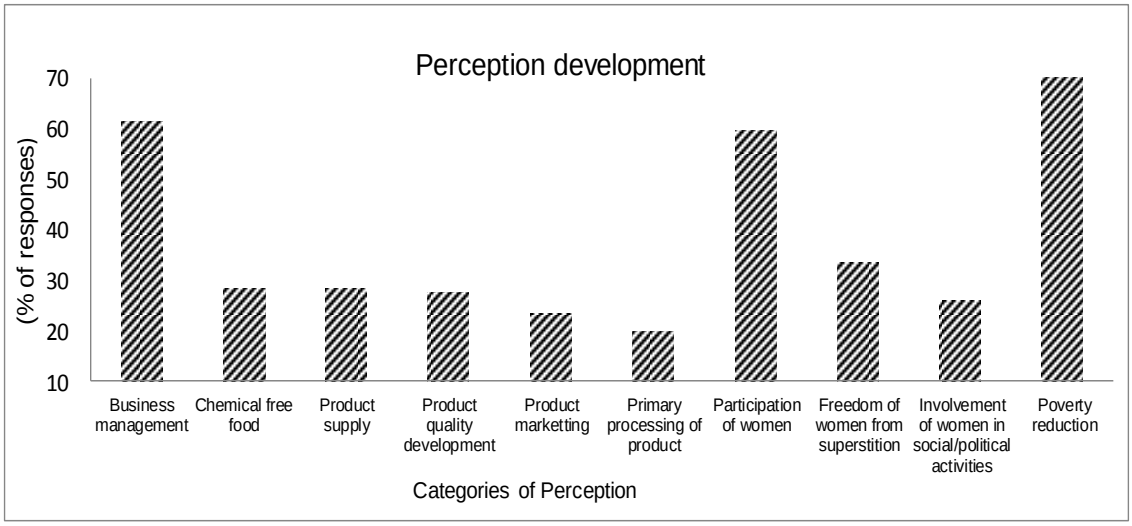
Figure 9. Programme intervention effectiveness



It was found that 61.5% of respondents said that the project had a significant impact on business management.

Respondents did not report significant impact on product supply and 35.6% reported little effect. 46.9% of the respondents reported that product quality changed insignificantly due to the project. About 35% found that, as a result of this project, women were freer from superstition, and 71% believed that poverty was significantly reduced by project intervention.

Figure 10. Programme impact on selected issues



However, 60.2% of the respondents reported that the project's impact on chemical free food was negligible.

6.5 Women's entrepreneurship

From the detailed qualitative case studies and quantitative survey covering 109 female entrepreneurs, the study obtained significant insights about the gender impact of the project. From the 10 in-depth interviews conducted on female entrepreneurs, information was used to enrich the quantitative results.

After becoming BADP members, women entrepreneurs' participation has increased significantly. The study found a large shift in women's participation from household activities into productive activities.

Table 3. Women's participation in agribusiness activities

Women's participation	Before becoming BADP member	After becoming BADP member
Layer poultry	0.93	8.49
Production of rice	4.67	3.77
Agricultural input	0.00	6.60
Livestock rearing	25.23	48.11
Horticulture	0.93	3.77
Crop processing and marketing	1.87	16.98
Fish farming	4.67	8.49
Others	4.67	3.77

The increase seemed significant in agricultural input marketing, livestock rearing, processing and marketing of crops after the project initiation. In comparison to the pre-project scenario, there was a significant decrease in household activities. In order to understand whether female borrowers were actually using their borrowed money independently for productive purposes the study collected information on business management and freedom of spending money. Apart from that, in-depth information was also incorporated to provide insights about female's mobility, responsibilities etc. Most female respondents became entrepreneurs only when they received loans from

BRAC under the project. They mostly looked after their children and seldom ventured out of their abode in pursuit of business related activities. The borrowed amount went to their male family members who would spend it at their discretion and females only got to manage the enterprise to a limited degree.

Among the ten randomly selected in-depth interviews, there was a significant amount of women's literacy, as most beneficiaries knew at least how to read and write. Therefore, though business and investment decisions were mostly managed by males, in some circumstances their wives/mothers were responsible for collecting rent or repayment of loan instalments.

At the time of inception of any borrowing activities, the social environment for credit assistance for business investment was not at all congenial as most family members are dubious about this. However, after the successful initiation, women had full independence to move around for business as well as social purposes and their mobility was welcomed by all.

6.6 Qualitative information

In order to capture some insights into the 'softer' impact of this project, we collected qualitative data through in-depth interviews with fifteen chosen entrepreneurs from Pabna district in Bangladesh. Situated at different locations in Pabna, and engaged in various enterprises these key informants provided us with the required soft information in detail.

6.6.1 Method

Table 4. Themes and issues considered in this study

Themes	Issues
Brief Introduction	Giving a brief summary of the entrepreneurs and his family
Pre - BADP Status	What was their socioeconomic status before joining BRAC, occupation before joining BADP and its description
Business Activities after becoming BADP member	After joining BADP any change in business occupation, if yes then what made you switch from previous activities, any improvement in your status after switching occupation
Impact of the project Household Income	Whether income of the household increased for credit support of the BADP intervention to suffice livelihood
Food security	Whether involvement with this project has enriched your food habit and enabled you to spend more for nutritious food
Educational Qualification	How much better capable you are for investing in your family member's education, are you able to afford private tuition and other essential additional expenses
Medical status improvement	How much has your ability changed after joining the project regarding providing treatment for your family members and access to information
Asset holding	Changes in your accumulated asset holding after getting involved in the project
Social Standing	How has your surrounding changed after you have become a BRAC BADP member
Training	If you have received any training then how much benefit did you accrue from it

(Table 4 continued….)

(….continued Table 4)

Employment Generation Scenario	**How many more labour do you employ now compared to before becoming involved in the project and how much increased wage do you now require to pay**
Positive externality	Whether the project has created any external benefits to the society
Entrepreneurship	How much more enterprising has your spouse become as a result of becoming involved in this project
Empowerment	Whether women members have become more enterprising
Comments on the project	What opinion do the beneficiaries have in terms of upgrading the project, how can they more contribute to the process of input supply, production, processing and marketing

After conducting the quantitative survey of 522 respondents, 10 female and 5 male entrepreneurs were randomly chosen for collecting qualitative data through in-depth interview. For conducting the interviews, a well-planned and detailed checklist was made for both male and female entrepreneurs. The checklist focused on the issues pointed out in the above table. Data were tape recorded and notes were taken at the same time during the in-depth interviews.

At first we collected information about the Agribusiness Development Project through field visits to understand the operation of the programme. Later on, detailed information was gathered through programme staff. Depth of knowledge on each issue was defined such that entrepreneur's thorough observation on each aspect was collected. On the other hand, to gather information about the possible benefit accrued from the project, each informant was asked to make a recall on each topic they were asked about.

Data Analysis

Tape recorded qualitative data was first transcribed and then it was compiled. Afterwards, data was categorised according to each theme and issue and after a rigorous reading, the data were sorted and repeated information was discarded.

6.6.2 Research findings

Perception about the effect of the project on food security

According to the information provided by the informants, most of them were self-sufficient in managing their own food security and involvement in agro-business activities increased not only their purchasing power but also their access to a more nutritional food supply. In addition to that, information regarding cheaper availability of food supply also increased.

Most families were successful in managing three nutritious meals daily with big fish, meat, eggs, milk and fruits whereas, before, very few could afford even one whole meals for a day. Furthermore, for those entrepreneurs who were more solvent before, they enriched their food intake with better quality food.

Effect on educational attainment

After becoming a member of this project, the educational attainment of household members of the entrepreneurs increased significantly. Every father or mother had better ability to provide for their children's education. Most of them emphasised on monetary support for giving a good education to their children. Moreover, each entrepreneur was

more conscious about the importance of education and felt the urge to educate their future generation as much as possible. Another significant matter was regarding providing education for their children, parents seemed to put equal emphasis on both their sons and daughters.

Effect on medical treatment

After becoming economically empowered, the entrepreneurs not only improved in terms of their ability to purchase better medical facilities, but also acquired higher awareness about health education. Before becoming a member of BADP programme most of them relied on local medical facilities and unskilled doctors, but now all consulted qualified doctors and even traveled to Dhaka if they felt necessary.

Effect on economic/social standing

i. Self-confidence and greater social respect

With more assets and money in the bank, all entrepreneurs earned villagers' respect. They felt satisfied by the fact that they were making a positive contribution to the economy.

In most cases, the businessman and his family was invited to village *salish* and his opinion was highly valued. Previously, none of the entrepreneurs surveyed received any recognition for their achievements. They now dream to make their enterprises one of the best in the locality.

Every one now enjoyed greater social benefits. With prosperity in business they now possessed positions in society through ownership of assets which they never had before. It was unanimously agreed by all that, without money, there was no place in the society for you.

People did not even help during difficulties. But after prosperity, when people got to know about the entrepreneur's success in, for example, the poultry business they began to respect him and ask for his opinion on various social issues. He and his family were now enjoying higher social benefits than before.

One of the respondents, Abdur Rashid, thought that it was more honorable to invest in business activities than in family operated activities. Though household activities gave respect with-in the family, business gave respect in both family and society. Before becoming a BADP member, he used to borrow money from his relatives but now he had the capability to lend to others if required.

ii. Female Mobility

In the past, the wives/business women faced many social barriers in their movements and dealings with outside people. Before receiving credit hardly anyone one had known the business-women but now due to their social status everyone knew and respected them.

iii. Positive externalities

In order to understand how much additional benefit was generated through the project implementation apart from the direct interventions, we searched for issues of positive

externalities as well. Here we received a cluster of information regarding the benefits accrued to people. Some of the labourers working for the entrepreneurs learned the ropes and started their own venture with advice from their employer. Some BADP members even arranged for their workers to get a loan from BRAC.

iv. Entrepreneurship

It seemed that, entrepreneurship developed mostly around males, though it was largely their spouse who took credit from BRAC. Women were usually engaged in household chores and taking care of their enterprise production but it was the main male household member who made any business related decisions and maintained business communication overall. In most enterprises related to production, the businessmen traveled to Dhaka to sell their produce and sometimes they even shared transport expenses for this purpose.

But in some cases, females made some contribution in the running of their business operations. One of the female borrowers and her husband managed their business jointly. Nargis usually keeps busy with looking after the cows and chickens. Currently, she had two cows and two calves. She fed them, and cleaned out the shed. She usually looked after her children and her husband took care of their business but sometimes when her husband is away for any business purpose she had to sell the milk through neighbours and through van drivers.

In another case, a wife advised her husband on investment, cultivation and involvement of others in productive activities. She took care of her family and fed their cows at home.

v. Impact of training

Most of the entrepreneurs who received training reported that it was an extremely beneficial learning experience for them and they made much improvement in their business activities from their lessons learned. Most of them had received training on livestock rearing or poultry.

Before receiving training they had to call doctors whenever the bulls fell sick but now they themselves could treat their livestock if required. So, they could save a lot of money over unnecessary medical expenses. Now they need not even pay the bill the doctor asked for as they knew which medicine was required for what particular types of diseases and where to get it.

In the case of training on fisheries, entrepreneurs learnt how to calculate the amount of feed in the water by measuring the water and also how to detect fish diseases and food habits of specific fishes as well. They thought that training has improved their product quality compared to others.

6.6.3 Remarks from the respondents

i. Delayed repayment schedule

It was one of the biggest challenges to start loan repayment within one month of loan disbursement. The borrowers thus had to spend half of the borrowed money for repayment of loan taken thus the loan could only be of limited use. Most commented that, if the repayment schedule could have a gap of three-six months, then the borrowed money could have been better invested. Besides, to take a loan from BRAC, people

have to deposit their land deeds but many who were interested in borrowing did not have any land. In the case of early repayment of loan instalments, they could not wait for the fish to grow as this used to take minimum time of three months. So, they thought that for fish farming specifically, the loan repayment schedule needs to be shifted from monthly to tri-monthly. They believed that if these two problems could be resolved then many more people could borrow from BRAC and therefore their socioeconomic condition would improve.

ii. Interest rate

Many thought that the current rate of interest at BRAC was too high as there is no other NGO that charges 15% interest as BRAC. If BRAC lowered their interest rate to even 12.5% then many more would benefit from this credit. Tahmina felt that onion cultivation was not as profitable as it could be because of low-quality seeds. If BRAC could make good quality seeds available then they could make more returns from their investment. If the interest rates were lower, they could repay more easily and benefit more from their business in terms of profit. Moriyom felt that among other problems, the immediate monthly re-payment schedules was most crucial. In her opinion that this should be made three or six monthly.

iii. Land deeds

Another additional burden was to deposit the land/property deeds. It would be more beneficial for the farmer-businessmen if they could start loan repayment after five-six months and also did not need to submit their land/property deeds. Many farmers who were interested in cultivating leased land could not apply for credit as they were required to submit deeds for the land, which they do not own. If this rule could be made flexible then many more farmers could have made use of the benefits of the BADP project and become economically solvent.

7. Conclusion

The Agribusiness Development Project was initiated in 2007. After the end of the first phase in 2011, the borrower portfolio grew at a progressive rate. Despite training being one of the major components of the project, it was found that most of the training received by entrepreneurs was provided by BRAC and mostly concentrated on care of livestock and poultry. From the credit intake behaviour, it was observed that 85% of the credit was used for operating current businesses and 3.7% was actually used for new business ventures. However, demand for credit declined after the first loan where the average loan size was in between BDT 20,000 and BDT 400,000. The loan usage was largely concentrated on production based activities of livestock farming, dairy based activities, layer and broiler poultry farming and fish farming.

Across all sectors, credit was mostly required for 2-3 years as 20-70% of the loans were taken within the first three phases. In the case of annual sales growth, 21%, which were layer poultry farms, had faced the lowest growth of 11.3% and the largest growth from this sector was 40% earned by 18% of the farms. For cattle farming, the growth rate went down to -0.3% for 11% of the farms and then increased for 17% of the farms. This indicated that cattle farming was one the most dominant enterprises in the area; nevertheless vulnerabilities hampered its profitability prospects.

Women's empowerment through the project increased the mobility of stakeholder women entrepreneurs. However, successes in terms of increasing entrepreneurial activities were few. From self-reflection analysis, we also found a large response to the significant effect of the programme in poverty reduction.

The findings from the qualitative survey were as interesting as those of the quantitative one. On average, we saw that, though there were few changes in their occupational status, the rate of diversification went up as wives/husbands of the bread-winner were involved in additional income generating activities. The few who changed their occupation did so on the basis of low risk and high profitability compared to their previous activities. Most of them were now self-sufficient in managing their own food security and involvement in agro-business activities increased not only their purchasing power but also their access to more nutritional food supply.

Though BADP did not provide any direct intervention for the improvement of education or health, after becoming a member of this project, the educational attainment of the households of the entrepreneurs increased significantly. Due to financial empowerment, the entrepreneurs now possessed both better purchasing ability and higher awareness about health and education.

Their social and economic standing also improved significantly. In the past, the wives/business women faced many social barriers in their movements and dealings with outside people. Before receiving credit, no one knew the businesswomen but now due to their social status everyone know them and paid respect. With more assets and money in the bank, all entrepreneurs earned villagers' respect. They felt satisfied by the fact that they were making a positive contribution to the economy and their thoughts had influence over their society.

This Project had some spillover effects as well. Some of the labourers working for the entrepreneurs have learned the ropes and started their own ventures with advice from

their employers. The existing BADP members even arranged for their workers to get a loan from BRAC. Though majority of the entrepreneurs didn't receive training from this project, however, the few who received it, spoke very enthusiastically about it. They felt that the training was an extremely beneficial learning experience for them and they have made much improvement in their business activities from their lessons learned.

There was widespread complaint regarding the issue of short term loan repayment schedules and high rate of interest and the rules of putting up land deeds as collateral to secure a loan disbursement. Furthermore, there was no sign of recognition for the stakeholders which were implementing the project as appreciation for the entrepreneurs' achievements. Nevertheless, they were still very happy with their developed life style and all now dream to make their enterprise one of the best in the locality.

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Annexure

Table A1. Distribution of loan by age

Age category	No. of loan	Minimum loan amount	Maximum loan amount
Below 25	157	80,000	17,10,000
26-39	3506	80,000	20,00,000
40-55	3774	70,000	33,00,000
Above 55	503	90,000	27,41,000

Table A2. Enterprise wise dynamics of credit-intake (in BDT)

Enterprise type	1	2	3	4	5	6
Broiler	98181.82 (33.33)	123888.9 (27.27)	120000 (21.21)	135000 (9.09)	45000 (6.06)	100000 (3.03)
Layer, poultry, duck, egg	117115.4 (48.60)	110062.5 (29.91)	155294.1 (15.89)	212500 (3.74)	300000 (1.87)	
Beef and beef fattening	76666.67 (23.08)	140000 (23.08)	165000 (15.38)	130000 (15.38)	125000 (15.38)	200000 (7.69)
Dairy	88441.86 (47.57)	108362.9 (27.43)	118602.9 (15.04)	131206.9 (6.42)	156818.2 (2.43)	95000 (1.11)
Fish farm	84181.82 (50.00)	112500 (27.27)	117058.8 (15.45)	99285.7 (6.36)	150000 (0.91)	
Rice and crop processing	117647.1 (32.08)	176250 (30.19)	178888.9 (16.98)	178333.3 (11.32)	250000 (5.66)	350000 (3.77)
Agro- input, equipment	117750 (47.06)	124791.7 (28.24)	230416.7 (14.12)	141714.3 (8.24)	140000 (2.35)	
Horticulture	70000 (50.00)	90000 (41.67)	70000 (8.33)			
Processing & marketing	86630.43 (49.73)	111929.8 (30.81)	135000 (12.97)	154285.7 (3.78)	166666.7 (1.62)	100000 (0.54)
Transport	87500 (50.00)	83333.33 (37.50)	150000 (12.50)			
Others	93333.33 (35.29)	86666.67 (17.65)	123333.3 (17.65)	156666.7 (17.65)	75000 (5.88)	150000 (5.88)

Table A3. Concentration of business in case of new business initiation

Business type	Per cent
Livestock rearing	63.42
Fisheries	12.2
Layer Poultry	4.88
Production of crop	7.32
Processing of crop	2.44
Dairy	4.88
CNG ownership	2.44
Haatijara	2.44

Table A4. Concentration of business in case of current business continuation

Business type	Per cent
Livestock rearing	35.9
Livestock fattening	1.86
Fisheries	8.62
Layer poultry	10.49
Broiler production	3.76
Marketing of layer/broiler	0.23
Marketing of fertiliser/pesticide	0.47
Agro-input supply	0.47
Horticulture	2.57
Crop production	16.55
Crop processing	6.06
Agro-good marketing	9.09
Others	2.79

Table A5. Concentration of business in case of current business extension

Business type	Per cent	Business type	Per cent
Livestock rearing	45.87	Marketing of fertiliser/pesticide	0.94
Livestock fattening	2.34	Others	4.52
Fisheries	15.45	Rice mill business	4.68
Agro-good marketing	9.98	Layer poultry	4.37
Crop production	16.22	Broiler production	2.03

Table A6. Long term investment business wise

	Fixed capital-average loan size in BDT (%)	Working capital-average loan size in BDT (%)
Livestock rearing	79,960.99 (58.97)	55,635.48 (41.03)
Livestock fattening	91,250 (49.43)	93,363.64 (50.57)
Fisheries	61,674.42 (46.24)	71,718.75 (53.76)
Layer poultry	90,789.47 (51.18)	86,617.65 (48.82)
Broiler production	32,727.27 (25.55)	95,370.37 (74.45)
Crop production	52,383.33 (44.16)	66,250 (55.84)
Crop processing	76,666.67 (38.02)	1,25,000 (61.98)
Horticulture	26,250 (32.14)	55,416.67 (67.86)
Milk processing		1,29,375 (100)
Agro-good marketing	67,631.58 (33.45)	1,34,000 (66.45)
Others	1,25,000 (83.75)	24,250 (16..25)
Cow business	95,000 (43.12)	1,25,333.3 (56.88)
Rice mill business	90,400 (37.02)	1,53,787.2 (62.98)