

**Profitability of BRAC-financed Projects:  
A study of seven microenterprises in Matlab**

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## **Preface**

Empirical evidence point to a causal relationship between the socioeconomic status of individuals and communities and their health. Indeed, improvement in health is expected to follow socioeconomic development. Yet this hypothesis has rarely been tested; at least it has not undergone the scrutiny of scientific inquiry. Even less understood are the processes and mechanisms by which the changes are brought about.

The Rural Development Programme (RDP) of BRAC' is a multisectoral integrated programme for poverty alleviation directed at women and the landless poor. It consists of mobilization of the poor, provision of non-formal education, skill training and income generation opportunities and credit facilities. The programme is the result of 20 years of experience through trial and error. However, evaluation of its impact on human well-being including health has not been convincingly undertaken.

The Matlab field station of ICDDR,B is an area with a population of 200,000, half of whom are recipients of an intensive maternal and child health and family planning services. The entire population is part of the Center's demographic surveillance system where health and occasionally socio-economic indicators have been collected prospectively since 1966.

A unique opportunity arose when BRAC decided to extend its field operations (RDP) to Matlab, ICDDR,B and BRAC joined hands to seize this golden occasion. A joint research project was designed to study the impact of BRAC's socio-economic interventions on the well-being of the rural poor, especially of women and children, and to study the mechanism through which this impact is mediated.

In order to share the progress of the project and its early results, a working paper series has been initiated. This paper is an important addition in this endeavour. The project staff will appreciate critical comments from the readers.

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## Executive Summary

The basic objective of this study was to look at the profit rates made by VO members once they have made investments in projects financed through BRAC loans. BRAC's twin objectives of employment and income generation as part of its poverty alleviating strategy hinge crucially upon the success of its micro credit programme. Although weekly loan repayments may originate from a variety of sources, the intended channel is via the profits made on their individual micro-enterprises

This study took a sample of seventy households divided equally amongst seven different microenterprises. The projects investigated were paddy cultivation, potato cultivation, goat rearing, bull fattening, grocery shop, net making and poultry.

The profit rates were calculated using detailed structured questionnaires which collected information on revenues and costs of the project. Information on time spent on the microenterprise was also collected in order to measure the opportunity cost of time.

As for the results, we found that potato cultivation, poultry (mainly chick rearers in our sample) and net making were the activities that made the most substantial contribution to household income; over 1000 taka per month each. Grocery shops were the intermediate category, the economic profit being considerably lower than the accounting one due to the considerable amount of time the loanee spends on the activity although in terms of accounting profit this project tops the list. Goat rearing and paddy cultivation were found, in our limited sample, not to be significant contributors to household income making marginal amounts of profit. Bull fattening on the other hand was found to be a loss making activity.

The impact of training was also analyzed. The amount of profit made by those with relevant skill training was compared with average profit rates for those not trained; although the former was in most cases found to be higher this difference was not significant. However the small sample size analyzed means that one cannot make any comment on the effectiveness of BRAC's training programmes.

The reasons for the variations in profits were also explored. The main reason behind the difference in the two agricultural crops was in terms of productivity; average potato output per decimal is 1.27 maunds while average paddy output is 0.48 maunds per decimal. Net making is a high value added activity; poultry's average profits are high but so is the risk involved due to potential illness outbreaks. Goat rearing's profitability is constrained by high mortality rates whereas bull fattening return's accrue in the long term especially since BRAC loan ceilings permit the purchase of only young bulls.

Our recommendations are for BRAC to raise loan ceilings for selected activities e.g. net making, shop trading and bull fattening as it ought to raise borrower's profit rates. BRAC should also strive to ensure the timely delivery of inputs, particularly vaccination and marketing, as they are essential for the success of the project. Seasonal loans, like bull fattening loans three months before Eid, should also be encouraged. Finally we concluded that BRAC ought to pay closer attention to the potential profit rates made on projects instead of concentrating on mass disbursement only to meet set loan targets. After all, ultimately organizational sustainability will depend on borrower viability.

## **Introduction**

### **The evolution of BRAC**

A household name in Bangladesh and in development circles worldwide, BRAC, Bangladesh Rural Advancement Committee, is the world's largest indigenous NGO. Its primary objective is poverty alleviation and empowerment of the rural poor of Bangladesh and at present BRAC reaches 600,000 of its target population.

BRAC was founded in 1972 as a relief and rehabilitation operation working in Sulla, a part of Sylhet district. This quickly turned into a community development project in 200 villages, as the then BRAC workers realized that their efforts were not addressing the long term needs of the people in the area. Work in several fields, adult education, family planning, agriculture and fisheries got underway. With experience the programmes were streamlined and adapted to local needs, with functional education and paraprofessional health workers gaining importance.

It was not until 1975, that BRAC expanded its area of operation into Manikanj and Jamalpur. At this time it was decided that all programmes would be integrated and delivered exclusively to the landless poor with an emphasis on women. This period witnessed experimentation with savings and credit schemes and non formal primary education along with medical programmes. The period 1975 to 1979 was essentially a time of testing out the merits of different developmental schemes in these field "laboratories" and introducing various support services.

It was at the end of this period that a debate arose within BRAC ranks concerning the organization's future operational strategy. There were those who felt that BRAC should expand by continuing to organize the poor into cohesive groups and giving them some motivational training in order for them to break out of the dependency from the local elites. The crucial point was that this school of thought did not want to provide economic assistance to the villagers in the form of credit since they felt that the focus on empowerment would be diverted.

The second group of BRAC managers felt that credit was indispensable to break the vicious cycle of poverty gripping the rural poor. In order to try and resolve this debate BRAC, together with generous donor support, expanded through two parallel programmes.

The Outreach Programme was set up to test the limits of what the landless could accomplish using only their own resources or whatever local or governmental assistance they could find. BRAC organized the villagers into units and they in turn negotiated for a range of Government services and also many created a group savings fund from which members could take out loans. The problem with this programme was that internal fund generation was inadequate to meet loan demand and also the village units were often fractionalized.

The Rural Credit and Training Programme (RCTP) was established to see the effects of credit services and self-employment activities within the village groups. Initially, credit was distributed within a short period of group formation but it was found that this harmed group solidarity. Hence, credit was subsequently disbursed only after one year of attendance at group meetings, regular savings had been collected and after the person had completed BRAC's functional education programme. In 1986, the two

programmes were merged into a comprehensive Rural Development Programme (RDP). RDP, with its emphasis both on institution building and credit can be said to be an amalgamation of the two concepts though it does appear to have taken more from the RCTP idea.

## **THE RURAL DEVELOPMENT PROGRAMME (RDP)**

From loans to livestock and from savings to sericulture BRAC's RDP is a multi-sectoral programme covering a wide range of areas. RDP's broad long term objective is to "bring about transformation in the quality of life of the poor in Bangladesh by empowering them socially, politically and economically so that they may effectively participate in the national development process."<sup>1</sup> The two associated goals of RDP are poverty alleviation and empowerment of the rural poor.

RDP is delivered via 199 local Area Offices scattered around the country. Each Area Office covers approximately 60 villages in the locality. At village level BRAC's target group (those with less than 0.5 acres of land and those who are manual labourers for more than 100 days in a year) are organized into units called Village Organizations (VOs) with a membership of between twenty and fifty five, and divided according to gender. By the second year each Area Office is expected to have around 120 VOs under its helm.

BRAC's target population are at present encouraged to become members of their Village Organizations and are thus given the chance to deposit their savings with BRAC. One key function of the VO is to encourage savings mobilization and act as the channel for loan delivery to the poorest of the poor. The members are required to deposit a minimum of taka two every week at the VO meeting. There is also a 5% of loan disbursement that is deducted from the loaned amount and is deposited in the savings account. Thereafter, the withdrawal pattern is predetermined: it is possible to withdraw 25% of the savings after five years, 50% after ten years and a 100% after twenty years. BRAC pays 6% interest on these savings.

Credit is a major component of RDP's approach to development. The provision of credit to the rural poor is viewed not only as an end, but also as a means towards the process of institution building and meeting the basic needs of the poor. The assumption underlying BRAC's credit programme is that a strong institutional and economic base are preconditions to improving the quality of life of the rural poor. The provision of credit is also emphasized in many development initiatives on the assumption that the injection of capital to the rural poor will stimulate private enterprise as well as expand agricultural production of small and landless farmers. A good credit programme is viewed as a viable institution to serve the needs of the poor as well as to strengthen their economic base.<sup>2</sup>

RDP has some stringent eligibility criteria for villagers to receive loans partly in order to ensure that the credit programme contributes to the goals of institution building. Completion of BRAC's Functional Education course, regular attendance at VO meetings and a level of savings equivalent to 5% of the loan demanded are essential. BRAC's loan operation is similar to that of the other main operator in the Bangladeshi rural credit market, the Grameen Bank (together they account for nearly 1.5 million customers) in that no collateral is demanded from villagers. This is in sharp contrast to standard banking procedure where loans without formal collateral are unheard of. Bringing financial intermediation closer

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<sup>1</sup> RDP project document 1993-95, BRAC

<sup>2</sup> This paragraph draws heavily on K.Casper's "A case study on the impact of group formation and credit on traditional social security networks and exchange relations of women"

to home by setting up village organizations reduces the transaction costs of the borrower and also lowers the informational asymmetries on the part of the lender regarding the creditworthiness of a borrower.

Loans come in the form of individual or group loans and BRAC earns 20% interest, calculated on a reducing balance, on the amount outstanding. The credit facility is in the shape of a Revolving Loan Fund (RLF), it is revolving in the sense that money is lent out, recovered, and lent out again. As the age of an Area Office progresses the amount of loan disbursed increases.

### **BRAC's approach to micro-enterprise development**

The number of landless poor is steadily increasing in Bangladesh as income and asset inequality rises. However the demand for agricultural labour is on the slide. In addition the rural poor gain very little from urban based industrialization as they lack the skills necessary for employment in the industrial sector. BRAC focuses on employment and income generation of the poor at the place they live. It develops enterprises which are manageable by the poor, labour intensive, responsive to the needs of women and generally appropriate for rural areas.

BRAC's micro-enterprise development programme can be divided into two broad strands. The first can be called the "laissez - faire" approach and the second is the "sector programme" method. RDP indirectly supports an enormous range of different microenterprises<sup>3</sup> by disbursing individual and project loans to target group members. Individual loans (87% of total disbursement) are generally provided without any extension services from BRAC and the loanee is left alone to manage her business. On the other hand sector programme loans are disbursed complete with key services in a package of training, input supply, technical support and marketing.

Individual loans though diversified are concentrated in only five major groups of activities: trading, food processing, livestock, irrigation and agriculture. Trading's share is by far the largest.<sup>4</sup> Individual loans are complemented by a small percentage of collective loans concentrated mainly in irrigation, rural industry, fisheries and rural transport. Hence shares indicate that left to themselves the rural landless primarily engage themselves in traditional activities due to their inherent aptitude and skills. It takes an external force, like BRAC, to instill the notion and training required for non-traditional activities which can breach new and emerging markets.

### **Sector programmes**

The specialized sector programmes are irrigation, poultry and livestock, social forestry, vegetable cultivation, fisheries, sericulture, and the Rural Enterprise Project (REP). There has been a remarkable expansion in these programmes in the last few years. BRAC believes that empowerment of the landless target group can be increased through their command over resources and independence in terms of production relations and social structures. RDP's irrigation programme embodies this principle. Due to the uneven distribution of rainfall during the crop season's irrigation is vital to a healthy agricultural sector. One of BRAC's motives for embarking on an irrigation programme is to develop the management

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<sup>3</sup> BRAC, to date gives loans for over 200 individual projects

<sup>4</sup> The shares are as follows: Rural trading (42%), food processing (20%), livestock (12.4%), agriculture (7%) and irrigation (6.5%)

capacity and technical skills of VO members by making them joint shareholders of the Deep Tube well Projects (DTW) along with BRAC. At present there are 66,000 VO members who have shares in BRAC's DTW. In terms of a rudimentary cost benefit analysis one notes that there are considerable potential social benefits with DTW's in terms of altering the social relations between the landless groups that own the tube wells and the landowners who are the users of this water. Though there are doubts with regard to the overall financial sustainability of the DTW programme, especially if net profits are considered, the social benefits of giving control of a key input to the landless appears to outweigh the economic loss.<sup>5</sup>

Sericulture is a classic example of BRAC introducing a new project into rural areas. By the end of 1993 BRAC had trained over 2400 members in silkworm rearing, 240 as reeling workers and planted more than 6 million trees. By stimulating entrepreneurship at the micro level BRAC is trying to match the growing demand for silk at the macro level.

The fisheries programme stimulates micro-enterprise development in that BRAC develops the aquaculture management skills of the rural poor, provides timely hatching and fingerling supply and brings new water bodies under fish culture by re-excavation and reconstruction of derelict ponds. The precondition is that VO members must first lease or own a pond before training or services are provided.

In the vegetable programme, designed to improve nutritional status as well as stimulate income and employment over 33,000 vegetable growers have been trained. BRAC has over half a million poultry rearers supported by other interrelated components: vaccinators, day-old bird rearers and paravets.

The livestock programme creates employment for nearly two thousand paravets and stimulates 28,000 cow rearing microentrepreneurs, and 21,000 goat rearers. The social forestry programme at present incorporates 1,650 nurserers and 7,500 beneficiaries in other forestry activities.

The Rural Enterprise Project (REP) purpose is to create new micro-enterprises primarily by experimenting with new ideas and refining existing ones. REP programmes are categorized into Experimental (new to rural areas, group members, or even in the country and thus require close initial monitoring and supervision) and Pilot (those which involve modifications to existing income-generating activities). Experimental projects are first owned and managed by REP, and if successful then ultimately handed over to the group members. Ownership of pilot projects can either initially rest with REP, if the potential risk is high, or with group members.

REP conducts preliminary feasibility studies and field-testing in order to minimize the risk to the rural poor of investing in unfamiliar businesses. The aim is to identify potential problems and to discover the technical, managerial and social requirements of a particular business. REP also supports micro entrepreneurs with training, on-going assistance, and monitoring after establishment of the business. Once a project is running smoothly, it is handed over to RDP for large-scale countrywide implementation.

All sector programmes attempt to recuperate part of the input costs on RDP's part by imposing a service charge of 3% of the loan disbursed for the project.

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<sup>5</sup> A. Ritchie "An analysis of BRAC micro-enterprise programmes" BRAC report December 1993

## **Training**

BRAC trains the borrowers who own the self selected economic activities within the broad sector categories and contributes to employment by training other VO members who offer technical services to enterprises. BRAC's training comes in two basic forms: Human Resource Development, and Occupational Skill Development. The former includes courses in social awareness education, leadership development, and project planning and management. The latter includes training in specialized sectors for micro-enterprise development and employment creation. For instance BRAC trains VO members as poultry workers, poultry rearers and chick rearers in order to provide a vertical linkage in the poultry supply and marketing chain. By early 1993 over 70,000 VO members were trained as livestock rearers; an increase of 400% from 1988. These courses are arranged by BRAC's Training and Research centres and by the RDP professionals at area and regional offices.

## **BRAC's "non- traditional" approach**

A unique feature of BRAC's enterprise development is the promotion of non-traditional activities, primarily for rural women. Traditionally, in rural Bangladesh, a woman's domain is her house. She is engaged in household chores and in many pre and post harvesting activities. The primary rationale for promoting non-traditional activities is the constraints to income generation in traditional farm and off farm work for both sexes. Most of the work traditionally done in the household is unpaid; BRAC believes that with "encouragement, training, credit and perhaps role models, women can move into new areas of work/business".<sup>6</sup> Furthermore, BRAC's emphasis on non traditional activities can be seen in the context of "strategic" versus "practical" approaches to women's microenterprises.<sup>7</sup> "Practical" approaches are simply poverty alleviating, whereas "strategic" responses 'grow out of a deeper analysis of women's subordination to men and their consequent social and economic position'. BRAC's non-traditional activities can thus be seen as "strategic" as opposed to merely income generating, as they have the expected goal of countering gender role expectations and stereotypes.

Women Enterprise Development (WED) is part of REP's mandate focusing on identifying new and non-traditional business opportunities for rural destitute women. REP's objective for this effort is much more ambitious than women's employment creation and income generation. It encourages women to challenge gender roles by undertaking occupations previously reserved for men and support them to own and control their own means of employment. Projects are run as either individual, requiring or group enterprises. The former require relatively small initial capital such as restaurants and grocery shops whereas the latter need high initial investment such as carpentry and leather workshops requiring larger start-up capital and skill development, and involving greater risks.

## **Rationale for the study**

Institutional viability is in the long run dependent on borrower's viability. If a villager does not make money on her project after taking out a BRAC loan she will have difficulty keeping up her loan repayment installments. If the loan recovery rate drops then the financial institution experiences a fall in profits. Hence although efforts must be made to keep institutional costs in check, one must ensure that

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<sup>6</sup> ibid

<sup>7</sup> Grown and Sebstad **Towards a wider perspective on women's employment:** World Development vol. 17 no. 7, pp 937 -952, 1989

loans are not disbursed without any consideration to the returns on the investments. The interest revenue from the loans is used to pay for the administration costs of running a branch; in RCP branches the interest revenues cover the entire operation costs and the branches make a profit. Random loan disbursement, however, may achieve one off boosts in interest income but may be shortsighted if the villager has to take extreme measure like selling assets in order to repay. At present the loan repayment rate is close to 98%.

In order to investigate the type of profits a villager makes on her loans seven loan projects were chosen in Matlab. These activities were selected by ranking the seven most popular loans categories in terms of loan disbursement from the Matlab 1 RDP Area Office.

### **The Matlab research framework**

Matlab is situated about 55 km south-east of the capital city Dhaka. It is a large thana of Chandpur district, with a population of about 400,000. The area is a delta and is intersected by numerous canals and branches of two major rivers, the Meghna and the Gumti. During the monsoon much of the land is flooded as the climate is subtropical.

There are, on average, about five to six people in a household. A number of households, usually patrilineally related to each other, live around a common courtyard in a unit called a "bad". The average village has grown in size from 1200 people in 1963 to over 1400 in 1990. BRAC eligible households are primarily engaged in farm labour, other wage earning day labour activities and other self employment activities.

A medium scale embankment on the banks of the river Meghna and Dhonagada was completed in 1989 for flood control, drainage and irrigation. Apart from the above benefit the embankment is also used as a road which has improved the communication within Matlab considerably.

The joint BRAC-ICDDR, B Matlab research project started in 1992 soon after BRAC's RDP entered into the area as part of its expansion programme. The purpose of the research project was to investigate the impact of health inputs provided by ICDDR, B and socioeconomic inputs provided by BRAC on the well being of the rural poor. ICDDR,B's presence in Matlab dates back to the early 1960's when the Demographic Surveillance Survey (DSS) got underway, recording all births, deaths, migration and marriages in Matlab thana. However in terms of tangible inputs in the Matlab villages, one had to wait until 1979 when the Maternal Child Health and Family Planning (MCH-FP) programme started. The basic principle of the research design is that the villages in Matlab are divided into four categories. The first "cell" are the villages where both BRAC and ICDDR,B provide inputs, the second cell is where only BRAC operates the third where only ICDDR,B provides their inputs and the fourth cluster of villages where no institution operates. A series of exploratory studies got underway soon after the start of the project and this look at the profits rates on BRAC loans is one of a series on the mechanisms and impact of rural credit.

## **Objective of the study**

The purpose of the study was to calculate the rates of return made by BRAC VO members once they have undertaken a loan investment financed by BRAC. In keeping with the Matlab research project research design a related purpose was to evaluate whether there were any significant differences in the profit rates according to whether their villages received BRAC- ICDDR,B inputs jointly or whether they only got BRAC inputs alone. In theory it is difficult to see how ICDDR,B's Maternal Child Health and Family Planning (MCH-FP) programme could affect returns on these loans but it would still be interesting to separate the two village 'cells'. A subsidiary issue, which will only be cursorily analyzed due to the paucity of the available data, is the effect of relevant training on the profit rates made by the villagers.

## **Methodology**

The data was collected from a random sample of seventy villagers who had all taken BRAC loans at least three months prior to the questioning. The time criterion was set in order to allow sufficient time for the returns to started accruing on the project. We selected seven loan projects according to a ranking of the most common loans. The criterion was established in terms of the cumulative loan disbursement figure from the Matlab RDP Area Office. The seven projects studied were paddy cultivation, potato cultivation, goat rearing, fishing activities (net making and trade), grocery shop business, cow fattening and poultry (chick rearing and hatcheries).

Ten villagers were selected for each of the seven activities. Five of the ten belonged to villages where both BRAC and ICDDR,B operated and five where only BRAC provided inputs. After three rounds of questionnaire pretesting the data was collected in August 1994 by three field researchers supervised by the principal investigators. Each activity had its own individual questionnaire though certain questions were common to all projects.

There are some detailed methodological points, which need to be clarified for a proper understanding of the subsequent calculations. Firstly the "loan principal and interest" is calculated on the basis of the portion of the loan amount spent on the activity. This question was part of the field questionnaire. Moreover the amount of principal and interest is calculated for the total period that the investment was undertaken which was not necessarily the one year period of loan repayment. For instance if a goat was bought and sold within nine months the average monthly cost of fund would be the portion of the amount borrowed used for the goat purchased divided amongst the nine months.

The difference between accounting and economic profit is the opportunity cost of the time spent on this activity and the opportunity cost of any additional funds used for this project. The opportunity cost of time is calculated based on the average seasonal female daily labourers wage rate. However one must caution against a strict interpretation of "economic profits". Four of the activities studied are carried out within the homestead i.e. chick rearing, goat rearing, net making and bull fattening. We did not calculate the opportunity cost of time for these activities since we felt they were undertaken in conjunction with household chores and not as a substitute for other income generating activities. The opportunity cost of additional funds is assumed to be the deposit interest rate foregone on savings, which was taken to be 6%. Sample calculations for two activities are in appendix 2.

## Limitations of the study

Obtaining information on costs and revenues using retrospective questioning will always have problems of respondent accuracy. A better way would have been to conduct a “case tracking” exercise whereby each of the loanees were monitored every day since they took the loan in order to record the loan usage and costs and revenues of the project. However due to the several rounds of questionnaire pretesting and in view of the fact that the overall profit rates are averages of ten households one ought to obtain a fairly accurate picture of the absolute and relative profit rates from the projects.

## Findings and comments

The summary tables showing profits and losses for the different activities are presented below. The tables showing profit rates for each individual loanee is in appendix 2.

**Table 1: Monthly profit rates for seven “BRAC loan activities” in Matlab**

Name of Project	Monthly Accounting Profit			Monthly Economic Profit		
	Only BRAC Tk.	BRAC+ICDDR,B Tk.	Overall	Only BRAC Tk.	BRAC+ICDDR,B Tk.	Overall
Grocery	1431	2336	<b>1883</b>	152	1027	<b>589</b>
Net making	2146	1470	<b>1808</b>	1380	693	<b>1036</b>
Poultry	1730	1122	<b>1296</b>	1682	1041	<b>1224</b>
Potato cultivation	1342	870	<b>1106</b>	1286	862	<b>1074</b>
Paddy cultivation	24	126	<b>75</b>	16	119	<b>68</b>
Goat rearing	45	4	<b>22</b>	45	3	<b>22</b>
Bull fattening	12	-220	<b>-104</b>	-4	-252	<b>-128</b>

When calculating economic profit the opportunity cost of additional investment in the project is included for all activities. The opportunity cost of time is only calculated for potato and paddy cultivation, net making and grocery shop.

There is a wide range of average profits amongst the various activities. Poultry, potato cultivation and net making head the list in terms of both economic and accounting profits (over 1000 taka a month). Grocery shops are in the “intermediate profit’ category with loanees earning nearly 600 taka a month once the opportunity cost of their time has been incorporated although in terms of pure accounting profit this activity tops the list. In our limited sample we found that paddy cultivation and goat rearing yield profits of less than 100 taka a month while bull fattening was found to be a loss making endeavor. We also found that there was no consistent pattern in terms of whether the households were in BRAC/ICDDR,B cells or the only BRAC cell.

The variation in profit rates is noteworthy enough to deserve a closer look. For a start, the two activities which are agriculture based, **potato and paddy cultivation**, appear to have significantly different profit potential. The first and possibly most plausible explanation is in terms of different productivity levels; average paddy production is 0.48 maunds per decimal while average potato output is 1.27 maunds per

decimal. Another factor is the fifty taka gap in selling price; potato sold for 300 taka in Matlab in 1994 (though expectations based on last years price was over 400 taka) while paddy was valued at 250 taka. In addition it was found that the majority of loanees for both activities cultivated their crop on sharecropped land; however in the case of potato cultivation many also received input subsidies from the landowner while in paddy cultivation the sharecropper bore most of the cost.

As for **net making**, the profits made are substantial due to the high level of value added during production. Both input costs and product price are high and the gap between the two is substantial enough both when the net is sold or if it is used to catch fish.

The **poultry** programme is composed of hatcheries, chick rearers and key rearers in a marketing chain with BRAC as the intermediary. The first two are most prevalent in Matlab compared to key rearers, which is the last stage of the marketing chain. In our sample we found six chick rearing units, three key rearers and one hatchery. BRAC buys day old chicks from the hatcheries for seven taka and sells it to the chick rearers for eight and a half taka each. Two months later BRAC buys the chicks for 35 taka each and either sells them to the key rearers or if there is insufficient demand from the VO members then to the general public at the prevailing market price. The main problem with the poultry programme is the mortality rates of the chicks, which can range up to 40% calculating for a series of batches.

There is a large difference between economic and accounting profits for **grocery shops** due to the fact that on average eight hours a day is spent away from any other wage earning opportunity due to this activity. Nevertheless even economic profits are respectable and considering the calculation was made by apportioning the initial fixed investment amongst twenty four months when working out monthly profits the figure could even be an underestimate. Most respondents claimed they could pay for daily household expenses, averaging fifty taka, with the money made from the shop.

Mortality is also a key factor behind the low profit rates for **goat rearing**. When RDP first started disbursing credit in 1993, goat rearing was a very popular activity. However a disease which swept over the region severely affected the profit levels from goat rearing and subsequently demand for this activity dropped.

The negative profits for **bull fattening** may be misleading. Many in our sample bought young bull, which are long term investments. Young bulls have a low sale price, imputed in most cases, and cannot earn any revenue from ploughing. Furthermore the bulls, which could be used for ploughing purposes, were idle much of the time due to insufficient productive opportunities.

### **Impact of training**

BRAC as part of its microenterprise development strategy offers training to loanees in the form of both general management and specific skill development training. A rudimentary method of evaluating the impact of training is to compare the average profit rates of those who have received training from BRAC in their relevant loan activities with those who have not received any training and see if the differences are significant. Due to such a small overall sample and an even smaller sub group of those who've been for training, we will refrain from making conclusive comments regarding the effectiveness of BRAC's training programmes although the methodology could possibly be replicated on a larger population.

**Table 2: Trained versus untrained loanees**

Name of Project	Type of Training Received (see below for codes)	No. of People	Average profit of VO members who have been trained in the relevant field		Average profit of VO members who have not been trained in relevant field	
			Accounting profit Tk.	Economic profit Tk.	Accounting profit Tk.	Economic profit Tk.
Poultry	3, 5, 7	3	2269	2214	566	482
Goat rearing	3, 4, 10, 10	3	-11	-11	39	39
Potato cultivation	3	1	1137	1132	1102	1067
Grocery	3	2	2357	943	1765	501

3- VO and credit management training 4-Planning and management training 5-Poultry worker training  
7- Chick rearing training 10-Cow rearing training

### **Recommendations to the management**

1. **Target loan delivery towards profitable enterprises.** RDP loan disbursement at the moment appears too focused on achieving targets as opposed to ensuring the loans make a significant contribution to household income. Organizational viability in the end depends on borrower viability so it is BRAC's interests to be more careful in screening loan applications with regards to the profitability of the micro enterprise. In our limited sample we found potato cultivation, net making, poultry and grocery as significant contributors to household income.
2. **Raise loan ceilings for selected enterprises.** In our analysis we found that most activities were financed through a multitude of sources. BRAC loans in most cases were insufficient to meet the full cost of the project and recourse to personal savings and other loans was made. In particular we suggest raising loan limits for:
  - a. Bull fattening up to 5000 taka in order for the loanee to buy a mature bull so that he does not have to wait for ploughing returns to accrue.
  - b. Net making up to 6000 taka due to the high input costs incurred and the high levels of profit made on the project.
  - c. Grocery should have 6000 taka disbursed straight away to meet the high initial fixed costs instead of gradually increasing the loan limit.
3. **Improve input quality on BRAC's part.** This is particularly relevant for the poultry and livestock programme where mortality rates can be high. Timely and adequate doses of vaccination must be ensured even if it means raising service charges to cover the costs.
4. **Disburse seasonal loans.** BRAC can consider introducing special 'Eid' loans so that the VO members can engage in bull fattening and goat rearing for the annual Eid demand. BRAC could reserve a portion of the loan for the transport of the livestock at Eid time to the big urban centres where the potential profit rates are high.

**Appendix 1: Profit rates for each individual according to activity**

<b>GOAT REARING</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
					<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>
<b>MONTHLY COST</b>	<b>ACHYA</b>	<b>ANOWARA</b>	<b>MAZEDA</b>	<b>AMENA</b>	<b>AYESHA</b>	<b>BILKIS</b>	<b>SAJEDA</b>	<b>MAYA</b>	<b>REZIA</b>
Purchase of goat	128.57	65	31.25	52.94	53.33	41.17	66.66	80	210.21
Treatment	-	-	6.25	-	-	3.52	1.72	-	-
Food	-	-	3.75	-	-	-	61.33	-	-
Interest of loan	25.71	13	8.33	10.58	10.66	8.94	13.33	16	30
Cost	154.28	78	49.58	63.52	63.99	53.63	143.04	96	240.21
Revenue	357.14	61.5	30.2	77.94	36.66	35.29	194.44	110	240.24
<b>ACCOUNTING PROFIT</b>	202.86	-16.5	-19.38	14.42	-27.33	-18.34	51.44	14	0.03
opportunity cost of additional inv.	-	-	-	-	-	-	1.67	-	0.9
<b>ECONOMIC PROFIT</b>	202.86	-16.5	-19.38	14.42	-27.33	-18.34	49.77	14	-0.87
Duration of project	7 Months	10 Months	24 Months	17 Months	15 Months	17 Months	18 Months	10 Months	3.33 Months

<b>POTATO CULTIVATION</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
		<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>		<b>ICDDR,B</b>			
<b>MONTHLY</b>	<b>SAMARTA BANU</b>	<b>VA RAN</b>	<b>SHAHIDA</b>	<b>KHODEJA (SHILMONDI)</b>	<b>RABEYA</b>	<b>BASNA RANI</b>	<b>KHODEJA</b>	<b>FERDOUSI</b>	<b>ZAHEDA</b>	<b>HONUFA</b>
Input cost	625	359.33	2408.33	1888.33	707.77	4408.33	980	8045	1786.66	323.33
Interest of Loan	133.33	66.33	266.66	266.66	200	200	133.33	266.66	133.33	66.66
Cost	758.33	425.66	2674.99	2154.99	907.77	4608.33	1113.33	8311.66	1919.99	389.99
Revenue	2000	375	3500	4500	1000	7000	2250	9000	4000	700
<b>ACCOUNTING PROFIT</b>	1241.67	-50.66	825	2345	92.23	2391.67	1136.67	688.34	2080	310
Opportunity cost of Additional Inv.	-	-	16	8.33	10.61	6	4.66	100.66	16.66	-
Opportunity cost of time	-	-	-	-	-	26.66	-	-	-	133.33
<b>ECONOMIC PROFIT</b>	1241.67	-50.66	809	2336.6	81.62	2359	1132	587.62	2063.3	176.68
Duration of the project	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months

<b>POULTRY</b>	<b>BRAC</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC</b>	<b>BRAC ICDDR,B</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
<b>MONTHLY</b>	<b>LUTFA</b>	<b>CHABIA</b>	<b>HOSNEARA</b>	<b>SHAMSUN NAHAR</b>	<b>SUFIA</b>	<b>KHAIRUN NESA</b>	<b>SUFIA</b>	<b>KALAMJAN</b>	<b>RAHIMA</b>	<b>KHODEJA</b>
Chick purchase	3541.66	2946.66	5510	4173	2872.33	1615	575	53.33	100	350
Food	2166.66	2166.66	2166.66	2166.66	-	2166.66	2166.6	34.66	119.16	1300
Treatment	318.66	293.33	600.33	270.33	-	173.33	39	3.33	-	13.33
House	250	154.16	166.66	-	251.5	20.83	65.4	-	1.25	-
Electricity	400	933.33	333.33	1600	60	166.66	766.6	-	-	-
Interest of loan	333.33	333.33	333.33	333.33	400	400	333.3	17.6	45.83	66.33
<b>Cost</b>	<b>7010.31</b>	<b>6827.5</b>	<b>9110.31</b>	<b>8543.32</b>	<b>3583.83</b>	<b>4542.4</b>	<b>947</b>	<b>108.92</b>	<b>266.24</b>	<b>1729.66</b>
Revenue	11866.33	7731	13726	3889	4631.66	-	13173.3	-	-	333.33
<b>ACCOUNTING PROFIT</b>	<b>4856</b>	<b>903.5</b>	<b>4615.69</b>	<b>-4654.3</b>	<b>1047.83</b>	<b>-</b>	<b>3698.3</b>	<b>-</b>	<b>-</b>	<b>-1396.33</b>
Opportunity cost of additional investment	75.15	72.41	106.66	98.15	17.75	32.45	112.1	-	-	19.95
<b>ECONOMIC PROFIT</b>	<b>4780.88</b>	<b>831.09</b>	<b>4509</b>	<b>-4752.4</b>	<b>1030</b>	<b>-</b>	<b>3586</b>	<b>-</b>	<b>-</b>	<b>-1416.28</b>
Duration of the project	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months	3 Months

<b>BULL FATTENING</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
<b>MONTHLY</b>	<b>KHODEJA</b>	<b>PIARA</b>	<b>MONOWARA</b>	<b>AMINA</b>	<b>TOFURA</b>	<b>KULSUM</b>	<b>ANJUMA</b>	<b>FATEMA</b>	<b>NASIMA</b>	<b>RUPBAN</b>
Purchase of bull/cow	70.87	1100	750	350	1000	150	787.5	500	141.66	230
Food	130	444	164	433.33	338.57	120.4	225.25	59.66	34.5	326.8
Medical treatment	-	114.66	-	0.55	15.14	-	18.75	-	4.16	0.5
House	8.33	141.28	-	-	-	16.66	-	-	-	25
Interest of loan	12.5	114.28	200	22.22	71.42	40	75	33.33	16.66	40
Cost	221.7	1914.22	1114	806.1	1425.13	327.06	1106.5	592.99	196.98	622.2
Revenue	208.33	1595	1250	472.22	857.14	260	1281.25	887.5	208.33	270
<b>ACCOUNTING PROFIT</b>	-13.37	-319.22	136	-333.88	-567.99	-67.06	174.75	294.51	11.35	-352.3
Additional Investment	17.6	46.5	-	60.55	34.85	4.52	26.25	23.58	5.82	19.36
<b>ECONOMIC PROFIT</b>	-30.97	-365.72	136	-394.43	-602.86	-71.58	148.5	270.9	5.5	-371.66
Duration of the project	24 Months	7 Months	2 Months	18 Months	7 Months	10 Months	8 Months	12 Months	12 Months	12 Months

<b>NET MAKING</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
						<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>
<b>MONTHLY</b>	<b>RAWSAN</b>	<b>ANITA</b>	<b>RASHIDA</b>	<b>RATNA</b>	<b>LAZZAT-UNNESA</b>	<b>BASNA</b>	<b>VACTI RANI</b>	<b>MAYA RANI</b>	<b>GETA RANI</b>	<b>REKHA</b>
Input cost	250	1666.66	233.33	185	300	166.66	1666.66	1666.66	2500	2500
Interest of loan	50	33.33	33.33	33.33	60	16.66	100	100	66.66	66.66
Cost	300	1699.99	266.66	218.33	360	183.32	1766.66	1766.66	2566.66	2566.66
Revenue	3000	3675	2400	3000	1500	1800	3900	3750	3750	3000
<b>ACCOUNTING PROFIT</b>	2700	1975	2133.34	2781.67	1140	1616.68	2133.34	1983.34	1183.34	433.34
Opp. cost of time	326	326	326	326	326	326	326	326	326	326
Opp. cost boat	450	500	300	600	300	400	416.66	500	400	400
Opp. cost of add. inv	-	45	2	0.5	-	2.5	35	35	-	65
<b>ECONOMIC PROFIT</b>	1924	1104	1505.33	1855.17	514	888.18	1355.68	1122.34	457.34	-357.66
Duration of the project	6 Months	6 Months	6 Months	6 Months	6 Months	6 Months	6 Months	6 Months	6 Months	6 Months

<b>PADDY CULTIVATION</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC ICDDR,B</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC ICDDR,B</b>
<b>MONTHLY</b>	<b>RAZIA</b>	<b>MOMTAZ</b>	<b>SETARA</b>	<b>SARNOMALA</b>	<b>MONOWARA</b>	<b>FAZILAT</b>	<b>HABIA</b>	<b>HONUFA</b>	<b>AYESHA</b>	<b>MAZEDA</b>
Input cost	515.83	672	869.16	396.66	202.5	103.83	297.16	55.83	186.33	509.16
Interest of loan	66.66	66.66	66.66	79.33	40.5	20.76	33.33	11.16	37.16	33.33
Cost	582.49	738.66	935.82	475.99	243	124.59	330.49	66.99	223.49	542.49
Revenue	833.33	750	1666.66	145.83	208.33	166.66	479.16	125	200	437.5
ACCOUNTING PROFIT	250.84	11.34	730.84	-330.16	-34.16	42.07	148.67	58	-23.49	-104.99
Opp. cost of addi. inv	5.5	10.16	16	-	-	-	3.91	-	-	10.2
Opp. cost of time	-	-	-	-	-	-	-	25	-	-
ECONOMIC PROFIT	245.34	1.18	714.84	-330.16	-34.16	42.07	144.76	33	-23.49	-115.19
Duration of the project	6 months	6	6	6	6	6	6	6	6	6

<b>GROCERY</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>	<b>BRAC</b>
					<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	<b>ICDDR,B</b>	
<b>MONTHLY</b>	<b>JAHANARA [NALUA]</b>	<b>SALMA</b>	<b>ARFUL</b>	<b>REKHA</b>	<b>KADARJAN</b>	<b>RENUZA</b>	<b>HAZERA</b>	<b>ANOWARA</b>	<b>JAHANARA</b>	<b>JAMILA</b>
Running cost of stock	9000	2400	2160	6375	13500	6750	14520	12000	12000	11130
P house	208.33	-	-	216.66	450	229.16	50	83.33	200	200
Accessories	166.66	-	6.66	183.33	262.5	118.33	83.33	83.33	125	166.66
Labour	-	-	-	-	1000	-	-	-	-	-
Interest of loan	33.33	25	58.33	50	66.66	33.33	41.66	41.66	58.33	70
<b>Cost</b>	<b>9408.32</b>	<b>2425</b>	<b>2224.99</b>	<b>6824.99</b>	<b>15279.16</b>	<b>7130.82</b>	<b>14694.99</b>	<b>12208.32</b>	<b>12383.33</b>	<b>11566.66</b>
Revenue	10655	3450	3000	8700	18000	9300	17175	15330	13570	13800
Accounting profit	1246.68	1025	775	1875	2720.84	2169.18	2480	3121.68	1186.67	2233.3
Opp. cost of time	1348.8	843	1348.8	1348.8	843	1348.8	1348.8	1348.8	1348.8	1348.8
Opp. cost addi. inv	46.2	11.5	9.66	32.87	74.72	34.82	72.43	59.99	60.66	56.37
Economic profit	-148.32	170.5	-583.46	493.33	1808.12	785.56	1058.77	1712.89	-222.79	828.13
Duration of the project	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months

## Appendix 2 : Sample calculations

### 1. Bull fattening:

Loanee: Rupban

BRAC loan amount: 2000 taka Assumption: 10 month project

#### **Costs**

House building: 250 Tk

Bull purchase: 2300 Tk

Food purchased: 2150 Tk

Food own source: 1118 Tk

Medicine: 5 Tk

Interest on BRAC loan: 400 Tk

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Total cost = 6223

#### **Revenue**

Sale revenue from bull: 2700 taka

(If bull not sold we imputed present value)

Accounting profit =  $2700 - 6223 = - 3523$

**Monthly accounting profit = - 352 Tk**

6% interest foregone on the additional investment of 3873 taka = 193

Economic profit =  $2700 - 6223 - 193 = - 3716$  taka

**Monthly economic profit = - 372 taka**

## 2. Net making:

Loanee: Maya Rani

BRAC loan amount: 3000 taka

Assumption: 6 month project

### Costs

Labour hire and material cost: 10,000 Tk

Interest on BRAC loan: 600 Tk

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**Total cost = 10,600 Tk**

### Revenue

Sale of fish = 18,900 taka

Own consumption = 3600 taka

-----  
**Total revenue = 22,500 Tk**

Accounting profit:  $19,500 - 10,600 =$

**Monthly accounting profit: 1983 taka**

6% interest foregone on additional investment of 7000 for 6 months = 210 Tk

Opportunity cost of time = 1957 Tk

Opportunity cost of renting out boat = 3000 Tk

Economic profit =  $22500 - 10000 - 600 - 210 - 1957 - 3000 = 6733$

**Monthly economic profit = 1122 taka**