

**Case studies of some selected rural enterprise Projects in  
Kishoregonj: A tentative financial analysis**

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## কিশোরগঞ্জে কয়েকটি রুরাল এন্টারপ্রাইজ প্রজেক্টের কেস স্টাডিঃ সম্ভাব্য আর্থিক বিশ্লেষণ

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ব্র্যাকের বিভিন্ন কর্মসূচির মধ্যে পল্লী উন্নয়ন কর্মসূচি (আরডিপি) অন্যতম। রুরাল এন্টারপ্রাইজ প্রজেক্ট (আরইপি) আরডিপি'র একটা অংশ বিশেষ। আরইপি সমিতির মহিলাদের নিয়ে পরীক্ষা নিরীক্ষার মাধ্যমে সহজে মুনাফা অর্জনে সম্ভব এমন প্রকল্প চিহ্নিত করে।

১৯৯৮ সালে কিশোরগঞ্জ জেলায় আরইপি কয়েকটি নতুন প্রকল্পের জন্য ঋণ বিতরণ করে। এই সমীক্ষার মূল উদ্দেশ্য হলো এমন কয়েকটি প্রকল্প যেমন, রাবারের জুতা, খেলনা আকৃতির মিষ্টি, টুথপাউডার, বলপেন, মোমবাতি, প্রাঙ্গিক ব্যাগ, মসলার প্যাকেট এবং রাইসমিল, এই আটটি প্রকল্পের মুনাফা নির্ণয় করা।

মুনাফা বের করার জন্য অনুপাত বিশ্লেষণ ব্যবহার করা হয়েছে। সমীক্ষায় দেখা যায় যে, এই সমস্ত প্রকল্প কর্মসংস্থান বৃদ্ধিতে এবং মুনাফা বৃদ্ধিতে সহায়তা করে। তবে এটাও ঠিক যে এই সমস্ত প্রকল্প সম হারে মুনাফা অর্জন করেনা। যে সমস্ত সদস্যরা মোমবাতি বানায় তারা সর্বাধিক লাভ করে এবং তারপরেই অবস্থান হলো প্রাঙ্গিক ব্যাগ এবং বলপেনের সদস্যদের। রাইসমিল, টুথপাউডার এবং খেলনা আকৃতিক মিষ্টি থেকেও যথেষ্ট আয় লাভ সম্ভব। শুধুমাত্র রাবারের জুতা এবং মসলার প্যাকেট ব্যবসায় সদস্যরা ক্ষতির সম্মুখিন হয়েছে। এর অবশ্য বিভিন্ন কারন রয়েছে। তুলনামূলকভাবে মসলার প্যাকেট বিক্রেতা ভাল অবস্থায় আছে, অর্থাৎ যদিও সে বর্তমানে মুনাফা অর্জন করতে অক্ষম, তবে ভবিষ্যতে এই ব্যবসার থেকে অধিক আয় লাভ করার সুযোগ আছে।

আরইপির মুনাফা বিবেচনা করলে দেখা যায় যে, প্রোডামের তেমন খরচ বহন করতে হয় না, একমাত্র প্রশিক্ষণ খরচ ব্যতীত। আরইপি সদস্যদের ঋণ বিতরণ করে এবং সুদসহ মূলধন লাভ করে। যদি প্রশিক্ষণ খরচকে বিবেচনা করা হয়, তবে আরইপির প্রতি সদস্যর পিছনে ২২৮ টাকা ব্যয় করতে হয়েছে। সুতরাং প্রতি সদস্যের উপর যদি এই পরিমাণ অর্থ প্রোডামকে দিতে বলা হয়, তারপরও

সদস্যদের হাতে যথেষ্ট পরিমাণ অর্থ থাকবে, রাবারের জুতা এবং মসলার প্যাকেটের নিয়োজিত সদস্য ছাড়া।

সবশেষে এটা প্রতীয়মান হয় যে, শুধুমাত্র দ্রব্য প্রস্তুত করলেই হলো না, তার জন্য চাহিদা কেমন আছে, এটা বিবেচনা করতে হবে। এই গবেষণা থেকে এটা নিশ্চিত্তে বলা যায় যে, ব্র্যাকের কর্মসংস্থান সৃষ্টির উদ্দেশ্যে আরইপি ঠিক পথেই এগুচ্ছে।

প্রোগ্রামের জন্য কিছু সুপারিশঃ

- ১) দ্রব্যের বাজারজাতকরণের দিকে খেয়াল রাখতে হবে যাতে দ্রব্যাদি ভাল দামে বিক্রি করা যায় এবং
- ২) কোন প্রজেক্টের পরিধি বৃদ্ধি করার আগে তার ঠিকমত সম্ভাব্যতা যাচাই করে নেয়া আবশ্যিক।

## Abstract

This study aimed to assess the viability of eight small scale potential economic enterprises covering the production of sweet toy, rubber shoe, toothpowder, ball pen candle, plastic bag, spice packet and rice mill introduced in 1998 by BRAC's Rural Enterprise Project (REP) from both the organization and members' perspectives, using ratio analysis. The paper reveals that majority of the enterprises discussed have the potential to contribute significantly to higher rural incomes. However all these projects are not homogenous and some are more productive than others. Findings indicate that member involved in the making of candles earn the highest gross profit followed by plastic bag and ball pen. Rice mill, toothpowder and sweet toy have also been found to be quite promising. Comparing the return on investment, with the exception of rubber shoe and spice packets, all projects are more or less viable. Many factors could be held responsible for the losses incurred in the making of rubber shoe and spice packets. For a firm to grow successfully, appropriate techniques of production must be chosen to ensure that these are in accordance with the local factor endowments.



## 1. INTRODUCTION

Although development of small scale enterprises have received increasing attention in many developing countries in recent years, BRAC has been unique in its efforts to promote small scale firms under the assumption that the development of these firms will lead to reduced poverty and inequality by means of increasing demand for unskilled labour. The rural Enterprise Project (REP), a wing within BRAC's Rural Development Programme (RDP) was initiated in 1985 to explore and introduce innovative non-traditional activities to find out which ones are viable for the programme participants so that they can contribute significantly to poverty reduction. It conducts experiments with them and then pilots in several areas before handing them over to RDP. The main objective of REP is to facilitate RDP's work to accomplish BRAC's goal of socio-economic upliftment of the rural poor. Presently REP is working with 191 ongoing projects under 50 RDP branches of BRAC. Generation of additional income for the micro producers and employment creation constitute the two most important aspects of these programmes.

Setting up of any micro-enterprise involves two sets of conditions - exogenous and endogenous. Endogenous variables deal mainly with entrepreneurial ability of the micro-entrepreneur and exogenous ones deal with credit facilities, training (technical and managerial), infra structure, information about technology, knowledge about markets for *inputs* and outputs, etc.

In the past many income generating activities (IGAs) were initiated by RDP and/or REP, but were later discarded as they proved to be unprofitable to the VO members. In RDP IV Project Proposal for 1996-2000, both RDP and REP plan to continue studies on profitability of different enterprises. To ensure financial sustainability of the organization and to reduce donor dependency, emphasis is therefore directed towards the development of viable enterprises.

This study will focus on eight such small scale potential economic enterprises covering production of sweet toy, rubber shoe, tooth powder, ball pen, candle, plastic bag, spice

packet and establishment of rice mill introduced in 1998 by BRAC for its programme participants. The paper will particularly look into the viability of these projects.

### **Literature review**

Byrd and Lin (1990) observes that in China the development of rural enterprises has always been regarded as critical to rural modernization as the surplus labour can be transferred from agricultural to rural non-farm sector. Thus, it always received policy attentions in their national five-year plan. Datt and Ravallion (1996) in a study on 15 states in India between the period 1957 and 1991, show that quantitative impact on rural poverty in non-farm sector is large. Rural non-farm employment has always played a significant role in economic development in some Indian states like Gujarat and Punjab especially in poverty reduction (Fisher, Mahajan and Singha, 1997). An ILO report (1983) confirms that such small enterprises contribute significantly to employment and output.

### **Objectives**

- To estimate the initial investment cost of a project and (monthly) working capital needed.
- To assess the benefits of the selected micro-enterprises in terms of job creation and generation of income to the micro producers.
- To assess the viability of the projects from both members and organization's perspectives.

### **Methodology**

The cost information of eight rural enterprises was collected from the members of eight village organizations administered under eight different RDP Area Offices in Kishoregonj. The initial investment cost mainly focused on the variable cost and the depreciation value of the fixed assets mainly equipment. Fixed assets show the monetary value of the equipment and other items on a continuing basis. Values were then measured in terms of their depreciation which were calculated on the basis of their expected lives. Working capital refers to those goods which have to be purchased on a regular basis i.e. costs that vary with the level of output (operation and maintenance cost).

Interest on loan which has to be repaid in instalments is another form of cost borne by the borrowers and is used in the present context to estimate the investment cost.

No attempt has been made to study the opportunity cost of labour.

The problem of determining the cost for home supplied raw materials was overcome by employing the opportunity cost doctrine. Opportunity cost of an input was defined as the income which an input was capable of earning in alternative employment in the firm or outside the firm.

#### Sources of data

The study used both primary and secondary information. The secondary data on the respondents' monthly gross income and their expenditure were collected from the RDP registers.

#### Limitations of the study

- As these projects are in their early/rudimentary stages, a quantitative evaluation is not fully possible. Findings may help to give a general indication, but results should be interpreted with caution.
- Accurate information regarding their net income is not always recorded, so one has to rely on the recall method which may raise the question of validity of information.
- Analysis on employment in the said enterprises gives a partial approach as there is no information on other household employment activities. Besides, seasonal and complexity of employment patterns make it difficult to rely on monthly recall.
- Transaction costs have been excluded, e.g., coming to the office for receiving loan, attending the weekly meetings.

## 2. FINDINGS AND DISCUSSION

Two types of projects were taken into consideration and cost analyses have been made for those which have been in operation for over six months and those over four months excluding the first month as it involved initial fixed cost and the period when the recent flood occurred. The findings reveal that women members have few opportunities to use loans by themselves without the assistance of male family members. The most notable feature is that in six of the cases, projects were run by the members' husbands who had previous occupation in the same line. It should be mentioned here that REP does not discourage the use of loan by the husband in setting up of an enterprise but assumes that with time, women will take up the responsibility from her husband.

The study revealed that the women members whose previous contributions were mostly limited within their homestead and were treated as economically inactive population (Shrycock et al, 1976) devoted 28 hours per week on average on the activities which are mainly run by their husbands. In the two projects which are solely run by the women, namely sweet toy and spice packets, they have been found to be working for 30 hours per week.

Findings indicate that these projects allowed the creation of additional employment either through the use of hired labour or family labour. In all the projects family labour was used and in two cases employees were hired. Since these projects are in their initial stage, it may be assumed that there is a scope for absorbing more labour which will ultimately help in creating forward and backward linkages.

If relation between the working hours and gross profit is considered, then it is observed that each hour of employment earns more profit in the plastic and candle making factory followed by ball pen and tooth powder. In this case, the worst picture emerges in the case of rubber shoe and spice packets, i.e., devoting one hour of labour earns least amount of gross profit.

One of the paper's objective was to investigate whether these micro enterprises produce desired results of increasing income and employment through affecting labour productivity. Several criteria have been looked into:-

$$1. \text{ Capital-labour ratio} = \frac{\text{Fixed capital} + \text{working capital}}{\text{Total person hours employed}}$$

This ratio measures the capital intensity of the schemes and the amount of capital required to create one person day of employment. Lower the ratio, better are the schemes. The data shows as indicated by Table 1 shows that the lowest ratio exist in sweet toy and rice mill followed by spice packet, candle and tooth powder. In the rural economy of Bangladesh, where there is the scarcity of capital, it may be undesirable to produce products like rubber shoe which has the highest capital-labour ratio.

**Table 1. Comparative ratio analysis of the eight projects**

	Sweet toy	Rubber shoe	Tooth powder	Ball pen	Rice mill	Candle	Plastic bag	Spice packet
Capital-labour ratio	6	31	20	19	6	19	26	13
Output-capital ratio	0.08	-0.28	0.06	0.15	-0.71	0.17	0.28	-0.61
Output-labour ratio	3	-2	5	8	3	13	13.3	-1

$$2. \text{ Output-capital ratio} = \frac{\text{Net output}}{\text{Fixed capital} + \text{working capital}}$$

This ratio indicates the average productivity of capital invested, showing the flow of income with the amount of capital in a certain period of time. Higher ratio indicates better schemes. Higher the output-capital ratio, higher is the productivity of capital invested in the enterprises, i.e., it indicates maximization of output per unit of capital. The rationale behind this is that production techniques in a developing country should be chosen in a way to bring maximum yield per unit of capital employed. Value of the fixed assets after

depreciation has been considered. Plastic bag and ball pen excels in terms of the output-capital ratio. This ratio is alarmingly low in spice packet, rice mill and rubber shoe which may be attributed to the age of the enterprise, or market failure due to risks and uncertainties, or due to the mismatch of the supply of and demand for their services.

$$3. \text{ Output-labour ratio} = \frac{\text{Total output}}{\text{Total person hour employed}}$$

This ratio indicates the relationship between the flow of income and employment. Table 1 shows that plastic bag and candle are in a better position, i.e., labour is more productive.

This study indicates whether the investment in the projects under survey of REP is viable. Though viability of the members is often expressed in terms of repayment of loan, it does not necessarily mean that the projects are viable. Viability of the participants can be measured by an increase in income, employment creation, (increase in) assets, (increase in) expenditure, or (increase in) savings. The following section will deal with the increase in income only.

There are two important aspects of financial feasibility, first is the issue of profitability to the entrepreneur and secondly the financial viability for the institution involved. Profitability of an enterprise is important since it indicates the financial feasibility of either starting or expanding an enterprise. To determine the profitability and return on investment for members, calculations have been done based on ratio analysis. The ratio analysis is one of the most powerful tool of the financial analysis. Through this analysis, one can determine the ability of the enterprise to meet its current obligations, its solvency by borrowing funds and the overall operating efficiency and performance of the enterprise. Though there are other discounted methods to measure profitability of the enterprises which are time consuming, this kind of ratio analysis is useful as it helps the members and policy makers in deciding the most profitable investment in the shortest time given. Besides, ratios help to know if the assets are used efficiently and whether the earnings of the members are adequate or not. In the present paper, ratios of the several projects will be

compared from their financial statements of the enterprises to determine/reveal their financial condition. If NGOs and other organizations wish to protect the members, it must ensure that the enterprises grow profitably. This analysis will allow the stakeholders to identify the strengths and weaknesses in their respective fields and thus take appropriate actions. The following ratios are used here to assess the profitability.

**Profitability ratio:**

Development agencies could use the profitability ratio to determine the project's earning prospects. Profitability can be measured in terms of sales (profit margin) or in terms of investment. A project should earn enough profits to sustain the operations of the business. Profit is the difference between total revenue and total cost over a period of time. Three major types of profitability ratios will be calculated - gross profit margin, net profit margin and return on investment.

*i. Gross profit margin*

Profitability can be measured in relation to total revenue. The general formula is,

$$\text{Gross profit margin} = \frac{\text{Total revenue} - \text{total cost}}{\text{Total revenue}}$$

It is desirable for an enterprise to produce sufficient profit on each taka of sale. If revenue fails to generate sufficient profits, it would be difficult for the entrepreneurs to cover the operating expenses and interest charges. A high profit margin ratio implies that the firm is able to operate at a relatively lower cost. The member involved in candle making has the highest gross profit margin followed by rice mill. For rubber shoe and spice packets, this margin is astonishingly low which may be attributed to a number of factors as described below. These two projects need to be investigated carefully.

*ii. Net profit margin*

This ratio was obtained after deducting the instalments and the depreciation value of the fixed assets from the gross profit. A high net margin ratio indicates the project's capacity to withstand adverse economic conditions. Table 2 indicates that in spite of a high gross profit

margin, rice mill has a negative net profit margin. There may be several explanations to this which will be discussed later.

**iii. Return on investment:**

Profitability of the total investment can be compared with the going rate of interest. Since a substantial part of the funds are borrowed, it must at least cover the cost of capital. One of the widely used ratio to measure profitability of an enterprise is the Du Pont System of financial analysis, return on investment (ROI), expressed by the following formula.

$$\text{Return on investment (ROI)} = \frac{\text{sales}}{\text{investment}} \times \frac{\text{profit}}{\text{sales}}$$

$$\text{Return on investment (ROI)} = \frac{\text{Earnings}}{\text{Investment}}$$

Earnings refer to gross income which has been estimated after deducting the monthly expenses of the members from their monthly revenue. Investment here refers to BRAC loan assuming the entire sum is invested.

In cases where the ROI had a value greater than the cost of capital, the enterprise was regarded to be a profitable enterprise. With the exception of rubber shoe and spice packets, all the enterprises have been found to viable.

**Capital employed turnover**

A firm must manage the loan entrusted to it by BRAC efficiently and should generate maximum sales through their proper utilization. To examine the effectiveness in utilizing the capital employed, the ratio is calculated dividing sales by capital employed by the firm. Here, we assume that assets refer to the loan received from the organization.

$$\text{Total capital turnover} = \frac{\text{Sales}}{\text{Total assets}}$$

This ratio indicates the sales generated per taka of investment in total assets. Higher the ratio, the more efficient the utilization of the owner's and the creditor's funds.

Now each case/enterprise would be reviewed/studied separately to determine their viability.



### Sweet toy

Halima, a 45 year old woman, married to a farmer, is involved in a kind of molded sugar product for the last ten months. She has been with BRAC for the last three years. A well to do family, with five earning members, Halima has four sons of whom two are married and are both engaged in farming activities. She learnt the technique of making sweets from her parents and now she makes a reasonable profit amounting to Tk.770 per month. During festive occasions and in *melas* (fairs) her unit fetches more profit. Usually she devotes eight hours a day in the preparation of sweets and makes them four days a week. Despite the profit she makes, her work is still considered demeaning by her husband who is not in favour of a woman working and has an adverse attitude towards her employment.

Flood affected her business which resulted in the closure of her unit and she hopes to start again after Eid<sup>1</sup>. The ratios derived from the financial statements of six months will be discussed now.

Table 2: Ratio analysis (monthly)

Gross profit (Tk.)	770
Net profit (Tk.)	170
Gross profit margin (%)	33
Net profit margin (%)	7
Return on investment	13
Total capital employed (times)	8.4

The ratio analysis indicate that Halima's business was doing well before it was shut down.

### Rubber shoe

Relatively well off, owning 120 decimals of land, Rokeya is the proud mother of five sons. Two of her sons hold good jobs in the capital city, one in a sandal factory and the other one in a clock repairing shop. Her husband is a cobbler and started the said activity a year ago with the loan received from the organization. She lends support when needed as she is busy with her two siblings and has employed a maid to do the household chores. Her husband used to work in a sandal factory prior to her joining the organization and upon receipt of loan decided to set up the business for themselves. They have a sale counter in

<sup>1</sup> Muslim festival following the month of Ramadan

the main market where the shoes are at display. All the raw materials are sent from Dhaka by their eldest son and only fitting, finishing and packing of the product are done in Kishoreganj. Her husband devotes more than six hours daily and works almost every day. But in spite of his efforts, he has been unable to make a reasonable profit and this may be due to a number of reasons. One of the causes could be the recent flood which hampered not his production but his sale due to a decrease in demand for his products and thus he incurred a big loss as huge stocks (35%) had to be piled up which greatly reduced the profit margin. A general complaint was that the quality of shoes cannot always be maintained and as a result goods are sometimes rejected *even though they were ordered*. Lack of capital seemed to be the major problem in this area.

Table 3: Ratio analysis (monthly)

Gross profit (Tk.)	- 573
Net profit (Tk.)	- 2073
Gross profit margin (%)	- 8
Net profit margin (%)	- 31
Return on investment	- 4
Total capital employed (times)	- 5.4

All the ratios indicate that the member is not in a favourable position. Not only is her net profit negative, but so is her gross profit. She may face financial loss for relatively long periods unless she minimizes her cost of production, either by producing the same output from a smaller quantity of raw materials or change the techniques of production, even if it means to substituting the present raw materials with other cheaper materials. Type of an activity is often found to influence the benefit stream. It may not be practicable for her to charge higher prices since it is not an essential good; so an increase in the price may further lower the demand for her goods, thus resulting in more losses. Her present sale is already high almost accounting to Tk.7000 and it cannot be increased further. It would not be feasible to undertake the manufacture of such a project where product pricing remains below total production cost for an indefinite period. Moreover, she cannot close down her business. Since she did not invest enough funds in current assets, there is a possibility that it may fail to meet its current obligations to BRAC if the unit is shut down. In both short run and in long run, the production of rubber shoe is not a profitable venture.

### **Tooth powder**

Forty year old Nurunnahar joined BRAC about ten months ago. Their household does not have that many assets, just one simple tin roof house on five decimals of land on which their homestead stands. They have three sons and two daughters and only the eldest son, aged 25 is involved in farming. Husband, aged 50, is involved/engaged in the making of toothpowder as well as selling it. He learnt the skill from his previous occupation in a tooth powder factory. In the first month, she earned a gross profit of Tk.1400 and net income of Tk.400 after paying instalment. This was enough to encourage her to spend more the following months. Net income, though is still very small, but is considered an attractive way to make income which does not involve leaving home. Shortage of fund is reported to be a major constraint in the expansion of the business. Not only that, it is also difficult to withstand competition and they are at times forced to sell at a lower price even if it means incurring a loss. Whenever there is profit it is used for the payment of the instalment. Her financial condition of six months is stated below.

Table 4: Ratio analysis (monthly)

Gross profit (Tk.)	1350
Net profit (Tk.)	350
Gross profit margin (%)	20
Net profit margin (%)	5
Return on investment	14
Total capital employed (times)	8.1

Her inventory amounts to only Tk.120, and if it is taken into consideration, it will further increase all her ratios, i.e., the production of tooth powder is a profitable venture. Her present performance is quite satisfactory.

### **Ball pen**

Hasna, aged 32, joined BRAC five years ago. Their family owns 20 decimals of land. Her husband used to work in a ball pen factory before and thus utilized the loan received from BRAC for the production of ball pen. They have named their ball pen after their only son, Jams. Both husband and wife used to make homeo phials and earn Tk.1500 from it. Now they have employed a worker to look after the homeo phial business and pays him Tk.700

per month. There is too much competition in ball pen making and moreover, when the school/collages are closed, sale is not up to the mark. Besides, orders are not always collected due to various reasons. In spite of all these obstacles, this venture is quite promising. Though the initial investment is quite high compared to other projects, it also generates a high profit. Her financial condition is stated below.

Table 5: Ratio analysis (monthly)

Gross profit (Tk.)	2609
Net profit (Tk.)	1109
Gross profit margin (%)	29
Net profit margin (%)	12
Return on investment	17
Total capital employed (times)	7.1

#### Rice mill

Sufia, age 36 is the president (of the management committee) of the BRAC village organization. She has taken a loan of Tk.22000. Her husband used to work in a rice mill before and now he has his own mill set up at the backyard of their house. He devotes 10 hours each day for five days a week. Previously the mill was mobile but since it incurs cost in carrying it from place to place, they have installed it in a tin roof structure at the back of their house, and as a result their fixed cost rose by Tk.10,000. Sufia helps her husband now and then. They charge Tk.7 or Tk.8 for one maund of paddy. But because they are still not very efficient, their revenue is not up to the expectation. When there is no work, her husband buys paddy and after husking it sells in the market. Capital seems to be the main problem/constraint.

Table 6: Ratio analysis (monthly)

Gross profit (Tk.)	1017
Net profit (Tk.)	-1183
Gross profit margin (%)	37
Net profit margin (%)	-43
Return on investment	5
Total capital employed (times)	1.5

Since her gross profit is positive this is a profitable business in the short run in spite of the net profit being negative. The fall in net profit is mainly due to the high loan size for which

a sizable amount of instalment has to be paid to BRAC. An option for the organization is that the duration of her repayment can be made longer for her to make a reasonable profit.

**Candle**

Jahera, age 25, is married to Lal Miah, aged 27 who is involved in firewood business. They have a five year old daughter and a son who is only eight months old. Lal Miah learnt the technique from a candle factory where he used to work before. And now for the last five months he makes candles of different shapes and sizes and charges accordingly. He bought a candle making machine worth Tk.14000 which brings out 48 candles at a time. Though there is a big demand for candles there are also sufficient producers making them. Information about markets for outputs is very crucial for the development of any enterprise. They feel to run the enterprise efficiently, there is a need for support services and that BRAC should help them in the marketing of the products. Producing something is easier than marketing it. Due to lack of capital, it is difficult to enter the market and their main buyers still now are TARCs. Beside shortage of capital, dice collection of appropriate sizes is also difficult to get/obtain.

Table 7: Ratio analysis (monthly)

Gross profit (Tk.)	2749
Net profit (Tk.)	749
Gross profit margin (%)	41
Net profit margin (%)	11
Return on investment	14
Total capital employed (times)	4.1

All the ratios indicate that this business is viable for the member as well as the organization. Both the net profit margin and turnover ratios are favourable for the enterprise.

**Plastic bag**

Kohinoor, aged 33, has been with BRAC since March 98. She is the leader of a small group. She has a small family, her husband and her two sons, aged 10 and six years old. Her husband drives a rented rickshaw. Soon after joining the VO, she approached the PO for a loan to make jute bags. She underwent a three day training and upon her return spent Tk.10,000 for the making of plastic bag instead. She has been involved in this business for

ten months only. She buys the plastic sacs worth five taka each and takes out the required accessories from it and makes bags from it. She did not receive any formal training but learnt how to stitch the bags from her neighbours. She works everyday, at times being helped by her husband. Her daily routine includes getting up early in the morning and cooking for the family, washing, cleaning and sweeping. She manages the work along with the usual household chores. Her ratios are given below.

Table 8: Ratio analysis (monthly)

Gross profit (Tk.)	2512
Net profit (Tk.)	1512
Gross profit margin (%)	41
Net profit margin (%)	20
Return on investment	25
Total capital employed (times)	8.9

Both the turnover ratio and the net profit are high indicating that this project will be viable in the long run also.

#### Spice packet

Jahanara has been with BRAC for the last two years. She bought two grinding machines about seven months ago worth Tk.18,500 with which she grinds two types of spices, mainly chilies and turmeric and then puts them in packets and sells in the market through a grocery store which her husband owns himself. She grinds spices of most of her villagers. Her illiteracy did not hamper her efficiency in the business. She took loan of Tk.22,000 from BRAC and borrowed Tk.40,000 from her friends and relatives to install electric line which took a major portion of the total cost. She hired a worker whom she pays Tk.700 per month. Her family used to own a oil *ghani* from where she used to get Tk.1500 monthly. But as the new business seemed more lucrative, she sold her oil *ghani* and invested the sum in this business knowing well that in the initial stage, it may not bring her any profit. They have four sons and one daughter who is married to a school teacher.

Though her project looks unprofitable in the short run since the net profit is negative and the turnover ratio is low, but there is a possibility that it will be able to earn profit in the long run.

Table 9: Ratio analysis (monthly)

Gross profit (Tk.)	- 350
Net profit (Tk.)	- 2550
Gross profit margin (%)	- 9
Net profit margin (%)	- 65
Return on investment	- 2
Total capital employed (times)	2.1

There can be several explanations for her firm not working well at the present. One reason may be very high initial investment especially extra costs borne in connection with getting electric line. Another reason of the losses could be that since it is a relatively new firm it has not gained enough popularity in her vicinity, or the recent flood which have reduced peoples' purchasing power. Yet another possibility could be that since she has already put in a lot of money in the fixed assets, she has not been able to spend a sizable portion as a working capital. If she is able to buy more raw materials provided she has more money in hand, then she will have more production and thus her profit will increase. Working capital is essential for small entrepreneurs for enabling them to produce for the market on a continuous basis. Products may have to be priced below total production cost for certain periods, not only because initial productions costs are unduly high, but also because of such lower prices would enable entry into the local market. Her net profit is so drastically low which is mainly due to Tk.2200 which has to be paid to BRAC as an instalment. It can be concluded that with due time, it will pick up as there will always be demand for spices due to the cooking style of Bengalis where spices form an important ingredient in their meal and since she is the only person to grind spices in her area. Her machines can also be used for several purposes, not only to grind spices but also flour/wheat. Besides, her firm is quite liquid which is a pre-requisite for the survival of any enterprise in the long run. Even if the member decides to close down her business, she will still be able to pay back all her instalment to BRAC by selling her assets as she has invested huge amount of her capital in fixed assets.

The following table will show a comparative analysis on the relative performance of each enterprise on a monthly basis.



**Table 1. Comparative analysis of different enterprises (Tk)**

	<b>Sweet toy</b>	<b>Shoe</b>	<b>Tooth powder</b>	<b>Ball pen</b>	<b>Rice mill</b>	<b>Candle</b>	<b>Plastic bag</b>	<b>Spice packet</b>
<b>Loan</b>	6000	15000	10000	15000	22000	20000	10000	22000
<b>Fixed capital</b>	1,801	815	54	20,000	27,920	14,450	14,195	20,500
<b>Working capital</b>	1510	7333	5375	6310	1733	4015	4888	4263
<b>Total investment</b>	3311	8148	5429	26310	29653	18465	19083	24763
After depreciation (monthly)								
<b>Fixed capital</b>	49	7	5	111	187	60	118	114
<b>Working capital</b>	1510	7333	5375	6310	1733	4015	4888	4263
<b>Production cost</b>	1559	7340	5380	6421	1920	4075	5006	4577
<b>Monthly revenue</b>	2280	6760	6725	8919	2750	6764	7400	3913
<b>Gross profit</b>	770	- 573	1350	2609	1017	2749	2512	- 350
<b>Net profit<sup>2</sup> (inc. dep)</b>	121	- 2080	345	998	- 1370	689	1394	- 2664
<b>Gross profit margin (%)</b>	33	- 8	20	29	37	41	34	-9
<b>Net profit margin (%)</b>	7	- 31	5	12	- 43	11	20	- 65
<b>Return on investment</b>	13	-4	14	17	5	14	25	-2
<b>Total capital turnover (times)</b>	4.6	5.4	8.1	7.1	1.5	4.1	3.9	2.1

In view of the above considerations, a project should not be judged by a single ratio, and hence the three ratios should be consulted simultaneously. The above table suggests that member involved in the making of candles earn the highest gross profit followed by plastic bag and ball pen. Rice mill, toothpowder and sweet toy have also been found to be quite

<sup>2</sup> net profit = gross profit - instalment - dep. of fixed assets



promising. Comparing the return on investment, with the exception of rubber shoe and spice packets, all projects are more or less viable. Substantial return could be earned in the making of sweet toy without having to spend the entire loan amount.

The negative value of net profit margin attached to rubber shoe and rice mill indicate that these firms will have difficulties in the short run to withstand any adversities, be it the rise in cost of production, or fall in the selling price or demand for the product. Similarly, ball pen, candle or plastic bag are in advantageous position to survive in the adverse situations. Besides, many factors could be held responsible for affecting the profitability of rubber shoe and spice packets in such a short span of time. Both the enterprises have been incurring losses from the initial stage. The recent flood may be one of the main causes which affected the consumers demand to a large extent. Another possible explanation could be lower selling price or high cost of production. In the case of rubber shoe, losses occurred mainly due to *the rejection of the goods* by the customers because of poor quality. Product deterioration may have resulted due to holding the inventories too long under improper condition of light, heat, humidity and pressure. But it took a worse turn when there was a fall in the demand for shoes due to the flood which resulted in the piling up of a huge stock. For spice packets, the member was unable to buy more raw materials to increase quantity as major portion of her loan was spent on the cost of accessing the electricity line. The members involved in these two projects are still pursuing their businesses in the hope that it will earn them profit at a later stage when they will be more experienced with their work and be able to minimize their costs. Their quality will be improved provided the organization help them in marketing of their products and provide means to recover their expenses.

Sweet toy and rice mill using the most labour were also the most profitable projects where as rubber shoe with a high capital-labour ratio had the lowest profitability.

In almost all the projects, loan size have been sufficient to cover the entire initial investment cost though apparently it seems that in rice mill and spice packet and plastic bag, loan sizes have failed to meet the expenses. In case of rice mill, BRAC loan would have been adequate if she had not spent money in building of a tin roof room to install the machine

which increased her total cost by Tk.10,000. In case of spice packets, cost of two grinding machines (Tk.18,000) took a major portion of loan (Tk.22,000). Same case holds for plastic bag where two sewing machines worth Tk.14,000 were bought.

As pointed out before, it is only fair to emphasize that all the ratios discussed so far only provide guidelines to the extent that they reasonably be considered as clues to the future, and they should not be followed blindly. In order to be certain about the safety of any organization's claim, it is desirable to consult a few ratios simultaneously. Besides, the projects mentioned above are of different nature, so the businesses are not exactly comparable to each other.

A general concern is that whether these projects return sufficient funds to allow REP to retain its viability. From REP's point of view, it does not incur any investment cost except for the training of the programme organizers regarding the micro enterprise development which develops their skill and capacity on a long term basis. For BRAC it is sufficient if it can obtain an income from the interest which covers the cost of the funds being used, the transaction costs, some provision for losses due to defaults and some marginal profit. Credit is given out by REP and since money is realized with interest, the institution as entity becomes more solvent and less dependent on outside sources of funding.

Usually REP bears two major categories of cost - direct and indirect. Direct costs are directly related to the supply of credit like the interest expense, loan loss provision, personnel expense of the staff including their salary, training cost, and transportation cost.

Regional Programme Organizers (RPO) have to undergo a six-day training of trainers (TOT) at TARCs. For the course on TOT, REP has to bear Tk.847 (Tk.200 course fee + Tk.350 seat rent for seven days + Tk.297 for food) per staff. The cost that REP incurs for the development of skill of a RPO comes to Tk.3472.

A five-day package course is carried on by the Regional Programme Organizers to the Area Office staff (PO-V). This sum is exclusive of traveling expenses. For these five days, REP bears Tk.70 for food per RPO.

A seven-day micro-enterprise development training course is required for the members who wish to set up enterprises and this is conducted by the PO-V. This comprise several stages - identification of investment opportunities, preliminary project selection and pre-feasibility studies, and the final evaluation and investment decision. Entrepreneur selection requires two days where benefits of self employment are explained to all the members and final entrepreneurs are selected from the interested ones. Business identification takes two days, a feasibility study regarding market, technical, environment and financial is carried on for two more days and lastly formation of a business plan requires one day. REP is involved in all these stages as the members lack the expertise to conduct studies on the areas concerned. For the last five days of training, REP provides lunch to 20 members which comes to Tk.1400 considering Tk.14 per person. This training help the members in the decision making process and provide the base for project decision and implementation. Cost of training is the only significant cost component for BRAC. The development of one member costs Tk.228 from BRAC's point of view considering the total amount required to develop the skill of a RPO and PO along with their time spent on the development of the micro-enterprises. Thus the cost per job created in such micro enterprises is quite low.

As far as the loan loss provision or the interest expense is considered, REP to date has not charged any money for them as the projects were initiated on an experimental basis.

Indirect costs include the rent of the office building, office materials and supplies, transportation of the overhead staff, telephone, postage and other utilities. Since rural enterprise projects are carried out with other projects simultaneously from the same branch of RDP, it becomes difficult to ascertain/estimate cost.

### 3. CONCLUSION

Majority of the enterprises discussed so far have the potential to contribute significantly to higher rural incomes. They not only provide round the year employment, but are also well suited to the rural women's social constraints and household responsibilities. Only two micro-enterprises were solely operated by women members and in other projects their involvement was part time. Nevertheless, these enterprises serve as an important

opportunity for them to take up remunerative work beyond casual labour. Available evidence suggest that these enterprises contribute most of the economic development of the countries with surplus labour and limited capital (Watanabe). Absence of child labour below the age of 12 has been prevalent in all the cases.

In spite of the methodological shortcomings, study findings indicate that most micro producers incomes have increased. With their earnings, they are now in a better position, able to make loan repayment and contribute to household expenditure.

Findings prove that these small enterprises are very promising ventures to increase the productivity and income generation for the entrepreneurs which is important for long term development and sustainable employment. Acquiring skill through these projects is also an important aspect. However all these projects are not homogenous and some are more productive than others, for e.g., plastic bag and candle are more productive than sweet toy or rice mill.

Considering the effectiveness of these business development services, the paper reveals that except for rubber shoe and spice packets, all entrepreneurs are in a position to pay the cost borne to develop them even if the organization decide to impose upon them.

Although shortage of fund was reported to be the major constraint, there were other problems as well. Owing to various technological, production and commercial difficulties, most projects experienced initial problems. When starting an enterprise, fixed cost have been found to form a large portion of total cost. It is expected that gradually with experience borrowers can become familiar with economies of loan funded activity. Care should also be taken to avoid a mismatch in demand and supply condition. If not, then the rate of return from investment will suffer, and the long-term viability of the project will be jeopardized as has been observed for rubber shoe. Therefore, it is essential to have matching of demand-supply side of investment to sustain a higher flow of income after paying all the relevant dues (Osmani, 1989). Besides, for a firm to grow successfully,

appropriate technique of production should be chosen which is in accordance with the local factor endowments.

Thus investment projects undertaken should ensure the optimum utilization of scarce resources towards meeting social objectives and economic growth. Given the prevailing social system, it may be desirable for the NGOs and other development organizations to increase the members asset base and output-capital ratio to improve their long-term economic viability from income generating projects (Amin, 1997).

#### **4. Policy implications**

1. BRAC/REP should link the micro entrepreneurs with marketing avenues, so that the goods produced can be sold at a profitable price.
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