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Productivity And Efficiency Challenges Of Microcredit Program In Bangladesh

Md. Mahmudul Alam
Rafiquul Islam Molla

Center for Research & Publication



الجامعة الإسلامية العالمية سياتاغونغ
International Islamic University Chittagong

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In honor of the toiling poor of the world.

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FOREWORD

This study by Md. Mahmudul Alam and Professor Rafiqul Islam Molla on microfinance comes at the right time when the microfinance movement has come under attack from various quarters. There are exaggerated claims and counter-claims about microfinance's impact on poverty alleviation - one side claims to send poverty to the museum, the other claims that it causes and perpetuates poverty. The only way to resolve the issue is rigorous research.

The microfinance movement that began as a programme of action-research in a small village by Professor Muhammad in 1976 has quickly become a global phenomenon, attracting more than 100 million borrowers worldwide. The movement has been hailed as an innovative tool for poverty eradication.

The concept of microfinance, however, is not new. Formal credit and savings institutions for the poor, such as cooperatives, have also been around for centuries, serving those whom Professor Yunus calls the "unbanked", meaning those neglected by commercial banks. One of the earlier and longer-lived micro credit organisations providing small loans to rural poor with no collateral was the Irish Loan Fund system, initiated in the early 1700s by the Irish nationalist Jonathan Swift, the author of *Gulliver's Travels*. Its principal purpose was to give small loans with interest for short periods. By the 1840s, Swift's idea had become a widespread institution of about 300 funds all over Ireland. At their peak, they were making loans to 20% of all Irish households annually.

The modern microfinance movement's key feature is group lending in the absence of substantial collateral assets. It is undoubtedly an innovative business model that potentially solves the problems of adverse selection and moral hazard due to asymmetric information, a major cause of credit rationing and market failure in the financial sector. This innovation itself deserves a Nobel Prize in Economics.

Nonetheless, Professor Yunus and his pioneering microfinance institution, the Grameen Bank, have been crowned with the Nobel Peace Prize. This has brought the movement to a new height of optimism, prompting Professor Yunus to declare that he would make poverty a museum exhibit. After more than two decades of hype, microfinance has come under serious scrutiny. The recent debacle and crisis in India seem to have given some credence to the critics of the microfinance movement. As big commercial banks flocked to the sector in lure of "sure profits", such microfinance institutions as Compartamos in Mexico and SKS in India have gone public, providing windfall profits for their founders with little if any benefit for their borrowers, Professor Yunus wrote sombrely in a *New York Times* op-ed, "I never imagined that one day microcredit would give rise to its own breed of loan sharks. But it has."

"Loan sharks" or not, the microfinance institutions have been criticised for

charging exorbitant interest rates. Critics wondered how micro businesses could yield high enough returns to pay such excessive interest rates. They also pointed out the practice of multiple loans - new loans to pay the old ones - creating a "debt-trap". There also has been disappointing rate of graduation - failure to move upward from micro to meso businesses.

The advocates of the microfinance movement claim that the rates of return from microenterprises are indeed high. One critical point in the debate is whether the borrowers are properly taking into account their own wages as owner operators in calculating profit or the rate of return. If not, then the entire surplus over and above the cost of running the business can be mistakenly regarded as profit or returns to capital. This can be the most plausible explanation for the high returns to microenterprises, such as from selling milk or eggs; but this essentially means that free labour accrues to capital.

In this study, Mr. Alam and Professor Molla endeavour to ascertain the rates of return of enterprises of borrowers from microfinance institutions. They find that the rate of return varies widely depending on how own and family labour is valued. When valued at zero shadow wage, they find high returns as expected, but it declines significantly when valued at market wage, making a large number of microenterprises unprofitable or unviable. The rate of return is in between these two extremes when valued at minimum wage, but a significant number of microenterprises still become unviable. This perhaps explains the problem of graduation and debt trap.

From the perspective of poverty alleviation, it would have been interesting to see the outcome if own or family labour is valued at a wage equivalent to national poverty line. This would have indicated whether microenterprise operators remain "working poor", not earning enough after paying the interest. Nevertheless, this is an important contribution and should enhance our understanding of the impact of microfinance on poverty.

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PREFACE

There is no denying the fact that microcredit (MC) has been playing an important role in the movement for poverty alleviation. But by the same breath it is also a hard fact that it has serious limitations in terms of its delivery system, rules of repayment, interest rate charges, etc. These limitations made it largely fail to realize its potential and expected goals. A credible study on the productivity of MC was required to determine its actual interest/profit paying capability. In the absence of any established economic justification, based on productivity, this exorbitantly high interest rate is found morally untenable and has become the primary target of criticism for its minimal or marginal achievements. As a result, recently the government rightfully fixed 27% as the maximum interest rate chargeable for microcredit (with effect from July 2011).

However, we need not undermine the importance and efforts of the microcredit movement, both as an economic as well as a social institution, for the betterment of the poor in the society. We need not be selfish and miser to give the movement its due credit. MC should not be summarily viewed as unuseful and unsuccessful. It has been making some contributions to the betterment of the poor and it should be given the appreciation it deserves. But like many other researchers we are troubled by the contradicting attitudes of the microcredit providers toward the borrowers. In one hand they are concerned and committed to pull the poor out of poverty, on the other hand they are so harsh in the timely payment of repayment installments putting a blind eye to the sufferings of these poor borrowers. Therefore, MCIs need to be more innovative to be able to serve and take care of the wellbeing of the critical group among the borrowers. We are also puzzled to see that in spite of the exorbitantly high interest rate charges and all other limitations, increasing number of these poor are borrowing credit from these MCIs. This surgical study on the inside view of microcredit in Bangladesh, using a rich data set developed through a survey of 555 sample borrowers from rural, semi-urban, and urban areas of all 7 administrative divisions of Bangladesh, is an effort to address these issues and find answers to these and other questions like its potentiality to become a growth tool in the third sector economy.

To our own best assessment this study made three major contributions to microcredit literature: a) application of economic-profit counting method in economic productivity analysis, b) identification of the critically vulnerable group among the borrowers; and c) the revelation that microcredit is respected by the borrowers more as a social than economic institution. To them, microcredit has facilitated their social and political empowerments and safeguarded their social status.

An additional feature of this monograph is that it includes a chapter reflecting on the status of Islamic microcredit in the country.

We are thankful to the sample micro borrowers for their sincere cooperation and responses in the operation of this research. We are equally

thankful to the field investigators for their honest and untiring search for information. We are thankful to Professor Dr. Abu Bakr Rafique Ahmad, Pro Vice-Chancellor of International Islamic University Chittagong, Bangladesh for his most valuable suggestions to include in the book a separate chapter on Islamic microfinance. This chapter has certainly enhanced the focus of the monograph. Lastly we are grateful to Professor Dr. Anisuzzaman Chowdhury of University of Western Sydney, Australia, and Senior Economic Affairs Officer, Department of Economic and Social Affairs, United Nations, New York, for writing a thoughtful foreword to this work.

The authors

GLOSSARY OF TERMS

Urban Area: areas under divisional and district headquarters. District is an administrative unit of a division. In Bangladesh there are now seven divisions containing sixty four districts.

Semi Urban Area: areas under Thana/ sub-district - a lower administrative unit under the district.

Rural Area: areas under union and villages. Union is the lower administrative unit under the sub-district.

Microcredit: Microcredit refers to very small scale financial services like savings and loans for non-productive purposes like emergencies, day-to-day living, and for productive purposes like investment in productive activities. Credit is usually provided without any collateral. The principle of group or joint-liability (peer pressure) is generally applied to enforce loan repayment.

MCIs (Micro-Credit Institutions): Specialized financial institutions, government banks, commercial banks, savings and loan cooperatives, credit unions, and Micro-finance Institutions (MFIs include NGOs which are providing group-based small loans to the poor with the aim of poverty alleviation) which provide collateral-free credit to micro borrowers.

Borrower: A person, man or woman, who borrows money from any MCI. Generally they have stable source of income, but considered as poor; they are marginal poor and not poorest of the poor.

Microenterprise / Microentrepreneur: Economic activities of a smaller entrepreneur having total investment up to TK50,000 (TK- Bangladeshi Currency Taka; USD \$1 = TK70). As there are high variations in the definition of microenterprise, this study defines microenterprises as those microcredit invested economic activities where the investors are doing something that is beyond subsistence level and not just for self-employment and sustenance; and that may necessarily mean doing something with both self and/or hired labor (or a young person doing some skillful thing for self-employment and self-development, but not for family subsistence).

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
BB	Bangladesh Bank
BIDS	Bangladesh Institute for Development Studies
BRAC	Bangladesh Rural Advancement Committee
CDF	Credit and Development Forum (Bangladesh)
CGAP	Consultative Group to Assist the Poor
DFID	Department for International Development (UK)
IBBL	Islami Bank Bangladesh Ltd.
IMFI	Islamic Micro-finance Institute (same as IMCI)
IMCI	Islamic Micro-credit Institution
MCI	Micro-credit Institution
MFI	Micro-finance Institution (same as MCI)
MRA	Microcredit Regulatory Authority (Bangladesh)
NGO	Non-government Organization
PKSF	Palli karma-sahayak Foundation
RDS	Rural Development Scheme
ROI	Return on Investment
TK	TAKA (Bangladeshi currency)

CHAPTER 1

MICROCREDIT PROGRAM IN BANGALADESH

When the Prophet of Islam, during the medieval era, offered an axe to a poor man when he came for begging help, in its spirit and essence it amounted to a typical microcredit for poverty alleviation. Thus, it can be aptly said that the Prophet thereby virtually initiated introducing a microcredit system for poverty alleviation. The literal and generic meaning of microcredit is small loan. But in terms of its present day usage, purpose, application, and operation - i.e. in terms of its essence, content, and form - it refers to very small size supervised collateral free loans to targeted groups of poor people for both production and consumption primarily with the purpose of stimulating them to initiate self-employment and home based economic enterprises and, at the same time, to motivate them to regularly maintain minimum savings with the lending institutions. It deals with very small scale financial services like savings and loans for productive purposes like investment in productive activities and for non-productive purposes like meeting emergencies, spending for day-to-day living, etc. Credits are usually given to groups of individuals or village organizations without any collateral. It applies the principle of joint-liability (peer-pressure) to enforce loan repayment. Its fundamental goal is to free the poor from the clutches and exploitations of the traditional money lenders and borrowers' credit lending rich friends and relatives. It is served by microcredit institutions which could be state agencies, banks and NGOs.

It has launched a challenge to the formal financial system which virtually denies the scope of economic emancipation of the poor. Prof. M. Yunus, the founder of the Grameen Bank in Bangladesh, claims that microcredit program is an effective tool for enhancing income of the poor primarily through creation of self-employment opportunities for them in a variety of informal economic activities. It is claimed that microcredit has been effectively serving the financial needs of the poor; they now have access to necessary credit for building economic enterprises, according to their available skills, to earn better income. Its importance as a strategy for poverty alleviation has been prioritized since 2007 when Grameen bank and its founder Prof. M. Yunus jointly won the Nobel Prize for pioneering the microcredit program. It is now practiced in a large number of countries in the world.

Historical Background of the Microcredit Movement

Exploitation of the rural poor by the landlords and local moneylenders is a historical fact in Bangladesh and other countries of the Indian sub-continent. During the colonial period, the British government attempted to address the problem by introducing cooperatives for the rural farming communities. It was primarily a strategy for improvement in agricultural productivity and growth. After the British rule, the internationally

appreciated Comilla Model (Comilla Cooperative Pilot Project) was established in Bangladesh in 1959, under the leadership of Dr. Akhter Hameed Khan, as a cooperative-finance-based rural development and economic growth tool focusing on modernization of agriculture and establishment of necessary rural institutional infrastructure. It was a methodology for promoting agricultural and rural development based on the principle of cooperative participation by the people at the grassroots. The model had four components, namely village-level primary cooperatives, a thana-level training and development center, a work program, and an irrigation program. The primary cooperatives are integrated at the thana (a sub-district i.e. a lower tier administrative unit) levels; and an integrated rural development program provides all essential and critically needed farming inputs on credits to the farmers. Farmers are to pay the input prices by selling their harvests during the period when prices are high in the market. To safeguard the farmers from moneylenders and at the same time to enable them to modernize their farming methods to increase productivity were its main focus and goal. In that account Dr. Khan and the Comilla model are rightly credited for pioneering microcredit and microfinance initiatives in the country.

But after independence of Bangladesh in 1971 and with the change in political culture and discipline, credit cooperatives were not found actually working and serving the rural poor any longer due to influence of the local political power groups in the cooperative management and control. These cooperatives became virtually under the command and control of the local elites and political power groups to serve their own ends. These credit cooperatives were large and open for all categories of members of the society; these were not specifically targeted for the poor marginal and landless farmers. It was then realized that the methodology of forming cooperatives with large number of members from all sizes and categories of farmers was one of the main contributing technical reasons for the model to become ineffective for serving the poor. This frustrated the founder of the movement as well as other development practitioners and scholars.

As a result two new rural development approaches or models with similar international reputation emerged in the field during the 1970s. One is the Bangladesh Rural Advancement Committee (BRAC), emphasizing primarily on infrastructure building, and the other is the Grameen Bank, emphasizing on credit supply for the poor to generate income from creation of self-employed economic enterprises.

The Bangladesh Rural Advancement Committee (BRAC) model was launched in 1972 by Sir Fazle Hasan Abed to carry out reconstruction works in the rural areas after the war of independence. Its emphasis was on rural infrastructure building. It was later extended to cover all aspects and types of development works and programs including microcredit supply to the impoverished for their socioeconomic emancipation and participation in economic growth and development. Accordingly its microcredit program

was motivated primarily as a growth oriented tool. It replaced the 'mixed group' approach of the credit cooperatives and adopted a 'targeted group' approach with small groups of targeted members.

Later, in 1976 the Grameen Bank model was initiated by Prof. Muhammad Yunus to provide microcredit to the marginal and landless farmers who could not provide land collateral or crop hypothecation as needed in any traditional money lending system operated by banks. It focuses specially on the women and activities that relate to the economic and overall social development of the marginal classes. Recently it gained exalted recognition for its role as a model for 'development from below' to ensure sustainable world peace. Grameen model is also a 'targeted group' approach. This 'targeted group' approach is the innovativeness of the present day microcredit models. Other two large NGOs joined the movement are Proshika in 1976 and ASA in 1978.

By the innovation of a methodology of making available necessary credit to the poor it has opened a window to the future where economic growth and human development become accessible to all, and income inequalities among nations and regions may become minimal. Therefore the microcredit program has launched a challenge to the formal financial system which denies any possibility of development to the poor who represent the largest part of the world's population.

Objective and Approach of the Program

Though the world history of microcredit is not so recent, but it was not so prioritized until 2007 when Grameen Bank and its founder Professor Yunus received Nobel Prize for pioneering microcredit. In the last few years "microcredit" has become a well-known term, first in the development sector of the developing countries, and later in the developed countries as an anti-usury tool and in support of the emergence and development of micro-entrepreneurship. Microcredit deals with very small scale financial service. Credit is usually provided without any collateral to the targeted small groups of individuals or organizations of rural poor that use joint-liability (peer pressure) to enforce loan repayment. It is a targeted and supervised group approach. Yunus sees microcredit program as an effective tool for enhancing income of the poor through various self-employed informal activities. It has been able to bring credit to the poor (mostly women) who are often illiterate and do not know how to invest money for earning income. In Bangladesh it is popularly known as Grameen Bank model. It is claimed that this model has created a methodology and an institution for effectively serving the financial needs of the poor. The poor now has access to credit without collateral. It has thus enabled them to build economic enterprises based on their existing skill to earn a better income. The approach emphasizes on the marginal and landless farmers as a strategy for broadening the base of development, and prioritizes non-land-based off-farm source for income generation for the target group. All the dominant and most other NGO microcredit providers basically follow this model with minor variations in the details. This methodology has

produced remarkable results in terms of solidarity, education, and a high level of loan repayment rate.

Structure of the Industry

Bangladesh is often called the land of microcredit because of its extensive use by the teeming millions of small borrowers all over Bangladesh. It is a household word. The country is noted for a very high growth rate of microcredit borrowers as well as microcredit lending institutions. In December 2005, Palli Karma-Sahayak Foundation (PKSF) reported that 688 MFIs, 2 government departments, 6 specialized organizations, and 7 commercial banks were working in rural areas in Bangladesh to provide microcredit services to 21.77 million gross borrowers or, after adjustment for overlapping, 15.55 million net borrowers. By now nearly two hundred thousand people are employed in MFIs and Grameen Bank and around 30 million poor people are directly getting benefits from microcredit programs. In order to bring microcredit sector under regulatory framework, the government of Bangladesh enacted Microcredit Regulatory Authority Act 2006. According to the Act, no MFI can operate microcredit program without obtaining license from Microcredit Regulatory Authority (MRA). As of November 2010, only 535 MFIs obtained license. However, it is believed that currently over 7000 NGOs now run microcredit programs in Bangladesh, and after adjustment for overlapping, the net borrowers account to nearly 24.5 million. This includes over 500,000 borrowers of Islamic microcredit. Islamic microfinance is at its infant stage. The primary institution lending Islamic microcredit in the country is the Islami Bank Bangladesh Ltd (IBBL). It offers microcredit products through its rural development scheme (RDS). It is one of the top 10 MFIs/MCIs in the country.

But, despite the fact that institutional credit has expanded remarkably in the country, informal credit still continues to dominate and remain important in the rural areas. In spite of their exploitive nature, the traditional and informal moneylenders till today account for about two-thirds of credits delivered in rural areas. This is possibly because these credits are easily available and, therefore, more capable of meeting the urgent needs of the marginal and landless farmers.

Institutional or modern microcredit is delivered in Bangladesh by government agencies, some commercial banks and the non-government organizations (NGOs). However, NGOs share roughly as much as 60% of the market of over 24 million borrowers. The credit supply market is highly concentrated in the hands of a few large NGOs. About 8% of the lending institutions control 80% of the market (Ahmad 2010). Among all microcredit lending intuitions and programs only a few large ones dominate the market. Grameen Bank (established in 1976) with 7.67 million borrowers tops the list. It is followed by ASA with 7.13 million, BRAC with 6.37 million and Proshika with 2 million. While on the supply side its market is concentrated to a few large microcredit lending institutions, on the demand side similarly it is heavily concentrated to women borrowers with 90% share mostly for home and family based

subsistence level economic operations for generating income through self employment (MRA 2010). The growth rate of the number of borrowers has been very high over the years. Average size of the loan per borrower is \$80 and the average size of saving per member is \$21.

Controversies on Achievements: Need for the Study

The initial success of this movement drew international attention as a promising strategy for rural development. International donor agencies and development planners became tempted to treat microcredit as a growth tool for the developing nations. However, its potential and scopes were tested and found limited to as a tool for poverty alleviation. The program experienced a very high growth rate in terms of number of credit borrowers and credit suppliers in spite of an exorbitantly high interest rate ranging from 25-65% charged by microcredit institutions (MCIs). However in case of Islamic microcredit, the effective profit rate (instead of interest rate), charged by the Islamic microcredit institutions (IMCIs/IMFIs) is only 20%. High interest rate is charged by the MCI under the plea that microcredit transactions are multitudinous detail involving high transaction costs. High interest charge is necessary to cover the high delivery and supervision costs. It is argued that a high growth rate in the number of borrowers despite high interest rate charges is an indication that microcredit is highly productive, useful, and profitable for the borrowers. Microcredit is delivered to group of borrowers under the strategy of group liability. Therefore the model relies on group pressure (peer-pressure) and close supervision for loan repayment. As a result, the loan recovery rate is as high as above 95%. Accordingly, many success stories of microcredit have been written and reported in the meantime.

However, different studies conducted on the achievements and effectiveness of microcredit program in Bangladesh produced different results. Therefore the success stories are not without contest. It has been highly criticized by many scholars, development practitioners, and politicians for low achievement and high interest rate charges. The then Finance Minister of Bangladesh M. Saifur Rahman once lamented by saying that if the microcredit lending NGOs continue to charge such high interest from the poor borrowers, the fortunes of the poor could not be improved even in centuries. Some scholars also observe that it will be too much to regard microcredit as a panacea for entrenched poverty in the developing world. A report of the UK's Department for International Development (DFID 2001) similarly notes that international experiences of microfinance indicate that microcredit is not an appropriate and effective tool for assisting the chronically poor. Many of the researches on microcredit programs have attempted to measure the benefits of microcredit in terms of income, employment, and other socioeconomic outcomes, but they have largely failed to specify that the benefits are due to the borrows' participation in microcredit program. Some researchers argue that although microfinance has reached many rural poor but it still remains questionable if it has reached the real target groups and has been able to reduce their poverty. Researches also reveal that most of the beneficiaries

do not make repayment of the credit from the income generated by the use of microcredit, but usually by arranging funds through another credit, or by selling their domestic animals, trees, etc. when the credit providers pressurize them for repayment (Ahsan & Rahaman 2006). However, at the same time, few would deny the critical role played by microcredit in assisting poor households to escape from poverty pyramid. The current finance minister of Bangladesh recently observed that even though microcredit could not possibly pull people out of poverty but it gave them a way for living (Star Business Report 2009).

Various empirical studies suggest that microcredit programs (both conventional and Islamic) have in fact generated a positive change in the income of beneficiaries. But this change has been only marginal; a large number of the borrowers may not have experienced any change in their economic and social status. Other researchers view that while microfinance program is increasingly becoming an important development strategy but the knowledge about its impacts is so far only partial and controversial. Some argue that because of the high interest charged for microcredit, the borrowers can quickly sink into a cycle of debt. It is mentioned that for many lenders the interest rate may begin with around 15% that can soon rise to anything between 40% - 100%. Dr. Qazi Kholikuzzaman Ahmad, Chairman of PKSF (a body that monitors microfinance) describes microcredit as 'death trap' for the poor who often take loans without thinking of the consequences (Melik 2010). Thus, the role of microcredit in reducing poverty and improving socioeconomic wellbeing of the poor in Bangladesh is very controversial with contradictory results from different researches.

There is, therefore, a need for more rigorous studies involving surgical investigation for having a clear view and understanding of the inside story of microcredit's socioeconomic productivity and real achievements. This study is an attempt to that end.

Objectives and Hypothesis of the Study

The primary objectives of the study broadly are:

- * To have a closer look into the operational mechanism of the microcredit delivery system and analyze the economic and social productivity of microcredit.
- * To critically examine how and to what extent the borrowers of microcredit are actually benefiting or otherwise from it.
- * To test the general hypothesis that microcredit is not economically highly productive to command a very high interest or profit rate payment; in fact it commands high respect of the low income borrowers more as a social institution and a means of securing and protecting their socio-political rights and privileges.
- * To test the hypothesis that it has limited scope to promote and support micro-enterprises and, thus, serve as a growth tool.

Methodology of the Study

It is a descriptive research through a survey of current microcredit borrowers in Bangladesh. In the absence of full knowledge on the structure and distribution of the population of microcredit borrowers in the country, random sampling as representative sampling is neither possible nor desirable. Moreover, in many situations random sampling is not effective, or cost effective, for serving the purpose for which sample data are collected. Purposive or judgment sampling is effectively used in such cases. Accordingly, a judgment sampling procedure was thought more effective and appropriate for this survey. Data were collected from a sample of 555 (519 conventional interest-based and 36 Islamic interest-free based) current microcredit borrowers all over the country during January-April, 2008. Samples were selected from urban (32.4%), semi-urban (27.2%), and rural (40.4%) areas covering 61 sample sub-districts of 28 sample districts in the 7 administrative divisions of Bangladesh (Appendix 1) by judgment to ensure that microborrowers of different sizes engaged in various categories of economic operations in rural and urban settings were adequately represented for analysis. Convenience of data collection and cooperation of respondents guided the selection of samples to ensure high quality of data at least cost. Data were collected through personal interview and discussions with the respondents by a team of 5 trained investigators. A questionnaire guide was used for the interview and recording of the data. The data of this study were partially analysed and presented earlier in the form of a working paper (Molla, 2010).

Secondary data were collected through a survey of literature using books, reports, journals, periodicals, and dailies. The sources used include publications or annual reports of different MCIs, Islami Bank Bangladesh Ltd. (IBBL), Credit and Development Forum (CDF), Palli Karma-Sahayak Foundation (PKSF), Bangladesh Bank (BB), and other official documents.

Data have been analyzed basically under a descriptive model using tabular analyses with the help of simple statistical tools like averages, percentages, ratios, etc. for a surgical study of the socioeconomic productivity of microcredit in terms of income generation, job creation, social empowerment, and total wellbeing of the borrowers in order to evaluate the economic, social, and political role microcredit plays in their life management. However, it has been supplemented by an econometric analysis of economic productivity of microcredit. A Cobb-Douglas type production function has been used for this purpose. Since in some cases Y (net-worth) has negative values, it is not possible to use the log form. Therefore the following linear production model has been used:

$$Y = \Omega + \alpha K + \beta L + \varepsilon \quad (1)$$

Where, Y = Year end net-worth (in Tk) before paying family labor and interest cost

K = Full year equivalent capital/ investment (Tk)

L = Total labor hours

Ω = Constant
 $\alpha \beta$ = Coefficients
 ε = Error term

For computation of elasticity, the following formula has been used:

$$E_i = C_i (M_i / D) \quad (2)$$

Where, E_i = Elasticity value

C_i = Coefficient of respective variable (α or β)

M_i = Mean of respective independent variable (K or L)

D = Mean of the dependent variable (Y)

i = Respective variable

In measuring the productivity or surplus generated from the use of microcredit, researchers in previous studies avoided the use of economic-profit counting method which takes into account also the implicit costs like cost of self-employed family labor. Only the present researchers successfully used this method in their pilot study in 2006 (Molla et al., 2008). Accordingly, in this study the economic-profit counting, instead of accounting-profit counting, method has been used. Application of this approach may be claimed as a net addition to the literature on research methodology in this field.

Summarised Field Data

Features of important findings from the survey of microcredit borrowers in Bangladesh are listed below for easy reference, analysis, and discussion.

Table 1.1: Important features and findings of the study

Important Features	Data and Findings
Sample size	Total sample : 555 Subsistent borrowers: 490 (88.3%) Microenterprise borrowers: 65 (11.7%) : beyond subsistence level operation using self- employed labor- 20; beyond subsistence level operation using self-employed and hired labor- 33; subsistence level operation but using self-employed and hired labor- 12. Conventional microcredit clients 519 (93.5%) Islamic microcredit clients 36 (6.5%)
Age below 30 years	42% of borrowers
<i>Continue...</i>	

Important Features	Data and Findings
Literacy : Literate	53.5% of borrowers
Average number of current credits per borrower	1.35 Single credit: 71.7% ; Multiple credits : 28.3% (2 loans 22.7% ; 3 and more loans 5.6%)
Average number of credits taken over time per borrower	13.8
Average size of current credit per borrower	TK15,342 (TK5,000-20,000 - for 82% borrowers); exchange rate : US\$1=TK70
Desired credit requirement	TK20,000 - 69.4% borrowers reported
Gap between actual credit size and desired credit size	Gap up to TK15,000 for 69.2% borrowers; current size is enough or more only for 10.3%
Use of credit fund entirely for consumption	15% borrowers
Use of credit fund for investment	Full amount- 56%; partial- 29%; with initial additional fund - 28%; topped-up fund during the year - 21%
Investment in small scale production & trade in agriculture, livestock & fishery items	48% of the borrowing investors
Cycle of business return	A day or a week - for 69% borrowers; half yearly or a year - for 22.7% borrowers
Amount of full-year equivalent current investment per borrower	TK16,424 (credit constitutes 81% of it)
Amount of annual return on investment (ROI) per borrower	TK33,654 after paying self-employed labor at minimum wage rate - TK8 for man; TK5 for woman per hour TK9,341 after paying self-employed labor at market wage rate - TK17.8 for man; TK12.4 for woman per hour
Inability to pay any interest or profit	7.6% after paying self-employed labor at minimum wage rate 48% after paying self-employed labor at market wage rate continue...

Important Features	Data and Findings
Ability to pay above 60% interest with capital repayment	75.1% after paying self-employed labor at minimum wage rate 33.8% after paying self-employed labor at market wage rate
Ability to pay more than 25% interest with capital repayment	41% after paying self-employed labor at market wage rate
Elasticity of Productivity	Microcredit : 0.44 - 0.46 Labor: 0.49 - 0.54
Return to Scale	Decreasing for subsistent enterprise
Job creation (self-employment) per TK1,000 microcredit investment for a year	31.7 labor-days
Economic wellbeing of the households after using microcredit - Improved	86.50% borrowers reported
Use of microcredit by women borrowers themselves	10.6% of the women borrowers
Family level empowerment of women borrowers	Increased : 39.4% women borrowers; No change: 36.5% women borrowers

CHAPTER 2

PROFILES OF MICROCREDIT BORROWERS AND BORROWINGS

Enterprise Categories

Among 555 sample borrowers 65 (11.71%) are microenterprises having economic operations beyond subsistence level, and the remaining are subsistent-enterprises (Table 2.1).

Table 2.1: Distribution of borrowers in terms of enterprise category

Enterprises Category	No. of Samples
a. Microenterprises :	65 (11.71%)
Beyond Subsistence Level and self-employed	20
Beyond Subsistence Level and Employ Others	33
Not Beyond Subsistence Level but Employ Others	12
b. Subsistent-enterprises	490 (88.28%)
Total	555 (100%)

Source: Field data

Nature of Microborrowers' Economic Operations

Microcredit borrowers are engaged in mostly self-employed economic operations either as petty producers or petty traders or shopkeepers like tailoring shop, vegetable stall or peddling, fruits stall or peddling, fish stall or peddling, carpentry shop, hair cutting saloon, etc. They use the credit fund for their different economic operations and or for consumption purposes. 81 borrowers are found to have used credit fund entirely for consumption purposes and 1 borrower is found holding the fund at hand. The remaining 473 borrowers have partially or fully invested the credit fund in their economic operations. About 48% of these investors are primarily engaged in small scale production or selling of agricultural, forestry, livestock, and fisheries products (Table 2.2).

Table 2.2: Borrowers by use of their credit funds in different investment categories (frequency)

Investment Area	Primary Investment	Secondary Investment
Agriculture & Forestry Production	62	-
Livestock & Fisheries Production	72	6
Livestock & Fisheries Selling Shop	33	2
Agriculture & Forestry Product Selling Shop	60	-
All Other Products Selling Shop	77	9
Food Shop	4	-
Processing & Manufacturing	6	2
Renting and Leasing Services	34	12

Services	119	14
Financial Services	2	-
Peddling	2	6
Contractor	3	-
Grand Total	474*	51

* 81 full credit consumption cases are excluded from total 555 borrowers.

Source: Appendix 2, Table 1

Demographic Features

The overwhelming majority (97%) of the sample borrowers are women. It may be noted that microenterprises, being beyond subsistence level activities, are more male oriented works. As a result, women are found relatively less prominent in microenterprise activities. Accordingly, a relatively lower percentage of microenterprise borrowers are women.

About 42% of all the borrowers and only 20% of microenterprise borrowers are under 30 years of age (Table 2.3); and about 46.5% of all borrowers and 27.7% of microenterprise borrowers are illiterate (Table 2.4). There are very few members with tertiary education.

Table 2.3: Borrowers according to age (frequency)

Age	All Borrowers	Microenterprise Borrowers
Below 20	25 (4.5%)	-
20 and below 30	208 (37.5%)	13 (20.0%)
30 and below 40	164 (29.5%)	30 (46.2%)
40 and below 50	82 (14.8%)	14 (21.5%)
50 and below 60	14 (2.5%)	4 (6.2%)
60 and above	4 (0.7%)	2 (3.1%)
Unknown	62 (11.2%)	2 (3.1%)
Total	555 (100%)	65 (100%)

Source: Field data

Table 2.4: Borrowers according to level of literacy (frequency)

Literacy Level	All Borrowers	Microenterprise Borrowers
Graduate	6 (1.1%)	1 (1.5%)
Secondary	111 (20.0%)	20 (30.8%)
Primary	173 (31.2%)	26 (40.0%)
Signature	7 (1.3%)	-
Illiterate	258 (46.5%)	18 (27.7%)
Total	555 (100%)	65 (100%)

Source: Field data

Table 2.5: Borrowers according to size of the current loan (frequency)

Current Loan Amount (TK)	All Borrowers	Microenterprise Borrowers
5000 and less	78 (14%)	2 (3.1%)
5001-10000	193 (35%)	12 (18.5%)
10001-15000	101 (18%)	13 (20%)
15001-20000	84 (15%)	9 (13.8%)
20001-30000	61 (11%)	9 (13.8%)
30001-40000	17 (3%)	8 (12.3%)
40001-50000	9 (2%)	2 (3.1%)
Above 50,000	12 (3%)	10 (15.4%)
Total Client Count	555(100%)	65 (100%)
Average size of credit per borrower	15,342	33,230

Source: Field data

Credit Size

The average size of the loan is TK15,342 for all borrowers and TK33,230 for the microenterprise borrowers. However, 82% of the borrowers have the credit size as TK20,000 or below (Table 2.5). Quite understandably the average size of the credit is high for the microenterprise borrowers; 55.4% of them have loan size above TK20,000.

Total Number of Loans over Time and Number of Current Loans per Borrower

Over the time, on an average each borrower took 13.8 loans from the same or different lending institutions (Table 2.6). Moreover, taking multiple loans simultaneously from different institutions by some borrowers is a recognized fact. On average each borrower under study has 1.35 current loans (constituting 35% of overlapping) from different lending institutions. PKSf (2006) estimates that about 40% of the borrowers have this kind of overlapping/multiple loans from different institutions.

Table 2.6: Borrowers in terms of number of loans taken over the years from different lending institutions (frequency)

Total No. of loans	All Borrowers				Microenterprise Borrowers			
	Grameen Bank	ASA	BRAC	Total	Grameen Bank	ASA	BRAC	Total
1-2	107	112	67	137	8	8	10	4
3-5	72	91	37	165	13	15	4	21
6-10	33	90	28	143	7	19	7	22
11-15	12	13	1	66	-	2	-	7
16-20	4	3	2	28	-	1	1	4
21-25	-	-	-	6	-	-	-	4
26-30	1	-	-	4	-	-	-	-
31+	3	-	-	6	1	-	-	3
Total Client Count	232	309	135	555	29	45	22	65
Total No of Times	1114	1502	524	7662	113	252	101	552
Average No of Loans per Client	4.8	4.9	3.9	13.8	3.9	5.6	4.6	8.5

Source: Field data

CHAPTER 3

PRINCIPLES AND MECHANICS OF LENDING OPERATIONS

Basic Requirements for Obtaining Credit

Generally there is tendency to select clients whose initial assets and endowments are in the form of productive resources and educational attainments (ADB, 2000; Khandker, 1998; and Baden et al., 1994). Borrowers are often asked to submit a list of their available assets. These are strategies to ensure their ability to regularly repay credit installments. There is no need for any collateral or individual guarantee for obtaining loan; but a group assurance for regular repayment of credit instalments is required. About 58% of the sample borrowers reported that they were required to provide list of their available assets to get the credit. On the other hand, 82% borrowers reported that they obtained credit based on availability of only permanent home address. About 19% borrowers reported that under the policy of group assurance they were required to make-up for the unpaid instalments of some defaulting members of the group. Borrowers also that they are obliged to follow certain rules set by the lenders. These rules are mostly related to loan repayment and social awareness relevant special slogans.

However, almost all the sample borrowers like to lend support to the view that the microcredit providers prefer to provide credits to those who have some regular income and ability to repay the loan.

Facility and Flexibility of Savings

One of the fundamental objectives of the microcredit movement is to ultimately free the poor from dependency on the moneylenders. In fact almost all microcredit lenders have provisions for savings by the credit borrowers. The strategy of minimum savings by them is extremely significant, so that at the end they will have enough fund of their own to meet their credit needs. The Grameen Bank model is exactly based on this strategy. Ahmad (2010) reported that 94% of the capital of Grameen Bank was composed of the savings of its poor borrower-members. Therefore, they own 94% of its share capital; and the remaining 6% is owned by the government. Over 84% borrowers reported that saving was mandatory for them. About 77% reported that borrowers with good record of repayment could withdraw up to 90% of their total savings as need arises. About 63.6% borrowers knew that some return was given on their savings, but 27.7% of them did not know of any benefit given to their savings. It is desirable that microcredit has a flexible system of savings and loan repayment so that those with uncertain incomes can also participate.

Push for Loan and Multiple Loans

MCIs generally push borrowers to take loans. They even push for taking multiple loans. About 52% borrowers reported that MCIs created a kind of pressure on them to take credit, and 37.5% reported that MCIs influenced them to take multiple credits from different MCIs. Borrowers are allowed

to take credit anytime by fulfilling the required criteria. Usually they cannot simultaneously take more than one loan from the same MCI. But they can take more loans simultaneously from different branches of same MCI or from different MCIs. Moreover, in the middle of the repayment cycle a loan may be revised and adjusted for a fresh loan for one year. As mentioned earlier, MCIs in fact encourage borrowers for multiple loans. PKSf is also aware of this aggressive approach of the MCIs for additional clients. As a result, while calculating the effective number of borrowers, it discounts the number by 40% to avoid multiple counting (PKSF, 2006).

Supervision or Monitoring of Credit

Proper and close monitoring of the business activities of the borrowers is important for the sustainability of their businesses. This feature is included in the microcredit system. Whenever borrowers apply for credit, they need to mention a field of economic activity in which the credit will be invested. About 88% of the borrowers report that they had to mention the business field in which the credit would be used. But unfortunately 44% of borrowers did not invest the credit in the proposed field. That may indicate that MCIs do not insist on the use of the credit on the stated business field and are not interested in monitoring the business activities of their clients. As a result 14.6% borrowers used the entire credit for consumption or emergency purposes. Another 27.4% borrowers believed that some borrowers also used the loan money for short term lending to others at higher interest rate. It may not be unreasonable to believe that MCIs also do not monitor their clients in respect of observing social principles of microcredit like, for example, the 16 decisions of Grameen Bank:

- * We shall follow and advance the four principles of Grameen Bank - discipline, unity, courage and hard work - in all walks of our lives.
- * Prosperity we shall bring to our families.
- * We shall not live in dilapidated houses. We shall repair our houses and work towards constructing new houses at the earliest.
- * We shall grow vegetables all the year round. We shall eat plenty of them and sell the surplus.
- * During the plantation seasons, we shall plant as many seedlings as possible.
- * We shall plan to keep our families small. We shall minimize our expenditures. We shall look after our health.
- * We shall educate our children and ensure that they can earn to pay for their education.
- * We shall always keep our children and the environment clean.
- * We shall build and use pit-latrines.
- * We shall drink water from tubewells. If it is not available, we shall boil water or use alum.
- * We shall not take any dowry at our sons' weddings, neither shall we give any dowry at our daughters' wedding. We shall keep our center free from the curse of dowry. We shall not practice child marriage.
- * We shall not inflict any injustice on anyone, neither shall we allow anyone to do so.

- * We shall collectively undertake bigger investments for higher incomes.
- * We shall always be ready to help each other. If anyone is in difficulty, we shall all help him or her.
- * If we come to know of any breach of discipline in any center, we shall all go there and help restore discipline.
- * We shall take part in all social activities collectively.

About 49% borrowers reported that MCIs initially told them about these principles but did not monitor and insist on the adherence to these principles. About 47% reported that MCIs did not even tell them anything about the social principles of microcredit.

Training and Business Guidelines

Training on business management and guidelines for exploring business opportunities are essential for the transformation of subsistent economic activities to microenterprises. Several MCIs claim that they provide skill and business training to their borrowers. In reality the picture is completely different. About 92.1% borrowers reported that they never got any training or business related suggestion or information from the MCIs. They were given the training only in respect of credit collection and repayment system. Generally the field employees of MCIs are not so experienced to council on the borrowers' business and social issues. MCIs give the field employees training only on microcredit system, not on borrowers' business issues or markets. Therefore, beyond the task of microcredit disbursement and collection, they are not concerned about the borrowers. This is supported by the findings of Ahmad (2007) that only 11.9% clients received some kind of training related to their businesses. About 70.3% borrowers in the present study reported that the MCI field officers did not give them any kind of suggestions on their businesses or even on any social or personal issues.

Need for Flexibility in Loan Size and Disbursement Timing

Under the currently practiced system, microcredit institutions are not flexible in terms of granting credit according to borrowers' business investment needs. They stick to their set amount. Due to inflexibility of credit size, borrowers have to take a fixed amount of loan from microcredit lenders even though a large portion of the loan amount may remain unutilized. Whereas at times, the credit received may fall short of the need. About 29% of the borrowers could not use the entire loan amount at the start of their business operations (Table 3.1). On the other hand, to start the business operation, about 28% of the borrowers had to top-up the credit fund with personal fund or another borrowed fund from some other MCI. On top of that, about 21% of the borrowers are found to have invested additional fund during the year, similarly either from personal source or from credits obtained from other microcredit providers. It is also found that about 28% of them received multiple loans (2-3 or more loans) from 2-3 or more microcredit institutions to meet their credit needs (Table 3.2). However, it is also found that about 30% of borrowers could utilize only a part of the borrowed amount for the purpose for which it was borrowed.

Unutilized amount at hand is eventually spent for unproductive purposes like consumption, etc., to unnecessarily bear the burden of high cost of interest.

Table 3.1: Borrowers by utilization of their microcredit and own funds (frequency)

Heads of Uses of Credit Fund	At the Starting of the Operation	Additional Investment during the Year*
Consumption [^]	82 (14.8%) -	
Investment- Part Amount	162 (29.2%) 37	(6.7%)
Investment- Full Amount	156 (28.1%) 46	(8.3%)
Investment- Full Credit Amount and Additional Amounts*	155 (27.9%) 36	(6.5%)
Total	555 (100%)	119 (21.4%)
Full-year equivalent total investment per credit investor: TK16,424		

[^] 1 full credit cash holding borrower is included in this category .

* Additional investment supplied from personal fund and/or additional borrowing from other lending organizations.

Source: Appendix 2, Table 3

Table 3.2: Borrowers by number of concurrent loans

No. of Loans	Frequency
1	398 (71.7%)
2	126 (22.7%)
3 and More	31 (5.6%)
Total	555 (100%)

Source: Field data

For 75.2% of the investing borrowers, the average amount of total (adjusted) investment is found to be up to TK20,000 (Table 3.3). However, 69.4% of the respondents report that they needed credit up to TK20,000 for investment (Table 3.4). But for the large majority (69.2%) of the investing borrowers the actual loan received fell short of the desired size of up to TK15,000; the current size of the credit is found enough or more for only 10.3% of these borrowers (Table 3.5). This indicates that there is a need for flexibility of loan amount for different categories of borrowers to meet their investment needs.

In 2002, Sharma mentioned that entrepreneurs found the current amount of microcredit as very inadequate capital to initiate any reasonable business or expand a business. The size of fund required for start-up of a business is chiefly determined by the nature of the business, local business situation, structure of enterprise, as well as by their personal traits such as educational and

Table 3.3: Borrowers by actual credit and investment sizes (frequency)

Amount Ranges (TK)	Microcredit Loan Investment	Beginning Personal Investment	Within the Period Personal Investment	Total Investment*	Adjusted Investment **
Up to 5000	102	67	47	60	60
5001-10000	191	29	41	145	153
10001-15000	74	16	5	87	90
15001- 20000	52	13	4	49	53
20001-25000	16	5	-	34	30
25001-30000	12	5	-	30	25
30001-35000	7	3	1	13	11
35001-40000	4	3	1	10	11
40001-45000	3	2	-	9	6
45001-50000	2	-	-	10	8
50000-100000	7	11	-	17	17
100001-200000	2	2	-	8	8
200001-300000	1	-	-	1	1
300001-400000	-	-	-	-	-
400001-500000	-	-	-	-	-
Total	473 [^]	156	99	473	473

* Calculated as summation of microcredit loan investment, beginning personal investment and within the period personal investment.

** Calculated as summation of microcredit loan investment, beginning personal investment, and half of within the period personal investment.

[^] 81 full credit consumption cases and 1 full credit cash holding borrower are excluded from total 555 borrowers (555-81-1= 473).

Source: Field data

Table 3.4: Borrowers by investment and desired credit size (frequency)

Ranges of Amounts (TK)	Adjusted Investment Size*	Desired Credit Size
0- 5000	60 (12.7%)	15 (3.2%)
5001-10000	153 (32.3%)	113 (23.9%)
10001-15000	90 (19.0%)	64 (13.5%)
15001- 20000	53 (11.2%)	136 (28.8%)
20001-25000	30 (6.3%)	15 (3.2%)
25001-30000	25 (5.3%)	24 (5.1%)
30001-35000	11 (2.3%)	-
35001-40000	11 (2.3%)	6 (1.3%)
40001-45000	6 (1.3%)	-
45001-50000	8 (1.7%)	44 (9.3%)
50000-100000	17 (3.6%)	17 (3.6%)
10000+	9 (1.9%)	11 (2.3%)
Not Sure	-	28 (5.9%)
Total [^]	473 (100%)	473 (100%)

^ 81 full credit consumption cases and 1 full credit cash holding borrower are excluded from total 555 borrowers ($555-81-1=473$).

* This is full year equivalent investment calculated as summation of microcredit loan investment, beginning personal investment, and half of within the period personal investment.

Source: Appendix 2, Table 4

income levels. All of these factors can create varying financial needs. The MCIs are currently largely ignoring this dimension of credit needs for various microenterprises. They stick to a fixed size of credit for all borrowers.

Microcredit lenders disburse the full amount of credit at-a-time to the borrowers irrespective of the fact that in most cases the entire amount is not required at the start of the economic operation. Like, for example, in agricultural and livestock activities the investments are needed in phases. However, 91% of the borrowers prefer to receive the loan amount at a time, even though as seen from Table 3.1, 29% borrowers were not able to use the entire amount at the start of their business operations.

Table 3.5: Borrowers by gap between actual and desired credit (on single loan basis), and average investment size (TK)

Gap Between Actual and Desired Credit	Average of the Gap	No. of Credit	Average Size of the Credit	Average Size of desired Credit	Average Adjusted Total Inves.	Frequency of Borrowers
Over Received	5,860	1.357	15,753	9,893	18,173	28 (6.3%)
Same	-	1.0	21,111	21,111	22,074	18 (4.0%)
Short Up to 5000	-3,553	1.212	8,939	12,492	12,168	132 (29.7%)
5001 - Up to 10000	-8,070	1.350	9,269	17,340	15,766	103 (23.1%)
10001 - Up to 15000	-12,808	1.507	9,418	22,226	16,032	73 (16.4%)
15001 - Up to 20000	-18,100	1.467	15,233	33,333	25,533	15 (3.4%)
20001 - Up to 30000	-25,880	1.500	16,343	42,222	41,878	18 (4.0%)
30001 - Up to 40000	-37,710	1.619	14,194	51,905	33,524	21 (4.7%)
40001 - Up to 50000	-43,548	1.500	6,452	50,000	33,229	14 (3.1%)
Above 50000	-144,428	1.609	20,355	164,783	59,408	23 (5.2%)
Total						445 (100%)*

* 81 full credit consumption cases and 1 full credit cash holding borrower, and 28 no definite response cases are excluded from total 555 borrowers ($555-81-1-28=445$).

Source: Appendix 2, Table 5

Loan Repayment and Borrowers' Business Return Cycle

Microcredit lenders start collecting the repayment installments from the subsequent week of loan disbursement. It is nearly impossible to generate significant return within a week after initiating an investment in many kinds of economic operations like agricultural and livestock activities. Business return cycles for different activities are different. It may be true that for most of the microbusiness operations the cycle could be as short as

a day or a week, but for the remaining operations it could be longer. Only about 69% of the operations under study were found to be able to generate daily or weekly returns; and the remaining 31% operations were found to have the business return cycle of more than one week (Table 3.6).

Table 3.6: Borrowers by business return cycle of economic operations (frequency)

Cycle	All Borrowers	Microenterprise Borrowers
Daily	322 (61.9%)	64 (81%)
Weekly	38 (7.3%)	2 (2.5%)
Fortnightly	2 (0.4%)	1 (1.3%)
Monthly	22 (4.0%)	4 (5.1%)
Quarterly	10 (1.8%)	1 (1.3%)
Half Yearly	62 (11.2%)	4 (5.1%)
Yearly	64 (11.5%)	3 (3.8%)
Total*	520 (100%)	79 (100%)

* 81 full credit consumption cases, 1 full credit cash holding borrower, and 47 multiple investment cases make a total of 520 (555-81-1+47) observations. Including 14 multiple investment cases, total microenterprise business activities are 79 (65+14)

Source: Appendix 5, Table 1

These 31% borrowers face problems to timely pay the repayment installments. More particularly this seems to be the case for the first installment. They have to rely on other sources of their income to repay the loan installments. When they enter the vicious cycle of credit, they often take loan from other MCIs to repay the installment of the current loan. About 11% of the borrowers reported that they faced this kind of problem. Previous researchers found that most of the borrowers were unable to pay the repayment installments from the income generated by investment of the credit; they paid their installments by arranging funds through another credit or selling their domestic animals, trees, etc. under the pressure of the lenders (Ahsan and Rahaman, 2006).

Microcredit actually is not found economically so profitable for the borrowers. Its high recovery rate is certainly not because of its high productivity. It is in fact because of the blind eyes of the lenders to the sufferings of the borrowers and the harsh methods applied in extracting the repayments. There is a rude story behind the successful loan recovery rate. According to 72% of the borrowers, the field officers of the lending institutions usually create serious problem if instalments are not paid on due date. They use the technique of group pressure by not accepting payment of instalments from the group unless instalments from all the members are included. They create pressure for repayment of the

instalments in many other ways. At times they insult, misbehave, and even physically torture or take away the cattle or household properties of the defaulting group members. However, according to 46% of the respondents, in certain situations like natural disaster (flood, cyclone, etc.) or death of the borrowers, MCIs generally grant some rebate on the instalment amount.

CHAPTER 4

ECONOMICS OF MICROCREDIT BORROWING

Amount of capital required to start a small economic operation depends on the type of the operation. Therefore, in some cases the microcredit amount may be enough for the start up of the operation; in some cases additional amount is required to start or at the later stage of the business. In such cases the investors have to top up the capital from their own resources or by taking one or more loans from other microcredit lending institutions. In some other cases the entire credit amount may not be required or used at the start of the operations. In such cases the borrowers often use the unused amount for nonproductive purposes.

Utilization of Credit Fund and Structure of Borrowers' Investments

It is found that about 15% of the borrowers under study used the fund entirely for consumption (non-productive) purposes and the remaining borrowers used the entire or part of the credit fund for productive purposes. About 56% of them have used the entire amount and about 29% used only part of the amount of credit in productive operations (Table 3.1). About 28% of all the borrowers required to top-up the loan fund with personal fund or another loan from other microcredit lender to start the business. On top of that about 21% of all the borrowers had to invest additional fund during the year either from personal source or from credits obtained from other microcredit providers.

Required Size of Credit and Need for Multiple Credits

Survey results show that 75% of the investing borrowers had total investments (borrowed and own funds) up to TK20,000 each (Table 3.4). On the other hand, over two-thirds (i.e. 69%) of them reported that they needed credit up to TK20,000 each. Therefore, it reveals that many borrowers needed more capital for effective operation of their economic enterprises. To find the required additional fund the borrowers generally rely on their personal source or other microcredit lending institutions. As mentioned earlier a borrower can take loans simultaneously from different MCIs or from different branches of the same MCI.

Economic Productivity of Microcredit

Interest rates charged for microcredit by the Grameen Bank and other MCIs in Bangladesh are extremely high - as high as 25-65% (Third Sector, 2004), while the formal banking sector charges 10-12 % interest for the small and cottage sector. However the effective rates of profit charged by the Islamic microcredit institutions do not exceed 20%. Grameen Bank reportedly charges interest at 22.45 percent. However, as the repayment is made by weekly installments, its effective interest rate comes to 30.5% (Ahmad, 2007). The lenders argue that microcredit delivery and supervision cost is very high, and such a high interest rate charge is

required to cover the high cost. They also claim that the high rate of growth of the borrowers at this high interest rate indicates that the microcredit is highly productive and profitable for the borrowers. It is, therefore, not difficult for the borrowers to pay this high interest. Whereas one research work found that the exorbitantly high rate of interest charged by the loan providers, are in fact pushing the borrowers to sell their labor at or below subsistence rate of wage (Molla et al., 2008). When analyzing the benefits of the borrowers and effectiveness of the microcredit programs in developing countries, the lenders take resort to calculation of accounting-profit of borrowers' business enterprises and ignore the implicit costs under the plea that the opportunity cost of labor is near zero in these countries. This plea is certainly not tenable even under a less than full-employment assumption. It will, in fact, amount to going back to the concept of distressed selling of labor (much like slave labor) of the medieval age and making microcredit a self-defeating strategy for poverty alleviation (Molla and Alam, 2007). Therefore, interest rate for microcredit should be consistent with its true productivity which should be measured taking into consideration all the implicit costs. This study, therefore, applies the economic-profit rather than accounting-profit counting approach for measuring the productivity of microcredit investments by the borrowers.

Revenue and net worth of microcredit investment

The average of full year equivalent investment of the borrowers under study amounts to TK16,424; and microcredit constitutes 81% it. The average net worth (or surplus) of this investment is found to be TK52,282 if accounting-profit counting approach is applied and this necessarily yields average annual rate of return on investment (ROI) as 430% (Table 4.1). But if we apply economic-profit counting method and impute a minimum labor cost for borrowers' self-employment, the rate of return on investment (ROI) is reduced to 254%, and this rate declines to 28% if market rate of labor cost is applied for self-employment or family labor. But behind this scenario of the average returns lies the truth of the deplorable situation. When minimum cost for family labor is charged the ROI for 7.6% of the borrowers become negative and when it is done at market wage rate the ROI for 48.2% of the borrowers become negative (Table 4.2).

It, therefore, suggests that for about 48% of the borrowers microcredit investment is not productive to generate enough revenue for any interest payment if the market rates of wages is charged for self-employment / family labor; but it is unproductive only for about 8% of them if minimum wage is charged for family labor. Therefore, it appears that many (as many as 48%) of the borrowers' self-employed labor (family labor) wages are compromised to find microcredit productive to command high interest payment for the lenders. If minimum wages is paid for the family labor as many as 75% of the borrowers will have annual rate of net return on investment enough for payment of interest at the rate of above 60%. Whereas, if market rate of wages is paid for them only 34% of them will have enough return on investment to pay that high rate of interest. It may

Table 4.1: Return and net worth of microcredit investments

Net Worth and Return on Investment	Before Paying Family Labor and Interest	After Paying Family Labor at Minimum Wage Rate*, But Before Paying Interest	After Paying Family Labor at Market Wage Rate^, but Before Paying Interest
Average of Borrowers' Net Worth or Surplus(TK)	52,282	33,654	9,341
Average of Borrowers' Investment (TK)**	16,424	16,424	16,424
Average of Borrowers' ROI (%)	430%	254%	28%

* Minimum labor cost per hour: man @ TK8, woman @ TK5.

^ Standard average labor cost per hour at market rate: man @ TK17.8, woman @ TK12.4.

** Average based on the sum of total adjusted investment of all individual investing borrowers.

Source: Appendix 5, Table 2

Table 4.2: Borrowers by interest payment capability from business returns (frequency)

Rate of Return on Investment (ROI)	Ability After Paying Family Labor @ Minimum Wage Rate*	Ability After Paying Family Labor @ Market Wage Rate^
Negative	36 (7.6%)	228 (48.2%)
Above 0 and up to 10 24	(5.1%)	25 (5.3%)
Above 10 and up to 25 15	(3.2%)	25 (5.3%)
Above 25 and up to 40 20	(4.2%)	15 (3.2%)
Above 40 and up to 60 23	(4.9%)	20 (4.2%)
Above 60	355 (75.1%)	160 (33.8%)
Total**	473 (100%)	473 (100%)

* Minimum labor cost per hour: man @ TK8, woman @ TK5

^ Standard average labor cost per hour at market rate: man @ TK17.8, woman @ TK12.4.

** 81 full credit consumption cases and 1 full credit cash holding borrower are excluded from total 555 borrowers (555-81-1= 473).

Source: Annexure 5, Table 3

be noted that the groups of 48% and more particularly the 8% borrowers are the critical groups whose family labor wages are being seriously

compromised to make it possible to pay high interest and make microcredit credible in the eyes of the society even at that high rate of interest charges. Thus the harsh criticism against the high interest rate of microcredit is very much real. This needs to be addressed and solved urgently. Because of the fact that these poor borrowers deal with very low-return economic opportunities, it is unreasonable to believe that they can pay such a high interest. It is important to note that the group (8% borrowers), which has negative return, and the group (48% borrowers), which is deprived from the market rate of wages for self-employment, remain vulnerable to default credit repayments. As a result 22.9% borrowers report that they could not pay their repayment installments from the income of microcredit invested businesses. As an economic institution, therefore, microcredit is found far less productive than claimed.

It is most satisfying to note that the Bangladesh Microcredit Regulatory Authority (MRA) recently set the upper limit of microcredit interest rate at 27% by declining balance method, effective from July 2011 (Baide, 2010).

Econometric measurements of productivity

Using the Cobb-Douglas type production function (Equation-1), an econometric analysis of the productivity of labor and microcredit also suggests that labor is relatively more productive than microcredit under both the assumptions that in subsistent enterprises a) male and female labors are equally productive, b) female labor is relatively less productive and commands a lower wage rate. A 1% increase in labor hour or labor cost increases the net-worth by 0.54% or 0.49%, and 1% increase in microcredit investment increases the net-worth by 0.44% or 0.46% (Table 4.3). It is also found that the subsistent enterprises have reached the stage of decreasing return to scale supporting the fact that microcredit is primarily a program of poverty alleviation with very limited scope to be used as a growth generating tool.

Table 4.3: Statistical result of microcredit and labor productivity

Measurement	Variable	Coefficient (a, B)	Elasticity	Return to Scale	P value	R2	Sample Size
Labor in Hour ^a	O	-1186.80			0.65	524 ^c	524 ^c
	K	1.13*	0.44	0.98	.000	0.53 [^]	
	L	12.42*	0.54	(decreasing)	.000		
Labor in value (General) ^b	O	2146.01			0.41		
	K	1.18*	0.46	0.95	.000	0.507 [^]	
	L	0.57*	0.49	(decreasing)	.000		

* Denotes significant at 1% significance level.

[^] In analyzing cross-sectional data R2 value of 0.53 or 0.51 is considered acceptable.

^c Includes 51 borrowers who have invested in multiple business activities (473 + 51 = 524 samples).

^a Under the assumption that there is no difference between male and female labor in terms of productivity.

b Labor hours weighted by market established standard wage rates for male and female reflecting the society's perception that female labor is relatively less productive to command a lower wage rate.

Limited Scope for Promoting Microenterprises

Initially, decades ago, microcredit was thought to be a growth generating tool in the pursuit of rural development. But now it is regarded basically as a tool for poverty alleviation. It is aimed at creating self-employment opportunities primarily for the poor female clients according to their individual survival skills. Accordingly a stereotyped delivery system is designed and used for promoting and supporting the survival and subsistent level economic activities of these clients. Survey results suggest that to the extent that the activities are only at survival and subsistent level this standardized system is generally working. However, since the individual survival skills are different for different borrowers and they are pursuing different activities requiring credit supports differently, this stereotyped system may not be so effective for all the borrowers. This is particularly true for the microeconomic enterprises which are growth yielding small business like beyond subsistent level economic operations. This kind of operations has a different nature of credit needs. Survey result shows that 11.7% of the microcredit borrowers belong to this kind of potential or growing microentrepreneurs. It also shows that microcredit's standardized delivery system, particularly in respect of gender preference, loan size, loan disbursement and repayment schedules, is highly inadequate and limiting factor for effectively serving and promoting the microenterprises which require a more flexible credit package. It, therefore, suggests that a methodological modification is necessary to accommodate flexibility in microcredit delivery system to be able to work for microenterprises as well. For promoting this kind of enterprises, its attachment to and preference for female clients must be relaxed. In fact, in the context of Bangladesh society, male entrepreneurs should be preferred in these businesses like enterprises. In business like economic activities generally women are not found culturally and traditionally effective entrepreneurs and credit users in Bangladesh. Social customs and religious traditions do not encourage and respect women in such business like economic activities. As a result, in most cases the women collect the credit as borrowers (since the credit providing institutions prefer to grant credit to women) but generally the male members of their families make the decisions and use the credit fund. That is why from the survey it is found that only 10.6% of the women borrowers have actually used the credit by themselves. In more than 86% cases the male members of their families operate the loan fund, as can be seen from Table 5.4 in Chapter 5.

A variety of reasons have been mentioned by the respondents (women borrowers) for their dependence on men for economic operations. The most frequently reported ones are: a) inability and lack of skill of the women borrowers in doing business like outside-home activities, b) more

and better investment opportunities in man relevant activities, c) male dominated family structure where male members maintain and control family, d) social environment and custom where business activities are considered to be men's job, and e) women are not expected and respected in the domain of men's activities (business like activities). Therefore the preference for women as clients for credit is found as a strong methodological limitation of the microcredit delivery system for promoting microenterprises.

The need for a separate credit package for microenterprises was recognized by Islami Bank Bangladesh Ltd. (IBBL) for lending credit from TK50,000 - 300,000 to the so called 'graduated clients' at a charge of the same rate of profit. But its outreach is very limited. Similarly the Grameen bank felt its need and Grameen Fund (2010) undertook a separate project for providing loans to microenterprises, but under very restricted conditions. Unfortunately, because of these restricting conditions it has turned out to be almost like a traditional commercial loan scheme. Thus, most of the potential microenterprises are not able to enjoy the services and benefits of that loan program. Therefore, there is a need for a methodologically modified more flexible microcredit scheme for effectively serving and promoting the microenterprises in the country. The borrowers have high regard for microcredit and its providers. They respect it both as a strategy for economic survival and social empowerment. With this high social respect it is believed to have a scope to be successfully used also as a growth generating tool particularly in the pursuit of rural development in the country.

However, too much deviation from the stereo-type delivery system will dilute the main objective of the program and even make it more demanding and difficult for management. Too much spread of the focus may lead to loss of sharpness and efficiency, at the end, in achieving the goals in either of the activities. Different sizes of loan for different members of the group will make joint liability not workable. For any kind of reform in the delivery system of the microcredit program, these problems have to be kept in mind. We feel that under the circumstances, it will be prudent to have separate programs as 'growth-leading credit model', either by the same MCIs or other specialized agencies, designed specifically for promoting and serving the microenterprises, without diluting the 'self-employment generating microcredit model' for poverty alleviation.

SOCIAL PRODUCTIVITY OF MICROCREDIT

Social Assistances and Services Provided by Microcredit Lenders

Microcredit is not only an economic institution but also a social institution. MCIs incorporate in their models some social betterment schemes. But rarely they implement these schemes. Only a few of the respondents have reported that some MCIs occasionally provided some social services like child vaccination, children education, health care services, family planning services, maternity services, birth registration, and awareness services on voting rights, early marriage and dowry, etc. (Table 5.1).

Table 5.1: Social services provided by MCIs: reported by borrowers

Different Social Activities	Frequency of the Borrowers
Child Vaccination	61 (11.0%)
Child Education	23 (4.1%)
Health Care	7 (1.3%)
Treatments	3 (0.5%)
Family Planning	11 (2.0%)
<i>Awareness Campaign:</i>	
Voting for Election	13 (2.3%)
Birth Registration	12 (2.2%)
Early Marriage & Dowry	19 (3.4%)

Source: Field data

Job Creation

A fundamentally important claimed role of microcredit is job creation through generation of self-employment. This study finds that for each TK1,000 microcredit invested for a year a 31.7-mandays of job was created (Table 5.2). In other words, for creation of a full-time annual self-employed job (310 labor-days of actual work in a year) it required an investment of nearly TK10,000 microcredit fund for a year. Though, in an earlier (pilot) study this was found to be TK12,000 (Molla et.al, 2008). It would be certainly interesting and desirable to study the job creation ability of other types of investments in the country. But we leave it for the future researchers to address it.

Table 5.2: Job creation per TK1,000 microcredit investment for a year

Types of Labor	Labor Hours	Labor Days**
Average Job Creation for Man	200.77	28.68
Average Job Creation for Woman [^]	25.06	3.58
Total Job Creation*	221.88	31.70

** Full labor day is considered as 7 working hours per day.

[^] Average job hours that women spent for the microcredit investment activates are considered. Women spent approximately 50 hours annually for receiving and paying credit which is not included here.

* Average of individual's total.

Source: Appendix 5, Table 4

Household Economic Wellbeing

Yunus (1993) sees microcredit program as an effective tool for enhancing income of the poor through promotion of various self-employed informal economic activities. The World Bank study on the impacts of the microcredit program of the Grameen Bank indicates that access to credit by the poor has increased self-employment and rural wage (Pitt and Khandker, 1996). This has brought desirable impacts in terms of employment and production especially for women in the non-farm sector (Khandker, 1998). BIDS study on rural poverty in Bangladesh shows that microcredit recipients have higher rate of growth in per capita income compared to non-recipients (Rahman et al., 1996). Microcredit, therefore, has brought large growth in non-farm income at the village level which has led to total income gain. Other studies also find that microcredit has positive impact on household well-being (Mustafa et al., 1996). A number of studies were undertaken on the impact of income generating microcredit programs. Most of the evaluation reports indicate that there was a positive impact on household outcomes like employment, health and nutrition (Baden et al., 1994; Pitt and Khandker, 1996).

Table 5.3: Borrowers' views on contributions of microcredit to household wellbeing (frequency)

Issues	All Borrowers*	Microenterprise Borrowers*
It brought positive change in financial conditions	480 (86.5%)	57 (87.7%)
Acquisition of Assets from returns of microcredit investment	324 (58.4%)	37 (56.9%)
Need for repeated credit :		
To achieve economic sustenance and stability	309 (55.6%)	38 (58.5%)
To increase standard of living and acquire Assets	152 (27.3%)	20 (30.8%)
To meet emergencies	95 (17.1%)	7 (10.8%)
Savings from microcredit investment	242 (43.6%)	36 (55.4%)
Additional numbers of credits required for economic sustainability :		
0 time	11 (2.0%)	1 (1.5%)
1-3 times	166 (29.9%)	23 (35.4%)
4-6 times	120 (21.6%)	11 (16.9%)
7-9 times	79 (14.2%)	7 (10.8%)
10-12 times	63 (11.3%)	3 (4.6%)
More than 12 Times	20 (3.6%)	-

* The remaining borrowers had no definite response.

Source: Field data

In the present survey, about 86.5% of all borrowers reported that they achieved economic improvements after receiving the microcredit (Table 5.3). But this economic improvement is not necessarily due to economic productivity of microcredit itself; it is, in fact, mostly due to its role as a facilitator for self-employment opportunities and other socio-economic wellbeing. It therefore means that for most of the borrowers credit, either from MCIs/IMCIs or from traditional moneylenders and other sources, is a necessary factor for their economic improvements through creation of self-employment. 55.6% borrowers reported that they borrowed repeatedly for sustenance. The rest reported that they did it for acquiring asset - television, house, building furniture, fan, mobile phone, tube-well, etc. - or for meeting emergencies and social obligations, like food, education, sanitation and health care (improved latrine facilities), and social requirements like marriage of daughter, loan repayments, etc. About 43.6% of all borrowers and 55.4% of microenterprises reported that they made savings from the net revenue of their economic operations. About 30% of all the borrowers and 35.4% of microenterprise borrowers believe that after 1-3 more loans they will not require credit any further. This may mean that microcredit is a very effective facilitator for socio-economic betterment of borrowers, even when its economic productivity is not found so satisfactory for about 48% of the borrowers.

However, some borrowers are found taking credits more out of habit. They become habituated to taking credit; they feel like borrowing even when there is really no real reason for it. At the end they may find themselves in a vicious circle of credit.

Women Empowerment

Microcredit is known as a most significant intervention in the fight against poverty for the twenty-first century (Rahman, 1998). The thrust of the movement has been especially to engage poor women, not only to alleviate poverty but also to increase their access to resources and enhance their power in household decision-making (Sundram, 2001). The assumption is that increasing women's access to micro-finance will enable them to make a greater contribution to household income and this, together with other interventions to increase households' well-being, will bring well-being for women in the society. Offering women a source of credit has been found to be a very successful strategy for alleviating poverty. Credit facilitates creation of self-employment for them to earn additional income for their families. This also increases women's self-confidence and status within their families. Their increased income increases their families' well-being through improved health and nutrition (Goetz and Gupta, 1996). It has also been experienced by different researches that empowerment of women brings significant improvement in women's participation in household decision making, family planning, children survival rate, health and nutrition and children education especially girls' education (Steele et al., 1998). But in terms of uses and management of the credit funds, women are found to be merely the medium for obtaining the credit. In most cases their male family members actually decide and use the fund.

In this study it is found that in general only about 11% of the women borrowers used the credit by themselves (Table 5.4). In more than 86% cases actually the male members of their families decided and used the fund. But their assessment on empowerment is found mixed. About 39% claimed that their empowerment increased in the family; and about 37% felt that their empowerment level in the family did not change (Table 5.5).

Table 5.4: Users of credits borrowed by women clients

Credit Users	Frequency
Self	57 (10.6%)
Male Family Members	453 (84.4%)
Third Party	11 (2.0%)
No Response	16 (3.0%)
Total*	537 (100%)

* The male microcredit clients are excluded here - 18 cases out of 555

Source: Appendix 5, Table 5

Table 5.5: Women borrowers' assessment on their social empowerment

Assessment	Frequency
Decrease	5 (0.95%)
Increased	208 (39.39%)
Same	193 (36.55%)
No Answer	122 (23.11%)
Total Applicable Women Borrowers*	528 (100%)

* Not applicable for male borrowers (18) and the woman borrowers (9) who are alone in the family.

Source: Appendix 5, Table 6

MCIs Exerting Influences on Borrowers' Views

It is commonly believed that the MCIs in different ways influence borrowers' views and decisions on various sociopolitical issues. About half of the respondents reported that they were asked by the MCIs' field officers to support and follow their political and social opinions and actions. But, only 3.4% borrowers reported that MCIs' field officers also influenced them and gave money to vote for their chosen candidates at the time of election.

Microcredit as a More Credible Social than Economic Agenda

Interest rate for credit is expected to be consistent with the economic productivity and profitability of the credit. Moreover, as microcredit is not for business but for supporting the development agenda, its interest rate policy should be accordingly aligned. Judging from these considerations, interest rate for microcredit is found unjustifiably high for most of the borrowers. 48.2% borrowers had no ability to pay any interest, and only 38% had the ability to pay interest @ 40% and above (Table 4.2). However, it is interesting to note that about 57% of the microborrowers did not think

that microcredit interest rate is unreasonably high; only about 36% thought otherwise (Table 5.6).

Table 5.6: Borrowers by views about microcredit and its interest rate (frequency)

Views	All Borrowers	Microenterprise Borrowers	Subsistent Borrower
Microcredit is good and not charging more interest	314 (56.6%)	38 (58.5%)	276 (56.3%)
Microcredit is good but charging more interest	186 (33.5%)	16 (24.6%)	170 (34.7%)
Microcredit is not good and charging more interest	13 (2.3%)	5 (7.7%)	8 (1.6%)
No Comments	42 (7.6%)	6 (9.2%)	36 (7.3%)
Total	555 (100%)	65 (100%)	490 (100%)

Source: Field data

This lends support to the thesis that 'microcredit is, in fact, more of a social than an economic institution' (Molla and Alam, 2011). The poor borrowers, who are about 48 percent, are willing to sacrifice and compromise their normal wages for their self-employed labor for the sake of socially and politically feeling better with institutional credit compared to the informal credit from the local moneylenders or relatives. In the first place interest charged by the moneylenders may not be less than that is charged by the microcredit providers. In addition, the poor borrowers lose a great deal of political and social rights and status in the hands of the moneylenders (Traditionally, lending money to someone, either by the money lenders or rich relatives, even at high interest rate, is considered as a favor done to the borrowers. As a result, the borrowers remain highly grateful to the lenders. This makes the borrowers become obedient and under domination of the credit lenders. They become subservient to the lenders). It appears that the borrowers give priority to the aspect of social empowerment over the economic gains. As a result, even if interests rate charged by the MFIs are higher than moneylenders' interest rates the micro borrowers will prefer to borrow from the microcredit providers. They see microcredit as a saver of their social and political rights and status. From this perspective it can be said that the institution of microcredit has promoted social and political empowerment of the poor and the distressed in the society. Therefore, they see it as a more credible social than economic program.

REFLECTION ON ISLAMIC MICROCREDIT AND ITS ECONOMIC PRODUCTIVITY

As noted earlier, the Prophet of Islam in a way took the first initiative during the medieval age to introducing microcredit system for poverty alleviation when he offered an axe to a poor man who came to him for begging help. Islam's public policy has placed utmost priority on poverty alleviation in the society. Its objective is to ensure dignity and self-reliance of individuals through a process of participatory development agenda. Microcredit is so important and vital for the Islamic view of life. Islamic microcredit system follows Islamic sharia'h to ensure credit transaction between the borrower and the lender without any involvement of interest (or *riba*), but involving sharing of return from investment of the credit. Therefore, Islamic microfinance is interest-free (profit-sharing) based, where the conventional microfinance is interest-based. These are the two operating modes available for delivering microcredit to the poor families in the society.

Though Islam is the innovator of microcredit for poverty alleviation in the society, yet the outreach of Islamic microcredit is very limited in the world. Bangladesh has the largest Islamic microcredit outreach, with over 500,000 clients and a few active credit lending institutions like Islami Bank Bangladesh Ltd. (IBBL), Muslim Aid, Al-Fallah, Ahsania Mission, and a few more. Conventional microcredit has the largest outreach with over 24 million borrowers. The Islamic microcredit, therefore, represents only 2% of the present microfinance market in the country.

In the overwhelmingly Muslim populated country Bangladesh most of the microcredit clients are Muslims. But in Islam, interest-based credit system is not an acceptable or halal economic activity. As a result, there are many microcredit clients who categorically reject interest bearing credit products. But there are others who have accepted the interest bearing credit in the absence of availability of Islamic microcredit. There are still others who do not bother if it is an Islamic or conventional credit product. Since Islamic microfinance is in limited supply, most of the microcredit borrowers in the country are now clients of the conventional microcredit system.

The Features of Islamic Microcredit

IBB Microfinance: Rural Development Scheme (RDS)

Realizing the need and importance of Sharia'h-compliant microcredit in this Muslim country, Islami Bank Bangladesh Ltd. (IBBL) has devised a "Rural Development Scheme" (RDS) with a view to creating employment opportunity for the rural population and reducing their poverty through income generation activities. The scheme was launched in 1995 as a pilot program styled after the Grameen Bank model but with the Islamic face. Its investment is based on Islamic Sharia'h principles. Its primary focus is to provide the financial access to poor people for creating opportunity of

income generation with a view to alleviating poverty in a sustainable manner (IBBL, 2009; Rahman et al., 2008). Small amount of credit / investment (initially around TK10,000) is allowed for subsistent and small scale economic operations pertaining to production, trade, and services primarily in rural sector. These activities include production of crops, off-farm income activities like service, trading, processing and manufacturing, shop keeping, peddling and rural transport like rickshaw, rickshaw-van, cart, irrigation equipment, hand tube-well, housing materials etc. In 2003 RDS introduced what can be termed as Microenterprise investment scheme to offer larger loans ranging from TK50,000 to TK3,00,000 to 'graduated clients'.

Similarity and Dissimilarity with the Conventional Microcredit

Islamic microcredit in Bangladesh, in many respects, is similar to conventional microcredit system. They are similar in respect of use of group financing as a substitute to collateral, a high concentration of women clients, concentration on the moderately poor families as the target group, strategy for women empowerment, and the primary objective as alleviation of poverty.

The most important difference is in respect of the operational mechanism of earning economic gains by the microcredit providing institutions. For the conventional system earning interest revenue is the means of economic gains. For Islamic system, sharing the return from investment of the credit fund (i.e. profit sharing) is the means of economic gains. Attitudinally, it is a business for the conventional microcredit lenders/institutions (MCIs) and a social business for the Islamic microcredit lenders/institutions (IMCIs). They also differ in respect of duration and repayment scheme of the loan. Conventional microcredit is for one year with a scheme of weekly repayment installments, but Islamic microcredit can be for more than one year and the repayment installments could be weekly or at the end of harvesting of crops.

Products

Islamic microcredit institutions at present generally offer only one or two Sharia-complaint products. The Consultative Group to Assist the Poor (CGAP) identified that over 70 percent of the products offered by IMIs are murabaha concentrating primarily on asset financing (Karim et al., 2008). But Islamic microcredit system has the scope to offer a variety of products to meet the needs of various types of clients. The following are some of the important potential sharia'h-compliant microcredit products offered by the RDS-IBB depending upon the sector and purpose of investment (Jinan, 2010):

- a. Bai-Muajjal: Under this mode bank sells goods to the client under deferred payment basis. The payment is made in lump sum or in fixed installments within a predetermined future date.
- b. Hire-Purchase Shirkatul Melk (HPSM): Under this mode bank may supply implements/equipments on rental basis. The ownership of the

equipment remains with the Bank but the client is authorized to possess the equipment for certain period.

- c. Mudaraba TR: Under this mode bank may supply capital to the mudarib (agent) for conducting business, purchase of inputs, commodities etc. to be repaid on future date. Bank and mudarib share the profit at an agreed ratio.
- d. Musharaka: Under this mode the bank extends investment on profit and loss sharing basis. The capital sharing ratio will be maximum 80:20 between Bank and the client. The profit is to be negotiated and will be determined so as to ensure minimum 12% rate of return.
- e. Bai-Salam: Under this mode bank executes advance purchase contract with the client and make payment against purchase of the product by the client.
- f. Murabaha TR: Under this sale contract bank purchases a certain commodity for the client as requested and specified by him and deliver the same to the client on payment at a pre-determined price.

Sources of Fund

RDS's funds are obtained from internal and external resources as follows (Dusuki, 2008):

1. Internal resources: Deposits and equity. (a) Deposits: Islamic microfinance can mobilise from members as well as public various forms of deposits such as wadiah (safekeeping), qard al-hassan (benevolence loan) and mudarabah (profit sharing). About 33% of RDS funds come from its members' savings. (b) Equity: It can also mobilise funds through participatory models such as musharakah and mudarabah.
2. External resources: Under the principle: 'in your wealth there is a share of the poor', Islam offers built-in mechanisms for redistribution of income and wealth and enhancement of social inclusion for ensuring minimum standard of living for all. These mechanisms include zakah, waqf (donations or gift), etc. Of these, zakah is a compulsory religious levy.

Economic Productivity

Assessments on socioeconomic productivity of microcredit so far have been done through impact studies applying analyses of changes in borrowers' family income and assets or through cost-benefit analyses using accounting-profit method, and by management efficiency and revenue analyses of the credit lending institutions. Accordingly, many studies found and reported that microcredit, and more particularly Islamic microcredit, expectedly contributed to significant increase in moderately poor borrowers' family income and expenditures, and standard of living. Microcredit is, therefore, seen as successful in achieving its primary objective of poverty alleviation and at the same time earning comparable rate of return on investments for the lending institutions. High rate of interest charges by the MFIs and profit charges by the IMFIs are, therefore, tolerated and considered acceptable.

For a credible measurement of economic productivity of microcredit or any

factor of production it requires application of economic-profit counting method. Because, for economic efficiency and moral justification the factors can be paid only according to their productivity. Accordingly, in the previous chapters productivity was calculated by the economic-profit counting method for 555 sample borrowers including 36 who borrowed credit from lenders of Islamic microcredit; and the productivity or the rate of return on investment (ROI) of microcredit for most of the borrowers was found negative or very low. In this chapter, productivity of Islamic microcredit borrowers has been separately calculated to find if it is different.

It may be noted that not all these 36 borrowers borrowed from Islamic microcredit institutions (IMCIs) out of religious commitment. Only 8 of them had their current loans entirely from Islamic IMCIs. The rest also borrowed simultaneously from conventional microcredit lending institutions (MCIs). One of these 8 borrowers used the credit fund entirely for consumption purposes. The productivity of the remaining 7 is found relatively better with rate of return on investment averaging 342% (as against 254% for all the 555 sample borrowers) when minimum wage is paid for the family labor, and 36% (as against 28% for all the 555 sample borrowers) when family labor is paid wages at market rate (Table 6.1). However, results based on so small sample size cannot be considered realistic and reliable for drawing any conclusion.

Table 6.1: Return and net worth of Islamic and all microcredit investment before paying profit or interest (cost of capital)

Borrowers	Average ROI before paying family labor	Average ROI after considering family labor at minimum wage rate	Average ROI after considering family labor at market wage rate
All borrowers	430%	254%	28%
Islamic credit borrowers	569%	342%	36%

Source: Table 4.1 and field data

Table 6.2: Estimated rate of return on investment (ROI) for RDS credit

Estimated Rate on Investment (ROI) for Islamic Microcredit	Types of Investment			All
	Agriculture	Business	Other	Category
Average Investment (TK) ^	12339	18568	30906	20604
Average Gross Return (TK) ^	15224	43418	58642	39095
Gross Return on Investment (ROI)^	23.4%	133.8%	89.7%	89.7%
Minimum Wage Rate Charges on Investment (for Family Labor)*	27.2%	111.1%	119.8%	91.6%
Market Wage Rate Charges on Investment (for Family Labor)*	65.4%	248.1%	288.8%	211.7%
Net Rate on Investment (ROI) available for interest payment after considering minimum family labor cost *	-3.8%	22.7%	-30.1%	-1.9%
Net Rate on Investment (ROI) available for interest payment after considering market family labor cost *	-42.0%	-114.2%	-199.1%	-121.9%

^ Recalculated as average of the relevant category, from Table 10 of Jinan (2010).

* Estimation is based on the labor rate calculated from the field data of the current study.

Source: Jinan, 2010 and field data

Jinan (2010) made a survey on the RDS-IBB Islamic microcredit borrowers and estimated the rate of return on investment (ROI) to be 89.7% by accounting-profit method. By treating Jinan's findings with the imputed family labor costs we have re-estimated the ROI by economic-profit counting method. It is found that the recalculated rate of return on investment (ROI) changes from 89.7% to -1.9% when minimum wage is paid to the family labor, and to -121.9% when family labor is paid wages at market rate (Table 6.2). The productivity estimates based on economic-profit counting become negative indicating that Islamic microcredit investment as well suffers from low economic productivity. This lends supports to the thesis that the subsistent and microeconomic enterprises by nature are low income earning operations with low rate of return on investment. Microcredit borrowers deal with very low-return economic opportunities and are unable to pay high interest or profit to the credit lenders. Therefore there is no economic and moral support for the MCIs to charge a high rate of interest for the credit and for the IMCIs for charging a high rate of profit for the microcredit products.

However, in addition to the religious obligation for the Muslim borrowers, the Islamic microcredit has also one great economic advantage for the poor borrowers. The effective profit rate (20%) charged by the IMCIs is as low

as two-thirds of the interest rate (30%) charged by the large MCIs (Alamgir et al., 2011).

Potentials and Prospects of the Islamic Microcredit in Bangladesh

For its religious stance Islamic microfinance has a special appeal and a great scope for integrating it with the zakah, wakf, and other kinds of sadaka (charity) for serving the hardcore poor and poverty alleviation at the lowest investment cost (cost of capital financing). Therefore, there is a great need and scope for increasing the outreach of Islamic microcredit in the country. Reportedly, Islamic Development Bank (IDB) in collaboration with some local banks has a plan to set up an Islamic Micro-finance Institution (IMFI) as a means to reduce poverty. There is also a great scope for the masjid-centred structure of microfinance program similar to the kind (Akhawat) now under experiment in Pakistan. 'Paroshi' or Neighbourhood microcredit scheme is another prospective and suggested Islamic microcredit model. Under this model the rich members of the locality could be mobilized and encouraged for mudaraba and other Islamic credit transactions with their poor neighbours and relatives.

CHAPTER 7

SUMMARY AND CONCLUSIONS

During the medieval period the Prophet of Islam, in a way, introduced microcredit as a means for poverty alleviation. Microcredit is typically a petty collateral-free credit given to groups of poor members in the society for their socioeconomic emancipation. Microcredit and NGO are the two buzzwords in Bangladesh. Non-governmental organizations (NGOs) are organizations engaged in the promotion of economic and social development typically at grass-roots level. Interest-based microcredit (conventional system) is delivered typically through the microcredit institutions (MCIs) like Grameen Bank, etc., and NGOs cum MCIs like BRAC, ASA, Proshika, etc. The interest-free based (Islamic system) microcredit is delivered by Islamic microcredit Institutions (IMCIs) like Islami Bank Bangladesh Ltd. (IBBL), Muslim Aid, Al-Fallah, Ahsania Mission, and a few more). Microcredit is claimed to be an effective tool for enhancing income of the poor through self-employed economic activities. It gained global recognition as a successful scheme for poverty alleviation. However, a surgical economic analysis by using economic-profit counting method reveals that its net economic benefit to the borrowers is at best marginal. In this survey of microcredit borrowers it is found that when self-employed family labor is paid wages at market rate, under the framework of economic-profit counting, economic productivity of credit for about 48% of all the conventional and Islamic microcredit borrowers is not enough to support payment of any interest or profit to the credit lenders. They have to compromise their normal wages for self-employed labor to be able to pay the high interest for the credit. An econometric analysis of the productivity of labor and microcredit also suggest that labor is relatively more productive than microcredit. Similarly its social productivity in terms of job creation and women's empowerment at family level is also found to be low and marginal. In terms of job creation it has a limited success. It requires investment of about TK10,000 credit fund for a year for creation of one annual full-time self-employed job. Similarly it has a very little or no success in terms of improvement of women borrowers' empowerment at the family. Even then about 90% of the borrowers prefer microcredit at so high interest rate, ostensibly to avoid compromising their socio-political rights and potentials at the hands of the local moneylenders or credit supplying relatives. They appreciate and feel comfortable with microcredit from these institutional sources (NGOs). They see microcredit as the savior of their socio-political rights and potentials and regard it as more of a credible social than economic program.

However, the microcredit program in Bangladesh has been found to be less dynamic and innovative to meet the challenges of the changing circumstances and social expectations. For it to be economically more credible and viable, and socially fulfilling there is now a demand for its

reform. Its delivery system needs to be made flexible in terms of loan size, gender biases of clients, interest or profit rate policies, and disbursement and collection methods to make it suitable for both the very poor clients who are engaged in mere subsistent level activities, and the clients who are relatively solvent and are potential microentrepreneurs to be engaged in beyond subsistence level (growth generating) economic activities. Therefore, it is high time for its reform in terms of essence, structure, methodology & operational mechanism. However, in doing so it must not lose sight of and compromise its very fundamental goal - poverty alleviation and rural development.

Because of the fact that the poor microcredit borrowers deal with very low-return economic opportunities, it is unreasonable to believe that they can pay such a high interest. Microcredit, therefore, cannot be for business; it should be regarded as a social business for supporting development agenda. Its interest or profit rate policy should be accordingly aligned. Since under the Islamic microcredit system attitudinally microcredit is a social business, it is found more amenable and prospective for the needed reforms. Currently, with an effective profit rate of 20% (and below) charged by the Islamic microcredit institutions as against the effective interest rate of 30% (and above) charged by the large conventional microcredit financing Institutions, the Islamic microcredit is found more acceptable and advantageous for the poor borrowers. However, microcredit's future success and sustainability may eventually lie on how skilful and prudent it is in innovating a separate credit package like 'growth-leading credit model' without diluting and affecting the 'self-employment generating microcredit model'

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APPENDIXES

Appendix 1: Distribution of Samples

Table 1. Distribution of samples by urban, semi-urban, and rural areas

Area	No. (%) of Samples
Urban	180 (32.4%)
Semi Urban	151 (27.2%)
Rural	224 (40.4%)
Total	555 (100%)

Table 2. Distribution of samples by districts and sub-districts

District	Sub-District	Samples No.	District	Sub-District	Samples No.
Feni	Chhagalnaiya	8	Gopalganj	Gopalganj Sadar	7
	Daganbhuiyan	2	Jhalokati	Jhalokati Sadar	11
	Fulgazi	6		Rajapur	10
	Parshuram	7	Khulna	Dacope	8
	Sonagazi	5		Khulna Sadar	19
Barguna	Amtali	11	Lakshmipur	Lakshmipur Sadar	7
	Barguna Sadar	11		Raipur	6
Barisal	Banaripara	12		Ramganj	7
	Barisal Sadar	10	Lalmonirhat	Aditmari	12
Bhola	Manpura	8		Lalmonirhat Sadar	9
Brahmanbaria	Akhaura	10	Maulvibazar	Rajnagar	14
	Brahmanbaria	11		Sreemangal	11
	Sadar		Narayanganj	Araihazar	10
	Sarail	5	Noakhali	Companiganj	5
	Chandpur Sadar	8		Senbagh	7
Chandpur	Haziganj	6	Pabna	Atgharia	9
	Shahrasti	8		Chatmohar	10
Chuadanga	Alamdanga	15		Pabna Sadar	12
	Chuadanga Sadar	11	Panchagarh	Atwari	11
	Damurhuda	10		Panchagarh Sadar	10
Comilla	Barura	2	Pirojpur	Nesarabad	5
	Chauddagram	6		Baliakandi	5
	Comilla Sadar	6	Rangpur	Kawnia	10
	South			Mithapukur	24
	Laksam	14		Rangpur Sadar	10
Dinajpur	Birganj	6	Sunamganj	Chhatak	10
	Dinajpur Sadar	13		Sunamganj Sadar	10
	Parbatipur	10	Sylhet	Beanibazar	8
Gaibandha	Gaibandha Sadar	10		Sylhet Sadar	8
Jessore	Abhaynagar	9	Tangail	Basail	4
	Chaugachha	11			
	Jessore sadar	10			
Gazipur	Kapasia	5		Total	555

Appendix 2: Economic Features of the Microcredit Borrowers (Survey Data)

Table 1. Borrowers by use of credit fund in different investment categories (frequency)

Investment Area	All Borrowers			Microenterprise Borrowers			Subsistent Borrowers		
	Primary Investment ²	Secondary Investment	Total Investment	Primary Investment	Secondary	Total	Primary	Secondary	Total
Agriculture & Forestry Product Selling Shop	60	-	60	7	3	10	53	2	55
Agriculture & Forestry Production	62	-	62	3	-	3	59	6	65
All Other Products Shop	77	9	86	18	-	18	59	5	64
Contractor	3	-	3	1	-	1	2	1	3
Financial Services ¹	2	-	2	-	0	2	2		
Food Shop	4	-	4	3	-	3	1	-	1
Livestock & Fisheries Production	72	6	78	6	- 6	66	7	73	
Livestock & Fishery Product Selling Shop	33	2	35	6	1	7	27	2	29
Peddling	2	6	8	-	2	2	2	2	4
Processing & Manufacturing	6	2	8	2	-	2	4	-	4
Renting and leasing services	34	12	46	10	6	16	24	-	24
Services	119	14	133	9	2	11	110	12	122
Grand Total	474	51	525	65	14	79	409	37	446

Table 2. Borrowers by size of current credit (frequency)

Current Loan Amount (TK)	All Borrowers	Micro-enterprise Borrowers	Subsistent Borrower
0	-	-	-
Below 5000	78 (14%)	2 (3.1%)	76 (15.5%)
5001-10000	193 (35%)	12 (18.5%)	181 (36.9%)
10001-15000	101 (18%)	13 (20.0%)	88 (18.0%)
15001-20000	84 (15%)	9 (13.8%)	75 (15.3%)
20001-30000	61 (11%)	9 (13.8%)	52 (10.6%)
30001-40000	17 (3%)	8 (12.3%)	9 (1.8%)
40001-50000	9 (2%)	1 (1.5%)	8 (1.6%)
50001-100000	9 (2%)	8 (12.3%)	1 (0.2%)
100001+	3 (1%)	3 (4.6%)	-
Total Client Count	555 (100%)	65 (100%)	490 (100%)
Average Current Amount of Credit per Client	15,342	25,086	12,969

Table 3. Borrowers by utilization of credit fund and structure of investment (frequency)

Heads of uses of credit fund	All Borrowers		Micro-enterprise Borrowers		Subsistent Borrower	
	At the Starting of the Operation	Additional Investment during the Year ³	At the Starting of the Operation	Additional Investment during the Year ³	At the Starting of the Operation during the Year ³	Additional Investment
Consumption ¹	82 (14.8%)	-	-	-	82 (16.73%)	-
Investment- Part Amount	162 (29.2%)	37 (6.7%)	13 (20.0%)	-	149 (30.41%)	37 (7.55%)
Investment- Full Amount	156 (28.1%)	46 (8.3%)	16 (24.6%)	2 (3.4%)	140 (28.57%)	46 (9.39%)
Investment- Full Credit Amount and Additional Amounts ³	155 (27.9%)	36 (6.5%)	36 (55.4%)	3 (5.2%)	119 (24.29%)	36 (7.35%)
Total	555 (100%)	119 (21.4%)	65 (100%)	5 (8.6%)	490 (100%)	119 (24.29%)

Table 4. Borrowers by investment and desired credit sizes (frequency)

Ranges of Amount (TK)	All Borrowers		Micro-enterprise Borrowers		Subsistent Borrower	
	Investment ⁴	Desired Credit	Investment ⁴	Desired Credit	Investment ⁴	Desired Credit
0- 5000	60 (12.7%)	15 (3.2%)	6 (9.2%)	1 (1.5%)	60 (14.7%)	14 (3.4%)
5001-10000	153 (32.3%)	113 (23.9%)	4 (6.2%)	5 (7.7%)	147 (36.0%)	108 (26.5%)
10001-15000	90 (19.0%)	64 (13.5%)	8 (12.3%)	3 (4.6%)	86 (21.1%)	61 (15.0%)
15001- 20000	53 (11.2%)	136 (28.8%)	4 (6.2%)	10 (15.4%)	45 (11%)	126 (30.9%)
20001-25000	30 (6.3%)	15 (3.2%)	7 (10.8%)	3 (4.6%)	26 (6.4%)	12 (2.9%)
25001-30000	25 (5.3%)	24 (5.1%)	5 (7.7%)	6 (9.2%)	18 (4.4%)	18 (4.4%)
30001-35000	11 (2.3%)	-	5 (7.7%)	-	6 (1.5%)	-
35001-40000	11 (2.3%)	6 (1.3%)	1 (1.5%)	3 (4.6%)	6 (1.5%)	3 (0.7%)
40001-45000	6 (1.3%)	-	4 (6.2%)	-	4 (1%)	-
45001-50000	8 (1.7%)	44 (9.3%)	13 (20.0%)	19 (29.2%)	5 (1.2%)	25 (6.1%)
50000-100000	17 (3.6%)	17 (3.6%)	7 (10.8%)	8 (12.3%)	4 (1%)	9 (2.2%)
10000+	9 (1.9%)	11 (2.3%)	1 (1.5%)	4 (6.2%)	1 (0.2%)	7 (1.7%)
Not Sure	-	28 (5.9%)	-	3 (4.6%)	-	25 (6.1%)
Total	473 (100%)	473 (100%)	65 (100%)	65	408 (100%)	408 (100%)

Table 5. Borrowers by gap between actual and desired credit, and average investment size

Gap Between Actual and Desired Credit	Average of the Gap	No of Credit	Average Size of the Credit	Average Size of desired Credit	Average Adjusted Total Investment	Frequency of Borrowers ⁵	Frequency of Borrowers ⁶	Frequency of Borrowers ⁷	Frequency of Borrowers ⁸
Over Received	5,860	1.357	15,753	9,893	18,173	28 (6.3%)	85 (19.1%)	9 (6.9%)	66 (50.8%)
same	-	1.000	21,111	21,111	22,074	18 (4.0%)	25 (5.6%)	-	7 (5.4%)
Up to 5000	- 3,553	1.212	8,939	12,492	12,168	132 (29.7%)	126 (28.3%)	25 (19.2%)	19 (14.6%)
5001 - Up to 10000	- 8,070	1.350	9,269	17,340	15,766	103 (23.1%)	86 (19.3%)	31 (23.8%)	14 (10.8%)
10001- Up to 15000	- 12,808	1.507	9,418	22,226	16,032	73 (16.4%)	45 (10.1%)	30 (23.1%)	2 (1.5%)
15001 - Up to 20000	- 18,100	1.467	15,233	33,333	25,533	15 (3.4%)	13 (2.9%)	6 (4.6%)	4 (3.1%)
20001 - Up to 30000	- 25,880	1.500	16,343	42,222	41,878	18 (4.0%)	20 (4.5%)	7 (5.4%)	9 (6.9%)
30001 - Up to 40000	- 37,710	1.619	14,194	51,905	33,524	21 (4.7%)	15 (3.4%)	9 (6.9%)	3 (2.3%)
40001 - Up to 50000	- 43,548	1.500	6,452	50,000	33,229	14 (3.1%)	10 (2.2%)	5 (3.8%)	-
Above 50000	- 144,428	1.609	20,355	164,783	59,408	23 (5.2%)	20 (4.5%)	8 (6.2%)	6 (4.6%)
Total ⁹						445 (100%)	445 (100%)	445 (100%)	445 (100%)

Notes:

- 1 full credit cash holding borrower is included in this category.
- 81 full credit consumption cases are excluded from total 555 borrowers.
- Additional investment supplied from personal fund and/or additional borrowing from other lending organizations.
- Calculated as summation of Microcredit Loan Investment, Beginning Personal Investment, and half of Within the Period Personal Investment.
- Borrowers distribution by gap between actual average single credit and desired credit that calculated on single loan .
- Borrowers distribution by gap between actual total credit and desired credit that calculate on total loan taken from several lenders.
- Borrowers distribution by gap between actual average single credit and desired credit only for multiple loan borrowers.
- Borrowers distribution by gap between actual total credit and desire credit only for multiple loan borrowers.
- 81 full credit consumption cases, 1 full credit cash holding borrower, and 28 no definite response cases are excluded from total 555 borrowers (555-81-1-28= 445).

Appendix 3: Data Analysis for Measuring Economic Productivity of Microcredit (Survey Data)

Table 1. All borrowers by economic productivity of micro investment (frequency)

Amount Ranges (TK)	Total cost / Investment	Adjusted Cost / Investment	Total Worth at the end of year	Minimum Labor Cost ¹	General Labor Cost ²	Gross Return After Paying All Cost other than Own Labor and Interest Costs	Gross Return after Paying Own Labor Cost at Minimum Wage Rate	Gross Return after Paying Own Labor Cost at Market Wage Rate
-100001 to -200000	-	-	-	-	-	-	-	1
-50000 to -100000	-	-	-	-	-	1	1	14
-45001 to -50000	-	-	1	-	-	-	-	8
-40001 to -45000	-	-	-	-	-	-	-	7
-35001 to -40000	-	-	-	-	-	-	1	7
-30001 to -35000	-	-	-	-	-	1	3	11
-25001 to -30000	-	-	-	-	-	1	-	11
-20001 to -25000	-	-	1	-	-	1	1	10
-15001 to -20000	-	-	-	-	-	1	-	24
-10001 to -15000	-	-	-	-	-	1	1	32
-5001 to -10000	-	-	-	-	-	-	7	42
-251 to -5000	-	-	-	-	-	3	20	56
-1 to -250	-	-	-	-	-	-	2	5
0	82	82	83	-	-	1	-	-
Below 5000	61	61	1	128	29	38	58	62
5001-10000	144	152	19	52	80	25	41	30
10001-15000	86	89	22	20	41	31	54	26
15001-20000	49	53	28	32	20	23	44	15
20001-25000	35	31	22	105	11	26	37	21
25001-30000	30	25	26	33	11	24	31	16
30001-35000	13	11	17	76	15	22	36	11
35001-40000	10	11	23	8	19	34	23	2
40001-45000	9	6	47	1	24	31	19	9
45001-50000	10	8	29	2	27	31	15	5
50000-100000	17	17	154	16	177	131	41	26
100001-200000	8	8	62	-	18	34	27	15
200001-300000	1	1	7	-	1	8	8	4
300001-400000	-	-	9	-	-	4	3	3
400001-500000	-	-	2	-	-	1	-	-
500000-1000000	-	-	2	-	-	-	-	-
Total	555	555	555	473	473	473	473	473

Table 2. Microenterprise borrowers by economic productivity of micro investment (frequency)

Amount Ranges (TK)	Total cost / Investment	Adjusted Cost / Investment	Total Worth at the end of year	Minimum Labor Cost ¹	General Labor Cost ²	Gross Return After Paying All Cost other than Own Labor and Interest Costs	Gross Return after Paying Own Labor Cost at Minimum Wage Rate	Gross Return after Paying Own Labor Cost at Market Wage Rate
-100001 to -200000	-	-	-	-	-	-	-	1
-50000 to -100000	-	-	-	-	-	-	-	2
-45001 to -50000	-	-	-	-	-	-	-	-
-40001 to -45000	-	-	-	-	-	-	-	-
-35001 to -40000	-	-	-	-	-	-	1	-
-30001 to -35000	-	-	-	-	-	-	-	1
-25001 to -30000	-	-	-	-	-	-	-	4
-20001 to -25000	-	-	-	-	-	1	1	1
-15001 to -20000	-	-	-	-	-	1	-	2
-10001 to -15000	-	-	-	-	-	-	-	1
-5001 to -10000	-	-	-	-	-	-	1	1
-251 to -5000	-	-	-	-	-	-	-	4
-1 to -250	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-
Below 5000	-	-	-	8	1	-	1	2
5001-10000	6	6	-	1	6	-	-	4
10001-15000	4	4	1	4	1	-	-	6
15001-20000	8	8	-	6	-	-	4	2
20001-25000	4	4	-	10	2	3	4	2
25001-30000	5	7	-	2	2	3	3	-
30001-35000	4	5	1	26	2	1	3	-
35001-40000	6	5	2	2	2	-	3	-
40001-45000	1	1	-	-	5	3	5	3
45001-50000	6	4	-	-	5	1	3	1
50000-100000	13	13	17	6	33	25	10	12
100001-200000	7	7	26	-	5	16	17	9
200001-300000	1	1	7	-	1	6	6	4
300001-400000	-	-	7	-	-	4	3	3
400001-500000	-	-	2	-	-	1	-	-
500000-1000000	-	-	2	-	-	-	-	-
Total	65	65	65	65	65	65	65	65

Table 3. Subsistent borrowers by economic productivity of micro investment (frequency)

Amount Ranges (TK)	Total cost / Investment	Adjusted Cost / Investment	Total Worth at the end of year	Minimum Labor Cost ¹	General Labor Cost ²	Gross Return After Paying All Cost other than Own Labor and Interest Costs	Gross Return after Paying Own Labor Cost at Minimum Wage Rate	Gross Return after Paying Own Labor Cost at Market Wage Rate
-50000 to -100000	-	-	-	-	-	1	1	12
-45001 to -50000	-	-	1	-	-	-	-	8
-40001 to -45000	-	-	-	-	-	-	-	7
-35001 to -40000	-	-	-	-	-	-	-	6
-30001 to -35000	-	-	-	-	-	1	3	10
-25001 to -30000	-	-	-	-	-	1	-	8
-20001 to -25000	-	-	1	-	-	-	-	9
-15001 to -20000	-	-	-	-	-	-	-	22
-10001 to -15000	-	-	-	-	-	1	1	31
-5001 to -10000	-	-	-	-	-	-	6	41
-251 to -5000	-	-	-	-	-	3	20	52
-1 to -250	-	-	-	-	-	-	2	5
0	82	82	83	-	-	1	-	-
Below 5000	61	61	1	120	8	38	57	60
5001-10000	138	146	19	51	74	25	40	26
10001-15000	82	85	21	16	40	31	54	20
15001-20000	41	45	28	26	20	23	41	13
20001-25000	31	27	22	95	9	23	33	19
25001-30000	25	18	26	31	9	21	28	16
30001-35000	9	6	16	51	13	20	33	11
35001-40000	4	6	21	5	17	34	20	2
40001-45000	8	5	47	1	19	29	14	6
45001-50000	4	4	29	2	22	30	12	4
50000-100000	4	4	137	10	144	106	31	14
100001-200000	1	1	36	-	13	18	10	6
200001-300000	-	-	-	-	-	2	2	-
300001-400000	-	-	2	-	-	-	-	-
Total	490	490	490	408	408	408	408	408

1. Minimum Labor Cost Per Hour: Man @ TK8, Woman @ TK5.

2. Standard Average Labor Cost Per Hour at Market Rate: Man @ TK17.8, Woman @ TK12.4.

Appendix 4 : Assumptions of the Study

In measuring the economic productivity of microcredit, this study used the following assumptions.

Labor Hours Relevant Assumptions

- * 7 hours of work in a day make a full-time labor day.
- * A year contains 330 working days and 12 working hours per day for the shopkeepers, fish business, and tempo drivers.
- * A year contains 240 working days, and 12 working hours per day for rickshaw pullers. Rickshaw pullers generally work for 20 days a month and take rest for 10 days. For the 120 (360-240) resting days he rents out the rickshaw to another puller.
- * A year contains 360 days, and 1 hour per day for the administration of renting out of the tempo, rickshaw etc. for the tempo and rickshaw owners. If the owner (borrower) himself is the tempo driver or rickshaw puller this 1 hour per day for 120 resting days is included in his regular labor hours as 'renting out' administration time. As a result for renting purposes his total labor is 120 (360-240) hours.
- * A year contains 300 days, and 6 hours per day for vegetable or seasonal products trading and seasonal jobs.
- * A year contains 365 days, and 2 hours per day for cattle rearing.
- * When calculated the productivity of microcredit, it is assumed that for credit repayment purposes women spend 1 hour per week for 50 weeks in a year. But this 50 hour per year is not considered in calculating job creation and general productivity of several business investments.
- * For agriculture in one season for 1 Kani/ 120 acre land: inputs and operation costs - Transplantable plant TK1200 + ploughing TK1500+ planting TK2000 (1 person takes 15 days) + weeding TK1200 (1 person takes 10 days) + Fertilizer TK3000+ pesticide TK200+ land side finishing TK300 (1 person takes 2 days) + harvesting TK2000 (1 person takes 15 days) + paddy threshing TK1000 (1 man and 1 woman take 5 days) + selling (1 man and 1 woman takes 4 hours).

Labor Rates Relevant Assumptions

- * Labor cost for man - minimum TK56 per day, means minimum labor rate for man is TK8 (56/7) per hour.
- * Labor cost for woman - minimum TK35 per day, means minimum labor rate for Woman is TK5 (35/7) per hour.

Investment Related Assumptions

- * Before the ending of a business cycle if any investment is needed, that is consider as within the year investment.
- * In case of multiple business cycles per year, if there is any operating investment needed within the year, this is considered as supplied from business income. So, no further investment is considered for within the year investment.
- * In case of continuous business or business cycle longer than 1 year,

beginning investment and yearly net worth creation is calculated by the valuation of the business with necessary adjustment of depreciation and salvage value at market rate

- * In case of land buying, it is considered as productive assets where leasing income and capital gain are considered while measuring the return at the end of the year
- * Loan used for unproductive purposes such as buying unproductive assets, household expenditures, social landings, emergency or personal expenditure, child education, loan repayment, or other social occasions are considered as consumption
- * If borrowers do not use full amount of credit for investment, the unutilized credit is considered as consumption. If any amount of investment is made within the business cycle, that is considered as personal/additional investment within the year. Half of the within the year investment is considered as full year equivalent investment

Appendix 5 : Economic and Social Productivity of Microcredit (Survey Data)

Table 1. Borrowers by length of cycle of business returns (frequency)

Cycle	All Borrowers	Microenterprise Borrowers	Subsistent Borrower
Daily	322 (61.9%)	64 (81.0%)	258 (58.5%)
Weekly	38 (7.3%)	2 (2.5%)	36 (8.2%)
Fortnightly	2 (0.4%)	1 (1.3%)	1 (0.2%)
Monthly	22 (4.0%)	4 (5.1%)	18 (4.1%)
Quarterly	10 (1.8%)	1 (1.3%)	9 (2.0%)
Half Yearly	62 (11.2%)	4 (5.1%)	58 (13.2%)
Yearly	64 (11.5%)	3 (3.8%)	61 (13.8%)
Total ¹	520 (100%)	79 (100%)	441 (100%)

Table 2. Return on micro investment and net worth (TK)

Investment, Worth and Return on Investment	All Borrowers			Microenterprise Borrowers			Subsistent Borrower		
	Before paying Family labor and interest cost	Before paying interest cost but considering minimum labor cost	Before paying interest cost but considering general labor cost	Before paying Family labor and interest cost	Before paying interest cost but considering minimum labor cost	Before paying interest cost but considering general labor cost	Before paying Family labor and interest cost	Before paying interest cost but considering minimum labor cost	Before paying interest cost but considering general labor cost
Average of borrowers' Net Worth or Surplus (TK)	52,282	33,654	9,341	122,272	94,902	60,112	41,154	23,928	1,295
Average of borrowers' Investment (TK) ²	16,424	16,424	16,424	52,206	52,206	52,206	11,678	11,678	11,678
Average of borrowers' ROI (%)	430%	254%	28%	418%	312%	181%	436%	248%	5%

Table 3. Borrowers by interest payment capability from business returns on micro investment (ROI) (frequency)

Interest Rate (%)	All Borrowers		Microenterprise Borrowers		Subsistent Borrower	
	Ability after paying family labor @ minimum wage rate ³	Ability after paying family labor @ market wage rate ⁴	Ability after paying family labor @ minimum wage rate ³	Ability after paying family labor @ market wage rate ⁴	Ability after paying family labor @ minimum wage rate ³	Ability after paying family labor @ market wage rate ⁴
Negative	36 (7.6%)	228 (48.2%)	3 (4.6%)	17 (26.1%)	33 (8.1%)	211 (51.7%)
0 - 10	24 (5.1%)	25 (5.3%)	1 (1.5%)	3 (4.6%)	23 (5.6%)	22 (5.4%)
Above 10- 25	15 (3.2%)	25 (5.3%)		4 (6.2%)	15 (3.7%)	21 (5.1%)
Above 25 - 40	20 (4.2%)	15 (3.2%)	2 (3.1%)	1 (1.5%)	18 (4.4%)	14 (3.4%)
Above 40 - 60	23 (4.9%)	20 (4.2%)	2 (3.1%)	2 (3.1%)	20 (4.9%)	18 (4.4%)
Above 60	355 (75.1%)	160 (33.8%)	57 (87.7%)	38 (58.5%)	299 (73.3%)	122 (29.9%)
Total ⁵	473 (100%)	473 (100%)	65 (100%)	65 (100%)	408 (100%)	408 (100%)

Table 4. Yearly job creation by per TK1,000 microcredit loan

Types of Labor	All Borrowers		Microenterprise Borrowers		Subsistent Borrower	
	Labor Hour	Labor Days ⁶	Labor Hour	Labor Days ⁶	Labor Hour	Labor Days ⁶
Average Job Creation for Man	200.77	28.68	123.20	17.60	213.10	30.40
Average Job Creation for Woman ⁷	25.06	3.58	0.33	0.05	29.00	4.14
Total Job Creation ⁸	221.88	31.70	124.30	17.76	237.60	33.90

Table 5. Users of credit borrowed by women clients (frequency)

Loan Use	All Borrowers	Microenterprise Borrowers	Subsistent Borrower
Self	57 (10.6%)	6 (9.5%)	51 (10.8%)
Male Family Members	453 (84.4%)	56 (88.9%)	397 (83.8%)
Third Party	11 (2.0%)	-	11 (2.3%)
No Response	16 (3.0%)	1 (1.6%)	15 (3.2%)
Total ⁹	537 (100%)	63 (100%)	474 (100%)

Table 6. Women borrowers' assessment on their social empowerment (frequency)

Assessments	All Borrowers	Microenterprise Borrowers	Subsistent Borrower
Decrease	5 (0.9%)	1 (1.5%)	4 (0.8%)
Increased	208 (37.5%)	28 (43.1%)	180 (36.7%)
Not Applicable ¹⁰	27 (4.9%)	3 (4.6%)	24 (4.9%)
Same	193 (34.8%)	19 (29.2%)	174 (35.5%)
No Answer	122 (22.0%)	14 (21.5%)	108 (22.0%)
Total	555 (100%)	65 (100%)	490 (100%)

Notes:

1. 81 full credit consumption cases, 1 full credit cash holding borrower, and 47 multiple investment cases consist of total 520 (555-81-1+47) observations. Including 14 multiple investment cases, total microenterprise business activities are 79 (65+14). Including 33 multiple investment cases, total subsistent borrowers' activities are 441 (555-81-1-65+33).
2. Average based on the sum of total adjusted investment of all individual investing borrowers.
3. Considering Minimum Labor Cost Per Hour: Man @ TK8, Woman @ TK5.
4. Considering Market Rate of the locality.

5. 81 full credit consumption cases and 1 full credit cash holding borrower are not included in this category.
6. Full labor day is considered as 7 working hours per day.
7. Average job hours that women spent for the microcredit investment activates are considered. Women spent approximately 50 hours annually for receiving and paying credit which is not included here.
8. Average of individual's total.
9. The male microcredit clients are excluded here - 18 cases out of 555, and 2 cases out of 65.
10. Not applicable for male borrowers (18) and the woman borrowers (9) who are alone in the family.

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