Microfinance and Sustainable Entrepreneurship Development in Developing Countries: Lessons from Bangladesh

Farah Hasin
Kennesaw State University, USA.

Abstract

Microenterprises (MEs) play a big role in the Bangladesh economy and significantly contributes to economic and social well-being of the people. It is now increasingly felt that the Bangladesh's journey to the middle-income country status demands a pivotal role on the part of MEs towards promoting more inclusive growth as drivers of economic transformation, especially in the rural areas. On this note a study was conducted on the potentials of microfinancing program of one of the largest and longest serving NGOs of Bangladesh, BRAC (Bangladesh Rural Advancement Committee) by considering some of BRAC Progoti financed microenterprises in the Comilla district of Bangladesh. Using newly collected empirical evidence and primary data, the study confirms how small interventional change through microfinancing and non-financial support services can induce sustained and positive larger differences in the economic lives of the microenterprise households and contribute towards economywide inclusive growth. The study also highlights on the relative investment potentials of diversified microenterprises pursued in the sample area of rural Bangladesh in terms of accrued economic and welfare benefits for the households.

* I am grateful to the officers, employees, and the borrowing households of the BRAC Progoti scheme in the Comilla district of Bangladesh. Sincere contribution of the fieldworkers deserves a special mention. Financial support from the Bagwell Center for the Study of Markets and Economic Opportunity at Kennesaw State University is also thankfully acknowledged for this paper. Usual disclaimer applies.

TABLE OF CONTENTS

List of Tables

ABBREVIATIONS

AO	Area Office
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BRAC	Bangladesh Rural Advancement Committee
CDP	Committee for Development Policy
EVI	Economic Vulnerability Index
FGD	Focused Group Discussions
GNI	Gross National Income
GOB	Government of Bangladesh
HIES	Household Income Expenditure Survey
HH	Household
HAI	Human Assets Index
IGA	Income Generating Activity
InM	Institute of Microfinance
KII	Key Informant Interviews
LDC	Least Developed Country
MC	Micro Credit
MCI	Micro-credit Institution
MEs	Microenterprises
MFI	Micro-finance Institution
MSEs	Micro and small-scale enterprises
NGO	Non-Governmental Organization
OLS	Ordinary Least Square
SDG	Sustainable development goals
SME	Small and Medium Enterprises
SSE	small-scale enterprise
UN	United Nation
VO	Village Organization

Microfinance and Sustainable Entrepreneurship Development in Developing Countries: Lessons from Bangladesh

1. Introduction

Winning over poverty is one of the most important components of Sustainable Development Goals (SDG) of United Nation (UN), adopted to ensure "blueprint to achieve a better and more sustainable future for all" by 2030 (UN 2015). Over the past decades, Bangladesh has made commendable progress in fight against poverty and socio-economic development.

According to the UN Committee for Development Policy (CDP), Bangladesh met the criteria for graduation from the Least Developed Country (LDC) category for the first time in March 2018. If Bangladesh meets the graduation criteria for a second time, at the next triennial review in 2021, the CDP will recommend it for graduation from the LDC category in 2024. If Bangladesh graduates, it will be one of the first large LDCs to do so, and it is the first country to meet all three graduation thresholds of the LDC criteria, namely gross national income (GNI) per capita, human assets index (HAI) and economic vulnerability index (EVI).

In Bangladesh, 2.1 million people enter the labor force annually, of which over 85% aged between 15 or older are employed in the informal sector as job creation is very low as compared to intense demographic pressure. It is widely recognized that the success of Bangladesh's rapid transition to the middle-income country status will significantly depend on promoting more inclusive growth and broadening the distribution of growth benefits more towards the low-income people. Promoting MEs with adequate financing and other supports will go a long way towards achieving these goals as it contributes to poverty reduction, employment and asset creation, mobilization of local resources, technological adaptations, and improved competitiveness of the Bangladesh economy. It is now increasingly emphasized that promotion of MEs is probably the new and potentially most promising avenue for bringing about inclusive and sustainable development in Bangladesh mainly due to their large numbers and relatively simple forms of operation consistent with the country's labor force characteristics and resource endowments.

For some decades, credit constraint has been identified as one of the major issues inhibiting the growth and sustainability of micro, small and medium-sized enterprises in emerging market countries (Wellalage and Locke, 2017). In this regard, microlending and financing have received significant attention, from both policy makers as well as academics as it is considered as an emerging trend in many developing countries for promoting entrepreneurship among the youth and women through the provision of financial capital while embarking on inclusive sustainable development path (Bartual Sanfeliu et al., 2013; Hermes and Lensink, 2007; Ingham et al., 2013; Knight et al., 2009; Zapalska et al., 2017).

Globally, there are more than 3100 microfinance institutions (MFIs) providing loans and financing services to over 100 million clients to address pervasive exclusion of poor people from the formal financial sector (Cull et al., 2011; Epstein and Yuthas, 2011; Hartarska and Nadolnyak, 2007). Alongside credit, microfinance in Bangladesh has also introduced some innovative financial practices, such as, microsavings, microgurantees, microinsurances and microremittances, so as to develop and sustain microentrepreneurship successfully.

1.1. Objectives, Methodology and Data

Under these backdrops, this research tries to assess the role of microfinance in sustainable microenterprise development, while facilitating country's endeavor to graduate from the LDC category in 2024 and meeting sustainable development goals (SDG) of United Nation (UN) by 2030. The main objective is to assess the impact of microfinance services of BRAC Progoti scheme on beneficiary household's wellbeing, including income generation, employment creation and asset accumulation, while considering different microenterprise investments of the borrowers. The study also focuses on other subjective wellbeing of the borrower households by comparing the current state and pre-BRAC state of the current beneficiaries. In order to assess the long-term resilience of the beneficiaries, the evaluation has also been made on the current status of the former graduated beneficiaries of the BRAC Progoti scheme in the same survey area.

The methodology of the proposed study rests on two components: (a) comparing the microenterprise wise welfare status of the current beneficiary households over time with that of their pre-BRAC stage; (b) comparing the current welfare status of the current microenterprise beneficiary households with that of former graduated ones with a view to assess the sustainability of the welfare gains of the microenterprises.

The study has also administered some qualitative tools, like Focused Group Discussions (FGD) and Key Informant Interviews (KII), for a deeper understanding on how MFI intervention can help in sustainable microenterprise development. During the FGD with the current and former beneficiaries, we tried to capture the issues relating to effective MFI intervention in generating income, employment and asset building, and the scope for further improvements.

Empirical evidence and primary data have been collected on the BRAC Progoti borrowers of Comilla district of Bangladesh for studying the role of microfinance in developing sustainable microenterprises.

Comilla district was chosen, which is close to Dhaka. It is comparatively advanced in terms of the impact of green revolution, agriculture and good communications. BRAC has been in operation in this area for 15 to 40 years. Keeping in mind the need for selecting non-flood prone areas in the study, Chandina thana (sub-district with an average population of about 2,30,000) has been selected from Comilla district. From Chandina thana, out of six AOs (Area offices), two AOs (Chandina and Nababpur) were randomly selected. The number of years AOs are operating in the field was also given due consideration in this regard. Altogether six villages were considered from the AOs. Maharang, Sreemantapur and Kartola have been selected from Chandina AO and Mohichile, Mehermodhho, Ballarchar have been selected from Nababpur AO.

It needs to be mentioned that before undertaking the survey, some benchmark data were collected by creating village profiles using a structured form and by interviewing key informants of the villages.

The sample plan also needed to ensure that sample sizes were sufficiently large to meet the requirements of statistical analysis. The sampling proportion was broadly determined according to the respective proportions of the subject in the total population based on the assumption of homoscedasticity i.e., equal variance of the mean for the variables being examined.

A final sample of 120 borrowers have been selected randomly from the sample list generated from 6 villages. In addition, we carried out a survey on 30 graduated randomly selected borrowers of the same area to examine the sustainability aspect of the microenterprises.

1.2. Structure of the Paper

The paper is broadly comprised of six sections. Following an introduction in the first section, a brief overview of theoretical underpinnings of the debate on sizes and the growth of the enterprises and

potentials of microfinancing have been depicted in the second section. By presenting a basic profile of BRAC Progoti microfinancing scheme, the third section provides a short description on the microfinance and microenterprise growth history of Bangladesh and summary of the microenterprise financial products. The fourth section gives a short account of literature review in the related field, while the fifth section makes a performance analysis of microenterprises and examines the sustainability of welfare gains. Finally, in the light of inclusive financial growth and sustainable entrepreneurship development, some concluding remarks and policy recommendations have been made in the sixth section.

2. Theoretical Foundation: Sizes and Growth Potentials

Micro and small-scale enterprises (MSEs) have been acknowledged in the literature as the catalyst for sustainable development and means for effective resource utilization (Tolentino 1996, Oboh 2004, Odeh 2005). These businesses establishments have been found to have vast employment potentials, limitless opportunities for self-employment, livelihood provisions, and entrepreneurship building in some countries.

In the development discourse, supportive and opposing thoughts are there on the importance of micro and smaller enterprises (Ayyagari et.al., 2003).

In a study of Julien Pierro-Andre et.al., (1998) the role of entrepreneurship had been emphasized as 'new theory' about the emergence and continuation of small businesses. It acknowledges that the acceleration of economic changes and dynamism is provided by the emergence of systematic renewal of entrepreneurship through the creation of thousands of small business. It relates to building a positive relationship between smaller businesses and effective competition and entrepreneurship, so that it can bring about economy-wide efficient external benefits, innovation, and aggregate productivity growth. Embedded in it is a goal of reaping social benefits from greater competition and entrepreneurship. Therefore, this vast majority of the small business not only remains small, their owner-managers seek and tend to actively support and maintain this trend.

The concept of 'market niches' (Edit T.Penrose, 1959) suggests that the economy generates different types of market spaces, some of which are not suited to large-scale production or demand a type of production that is too specialized or at least not profitable enough to large business. These small market segments may be created by local customs i.e. religious practices; luxury requirements; highly specific

uses or location considerations. At the same time the small firms can meet the demands for the products more economically, which are strictly local. If the raw materials are bulky and scattered, or in sparsely populated regions, or where markets and sources of supply overlap, it is better to carry out production in small units.

However, it needs to be realized that the concept of niches is associated with 'the increasing pace of economic changes and growing difficulties in reducing uncertainty'. Such uncertainties and associated risks compel the firms to operate in groups or constellations or in systems are more flexible and hence quickly adapts to changes.

The theory of 'the pursuit of flexibility' refers to the rate with which internal management and technology can be adapted to external changes. It requires business organizations characterized by compatibility with changes, production etc. which are possessed by small business. Carlson (1989) and Schuman et.al (1985) claim that micro and small businesses compensate for the absence of economies of scale by greater, especially in periods of rapid, sudden, and unpredictable changes.

The concept of flexibility is further supported by Mini and Rodriguez (1998). They stated that small factories with higher average costs can co-exist with large plants in competitive markets. Mills and Schumann (1985) argue that superior output flexibility sustains small firms in competition over the business cycle. Mills (1990) draws on earlier work by Manne (1967) and Gilbert and Harris (1984) to show why high-cost small enterprises can survive in growing sectors with uncertain, fluctuating demand. If installed production capacity is permanent and product-specific, then competitive investment games in uncertain environments involve tradeoffs between scale economies and capacity holding costs. The ability of small plants to come online more quickly may outweigh their scale-related cost disadvantage in such cases.

Interestingly, the major opposing view cast doubts on arguments favoring small enterprises for different reasons. It argues that on grounds of productive impacts, the large enterprises are preferred because of their inherent capacity to exploit economies of scale and natural advantage to cover the fixed costs associated with R&D (Research and development) expenses. It also questions the claim of small enterprise proponents centering around job creation argument as compared to their larger counterparts.

As opposed to these claims some advocates of smaller enterprises finds smaller enterprises to be more productive than the larger ones, provided no built in bias is there against the development of smaller enterprises with regard to finance and other institutional impediments and failures.

It is as well viewed that when employment issues are considered, smaller enterprises boost employment more as compared to larger enterprises because of it's labor intensive nature of operation. Birch (1979) argued that small firms are particularly important in job creation. He reports that over the 1970s, firms with fewer than 100 employees generated eight out of ten new jobs in America.

Besides there are other existing literatures regarding small and micro concepts in both developed and developing countries. A large theoretical literature holds that firm size distribution is a function of national endowments, technologies, national policies and institutions (Kumar et al., 2001; Hallberg, 2001; Snodgrass and Biggs, 1996; You, 1995; Caves, Porter, and Spence, 1980). The underlying thought believes that institutional improvements and broadening access to financial services to micro and smaller enterprises would boost economic growth and facilitate development.

Also, Piore and Sabel (1984) explains the importance of SME (Small and Medium Enterprises) in Italy's textile industry around Florence and Pitoia with the emergence of industry federations and networks, the role of middlemen and political support. Rasiah (2002) shows the importance of government-business coordination for the development of a vibrant SME sector in Malaysia; variation in the quality of government-business relations, mostly explainable by socio-ethnic characteristics. Yamawaki (2002) reports that the existence of leading large firms, the existence of a pooled labor market, and the presence of public research and testing facilities can explain the emergence of SME clusters in Japan. Kawai and Urata (2002) show that subcontracting opportunities promote entry of new firms in Japan. Levy (1991) shows that the greater role of small manufacturers and export traders in the footwear industry in Taiwan by lower costs of market transactions with higher GDP per capita, higher levels of education, longer commercial experience, and less homogeneous society. Biggs, Raturi, and Srivastava (2002) show the importance of ethnic networks for access to informal sources of finance in Kenya.

In this regard the business environment argument emphasizes on the importance of ideal business environment, irrespective of sizes of the enterprises that could best be maintained by ensuring lower controls on entry and exit, presence of well-defined property rights, effective contract enforcement, and access to adequate financial resources conducive to competition and enterprise growth.

The importance of adequate financial resources in economic growth has been hypothesized since a long time ago when Schumpeter (1911) stated that entrepreneurs needed credit to finance the adoption of new technologies. Literatures on microfinance and its impact on poverty reduction and other dimensions of household welfare suggest that given necessary financial and non-financial services, MEs could successfully develop competition and entrepreneurship. Forthcoming sections will hold further discussion on the pivotal role of microfinancing in facilitating the growth of microenterprises.

3. Microfinance and Microenterprise growth history in Bangladesh

3.1. Microfinance in Bangladesh

Rural areas are typically characterized by dispersed populations demanding small average loans, households with low levels of savings and wealth, and poor transportation and communication facilities. The risks and transaction costs associated with financial intermediation in these low-income areas are therefore considered too high for formal private banks to achieve any economies of scale.

Informal finance does provide valuable services, but in small amounts, for short periods of time, often exploitative and costly. On many occasions, state-owned development banks have intervened to fill the vacuum left by private banks, but with negative consequences. Subsidised interest rates, administrative loan allocations and targeted credit do not displace informal sources of financial services and do little to increase investment levels. Regardless of these government interventions, investment in areas where poor people predominantly live is generally below economically optimal levels. Such market conditions can have long lasting implications for the ability of poor households to accumulate capital, and thereby for growth and equity in the economy. Back then, the emerging development policies of 1970s and 1980s, such as SSE and SME (for small-scale enterprise and small and medium enterprise) were also felt inadequate for not paying attention to the wellbeing of the poorest section of the population.

The natural market response to the above scenario is to develop financial contracts that minimise the loss emanating from sub-optimal levels of investments. Under this scenario, development theorists and practitioners have considered non-governmental organizations (NGOs) as leading practitioners of rural development (Muhumuza, 2005) when microcredit schemes of NGO) in the rural financial markets in Bangladesh starts receiving attention for it's poverty reduction potentials and other goals.

As the critique of the state's role in rural financial markets gained influence in the 1980s, the Bangladesh government started reducing its interventions in these markets, by easing interest rate regulation and withdrawing subsidies. Simultaneously, it started to delegate the job of poverty reduction to the non-state sector comprised mainly of non-governmental organisations (NGOs) so that they can make it happen for the poor.

From the eighties onward microcredit became a successful concept in Bangladesh and NGO activities during the 1980's developed into an independent movement seeking poverty alleviation through microlending (Kabeer, 2001). Microlending and its impact on poverty reduction and other dimensions of household welfare are based on the assumption that improved access to credit will help to overcome credit market imperfections, to smooth consumption, to ease constraints in production, and (most importantly) to raise the incomes and productivity of the poor. Mallick (2002) revealed that in rural communities in Bangladesh, microcredit has been introduced as a means of economic and social development.

At inception, microcredit was viewed as a set of non-traditional banking techniques that use information-intensive and character-based technologies to address these information and enforcement problems among poor household firms. Group-based lending using peer monitoring of borrowers is expected to address adverse selection and moral hazard problems. Different degrees of joint responsibility for repayment ensure contract enforcement. Motivation to repay is provided by continued access to credit. Generally small loans are made for working capital on a short-term basis.

Over the years in Bangladesh, a large number of microcredit institutions (MCIs) have started to engage in full-cost pricing of their services, aiming to develop sound financial positions. Subsequently, these institutions tended to follow a 'graduation' path into the formal financial sector, whereby they could diversify the range of their financial services and could take on the more sophisticated identity of microfinance institutions (MFIs). Microcredit have evolved into microfinance, when accommodations have also been made for individual lending with elevated amounts, new services, and products (such as, microsavings, microgurantees, microinsurances and microremittances) alongside regular group-based credit distribution systems. In Bangladesh, more than 20,000 NGOs, associations, credit groups and cooperatives have been operating (Ullah and Routray, 2007) and about 2116 local and international NGOs have been offering microfinance services to masses of poor rural at lower costs targeting to improve the borrowers' economic situations (Mazumder and Wencong, 2013; Zeller et al., 2001).

3.1.1. Microfinance Program of BRAC

BRAC is the world's largest NGO and own the largest microfinance bank in Bangladesh. Since it launched in 1974, it has covered all 64 districts of Bangladesh. It provides four stages as a ladder to help the vast majority of the population to get out of the poverty trap: first, is to provide asset grants and soft loans from Targeting the Ultra Poor program; second, is to borrow microloans from microfinance program's Dabi scheme; third, is to borrow microenterprise loans from microfinance program's Progoti scheme; fourth, is to borrow SME (Small and medium enterprises) loans from mainstream banks.

Dabi loans, which range from $100-1,000, are only provided to women who are serving through VOs (village organizations). Those women repay the loans every week or month, usually during the regular VO meetings. Most women use the loans to operate small business in poultry, livestock, fruits and vegetable cultivation, handicrafts, and rural trade.

BRAC Progoti (our study interest) targets successful and fast-moving men and women members, who already have small enterprises but are too small to apply for loans in regular banks. Their loan size is between $1,000 and $10,000, interest rate on loan is 30%, interest repayment needs to be made on a monthly basis and duration of the loan is maximum 24 months (BRAC Microfinance website http://microfinance.brac.net).

3.2. Microenterprises in Bangladesh

Development of MEs are supposed to be sharply contrasted with small-scale cottage industries of 1970s and 1980s, which were carried out at home by family members using their own resources. MEs are also largely seen as an important vehicle for diversified economic activities, particularly non-farm in nature that can provide a decent livelihood for the low-income population along with fair returns to their labor.

In Bangladesh, MEs are referring to the business opportunities pursued by the poorer entrepreneurs in the late 1980s, containing extremely heterogeneous continuum of different types of agricultural and industrial enterprises, such as, agro-processing farms, crops, poultry, fisheries, livestock, rural non-farm, handlooms and handicrafts, plastic products, textile dying and block printing (manual), footwear, cartwheels, computer software and information technology, silk weaving, small grocery stores, petty trades etc.

The BBS 2013 Economic Census data assessed the existence of nearly 7 million MEs in Bangladesh and of which 3.4 million are located in the rural areas. In a separate study conducted by Khandker, Samad and Ali (2013) found that 80 percent of the rural businesses are comprised of microenterprises.

Table 3.1: Number and Persons Engaged in Different Categories of Enterprises, 2013

Category	Enterprises		Total persons engaged		Average engaged person per enterprise
	Number (thousand)	%	Number (thousand)	%	
Micro (including cottage)	6,946.9	88.85	13,727.2	56.03	1.98
Small	859.3	10.99	6.600.7	26.94	7.68
Medium	7.1	0.09	706.1	2.88	99.45
Large	5.3	0.07	3,466.9	14.15	654.13
Total	7,818.6	100	24,500.9	100	3.13

Source: Bangladesh Bureau of Statistics from Economic Census of 2013

Despite their small size, MEs account for a large share of the country's employment. As shown in the table 3.1 compiled by BBS (Bangladesh Bureau of Statistics) from Economic Census of 2013, out of a total of 7.8 million enterprises in Bangladesh, 89 percent are microenterprises (including cottage). These enterprises together account for 56 percent of total engaged persons of 24.5 million in all enterprises and the average employment per enterprise is 1.98 person with nearly 8 in small enterprises and more than 654 in large enterprises.

BBS 2013 report further added that cottage enterprises have either the value (replacement cost) of fixed assets excluding land and building of less than Tk. half a million or with up to 9 workers including household members while at microenterprises average employment per enterprise is 5.37 person, have the fixed asset value between Tk. half a million and Tk. 5 million, or with between 10 and 24 workers. Following National Industrial Policy of 2010, this is how BBS has defined ME. By contrast, most MEs

in developed countries are family businesses employing one or two persons. According to information of the Census Bureau, MEs make up 92 percent of the 32 million US companies tracked by the Census.

3.3. Microenterprise financial products offered by MFIs in Bangladesh

More than half of the world's working-age adults (about 2.5 billion) still do not have access to financial services of regulated financial institutions (Fouillet et al., 2013). Bangladesh was no exception to this. In Bangladesh, it had been largely documented that MEs remain un- or under-served by formal financial institutions because of it's informal and family-based nature as the banks have larger agenda for maximizing profit through reducing transaction and default costs. Unless MEs are closer to graduation to small enterprises, the financial needs of these enterprises were in fact typically overlooked. Realizing the importance of diversification, expansion and up-scaling of microenterprise activities, central bank of the country, Bangladesh Bank encouraged financial institutions, especially the MFIs to provide financial support to microenterprises with higher volume of loans.

This has been observed that MFIs have the capability of working as effective intermediaries which can provide the links between savings and credit for financing MEs with microenterprise loans that can be used for any farm and non-farm business, including agro-processing and largescale poultry, livestock, and fisheries as per the working definition for microenterprise.

Table 3.2 below shows that of State Commercial Banks, Specialized Banks, Private Commercial Banks, Foreign Commercial Banks, MFIs and NGOs engaged in lending practices in Bangladesh, MFIs are covering up the finance requirements for microenterprises from the ground up. In Bangladesh large and medium enterprises have more access in formal credit market and micro and small enterprises have more access to MFIs and informal credit market (Khalily et al., 2013).

Table 3.2: Lending practices in Bangladesh

	Additional Income Generating Activities	Self-employees	Microenterprise	Small Enterprise	Medium Scale Enterprise
NGOs with Microcredit	√	√			
MFIs	√	√	√		
Non-Bank Financial Institutions		√	√	√	
Microfinance Banks					√

However, adequate flow of ME financing from the MFIs required MFIs to made a little shift in their scope and target beneficiaries by offering services to low-risk, non-poor clients, such as small farmers and microentrepreneurs, increasing loans to individuals alongside groups, to men alongside women and reaching out to urban people alongside rural. This is to address the need of better performing borrowers for larger loans as compared to loans normally given under typical 'microcredit' and to cater the demand from small enterprises to take loans for running or expanding their businesses as they do not qualify for receiving loans from commercial banks. All these in turn helping MFIs also to expand their portfolios (and income) (Alamgir, 2009). A study of Khalily et al. (2013) found that around 23 percent of the businesses in Bangladesh receive credit access to start a new business and around one-third receive credit to scale up the businesses.

Under the backdrop, MFIs follow two approaches to deliver financial services to the clients: (i) relationship-based banking for individual entrepreneurs and small businesses; and (ii) group-based

models, where a number of entrepreneurs come together to apply for loans and other services as a group. These attempts of MFIs make a good range of financial services available to poor and near-poor clients that includes credit, savings, insurance (life and non-life), guarantees, and fund transfer opportunities/ remittance services and are now being bundled together under the term microfinance (Alamgir, 2009).

A brief account of microenterprise financial products offered by MFIs are presented below:

Microguarantees

As we all know that joint liability model takes care of the collateral issue faced by the poor in receiving loans. To explain the mechanism, De Gobbi (2003) pointed that to overcome the problem of collateral, microfinance has used social solidarity guarantees: if one of the borrowers cannot pay, someone else from the group would not get a loan or some- one else from the group must pay. Hence, guarantees are closely linked to microcredit.

With appropriate bridging, poor people can also receive guarantees from individuals having collateral as they are in a position to put their assets at risks for helping the poor. In a broader arena, such practice is seen in developed countries, where mutual guarantee associations or government-backed public institutions guarantee part of the banks' loans to entrepreneurs (De Gobbi, 2003). Some websites have developed that take cash from someone in a rich country which then serves as cash collateral for bank loan to a MFI and from the MFI to a poor entrepreneur, thus extending the ability of the MFI to give loans to poor people.

Microinsurance

Value of adding auxiliary services to improve the effectiveness of the microcredit programs have been a matter of concern in studies in order to extend protection and defense to vulnerable people suffering from risks and shocks as their coping strategies fail. (Hamid et al., 2011; Bhatt and Tang, 2001; Woller et al., 1999; Woller and Woodworth, 2001). Microinsurance is therefore considered as another arrangement that provides insurance services to cover the risk of default for poor people and small businesses in developing countries. It is typically characterized as a financial arrangement of microfinance institutions to protect vulnerable micro borrowers against specific risks in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved (Biener and Eling, 2011; Churchill, 2007). With a low premiums and low caps,

micro insurance covers issues that could directly or indirectly relate to micro businesses, such as, life, health, disability, property (especially, agricultural insurance, theft/fire insurance), and insurance for natural disasters. Hamid et al., 2011 argued that microinsurance could help when serious health shocks reduce work capacity and investment and require a redirection of resources to the consumption of healthcare. Besides, when households are insured against health risk, they may invest in high- return riskier assets because they do not need to retain cash or to hold highly liquid assets for precautionary purposes.

Microsavings

Microsavings require entrepreneurs to save small amounts of money with MFIs and help use the savings for transactional (consumption smoothening), precautionary (risk mitigation) and speculative purposes (windfalls/opportunities). It offers a supply of lump sum cash against future events, i.e., emergencies, start-up business capital, and major life cycle events, and support daily consumption needs of the poor people (Mersland and Eggen, 2007). Also, enterprising households can have significant concentration of wealth, which could result from the high savings rates of the entrepreneurs (Quadrini, 1999).

In a way credit and saving services of MFIs facilitate ways for poor entrepreneurs to earn income and generate savings (Belwal et al., 2012). Among the poorest of the poor, the most important element of microfinance is not lending but providing savings opportunities (Collins et al., 2010). Not just supplementing trivial needs, once savings reach substantial amount, it can also be used for constructive purposes, like, acquisition of assets, building houses, starting up community-based enterprises. Researchers opined that poor people use saving products more than they use credit. In a study in Bangladesh, it is found that there are 27.8 million depositors and about 20.6 million borrowers in a sample of 28 MFIs and that 26 of these 28 Bangladeshi MFIs have more depositors than borrowers (Khan and Ashta, 2012). Grameen Bank of Bangladesh has over US$1.4 billion in deposits, which is 145% of its outstanding loan portfolio of US$965 million (Maes and Reed, 2012).

Microremittances

Remittance is the surplus portion of earnings sent back by the migrant workers from the country of employment to the home country. It is estimated as making up around 60% to 70% of recipient poor households' total income (De Bruyn and Kuddus, 2005). Inflow of remittances have a

significant impact on poverty reduction, education, housing, other basic needs, and even on investment and entrepreneurship. After meeting necessities, any residual of remittance may be converted into savings by microentrepreneur of the recipient's household to be used not only for future consumption but also for investment purposes (Rivera and Reyes, 2011). Korosteleva and Mickiewicz (2011) evidenced that transfer of remittances is directly linked with a larger volume of own finance, which in turn affects the total financial size of the start-up project as well.

4. Literature Review: Impact of Development Initiatives

It is traditionally argued that providing targeted credit to the rural poor through microcredit schemes is likely to initiate a 'virtuous cycle' of increased household income through increased saving and investment. MFIs and development organizations provide working capital and enterprise development training programs as tool to increase the income, assets, performance, and sustainability of low-income microentrepreneurs, and to lift them out from poverty (Rosenberg, 2010).

Microfinance and its impact on poverty reduction and other dimensions of household welfare are based on the assumption that improved access to credit and finance will help to overcome credit market imperfections, to smooth consumption, to ease constraints in production, and (most importantly) to raise the incomes and productivity of the poor. This is reminiscent of an earlier rural development populism which focused on the small farm sector as an alternative to larger scale farming.

However, empirical studies and conceptual works concentrating on these various areas are scant. Some empirical research has been conducted to expand our general knowledge of the effects of credit and finance access at the household level. The effects were measured through observed changes in household income, household assets, expenditures on consumption and other social measures.

This section presents an account of studies made on the impact assessments of NGO and MFI supported microenterprises by different authors in this field over time.

Most studies in the literature reported increases in household incomes and/or assets, although the variations and magnitudes were variable.

Hermes and Lensink (2011) suggest that access to finance makes a considerable decrease in poverty, increases income, diversifies sources of income, helps accumulation of financial assets, and bring

positive changes in other financial aspects. Subsequently, an improved financial state contributes to achieving better education, healthcare, and empowerment.

Sutoro (2013) showed that participation in development initiatives impacted enterprise performance, as indicated by increases in enterprise income by 93 percent, ownership of productive machineries by 26 percent, and ownership of business vehicles at about 16 percent. According to Uotila (2005), increased participation in microcredit and training programs, increases participants' enterprise income, assets, and level of households' welfare over time.

Microcredit increases business escalation to the real sectors and then promotes economic growth, decreases unemployment rate through increasing in labour demanded, increases income and decreases poverty (Sipahutar et al., 2016). Dunn (2005) also reported similar results, that is participation in microcredit had significant positive impacts on business investment and business registration.

In Malaysia, Al-Mamun et al. (2012) reported that existing and frequent participants of development initiatives, scored a positive relationship between the number of participations per month and key microenterprise performance indicators, such as the amount of credit, as well as current market values of assets comprising livestock, agricultural, and production equipment; wherein they scored higher as compared to new participants.

In India, Panda (2009) noted a significant increase in borrowers' household income at 11.41 percent, and subsequent increase in savings by 42.53 percent. Additionally, there was a higher asset position, scored at 9.75 percent among participants, compared to non-participants.

Khandker (1998), observed that access to microcredit has the potential to reduce poverty substantially (Hermes and Lensink, 2011; Khandker 1998, 2005; Martin and Hulme, 2003). Using variety of socioeconomic indicators, Nawaz (2010) found a moderate reduction of poverty amongst the microfinance clients of Bangladesh. In a study on Grameen Bank borrowers of Bangladesh, Ahmed et al. (2011) found that 'with credit' women have a much lower percentage of poverty in terms of its incidence (80%), intensity (28%), and severity (12%) compared to the 'without credit' respondents 99%, 59%, and 37% respectively. Poverty reducing effects are observed on a number of indicators, including expenditure on health care, clothing and household income and certain residence characteristics, such as water supply and the quality of roofing and walls (Ghalibetal, 2015).

Regarding the household's income, it has been found that microcredit positively impacts business and household income (Ashrafetal, 2009; Barnesetal, 2001b; Nanor, 2008). Fofana et al. (2015) found that

microcredit group on average had a higher income and a higher value of household assets than non-borrowers. Similarly, Chowdhury, Mahmud, and Abed (1991) noted that the participants of Bangladesh Rural Advancement Committee (BRAC) makes higher income and owns more assets, relative to the non-participants. Bradely, McMullen, et al. (2012) argue that loan capital could enhance entrepreneurs' income where markets are less developed. An Institute of Microfinance (InM) study on 'Access to Financial Services in Bangladesh' survey data had been used by Muneer and Khalily (2015) to investigate the employment generation and poverty reduction potential of ME. The study estimates that on an average per ME employs 1.9 people and these enterprises have created about 12 million full time jobs that in turn contributes immensely in reducing poverty. Job creation factor in Sub-Saharan Africa evidenced a positive and significant impact of microcredit on employment (Abdullah-Al-Mamunetal, 2011).

Quayes (2012) argued about a positive impact of microfinance on economic development. Some other studies suggest economic development to be positively correlated with productive uses of credit (Imai et al., 2010; Vial and Hanoteau, 2015).

A study on sub-Saharan Africa found that microcredit participants are more likely to own their own home and make investments in the quality of their home than their control groups (Brannen, 2010; Barnes etal., 2001a).

Mukherjee and Zhang (2007) found credit access to be a significant determinant for entering into non-farm market. In a series of studies, role of credit has been recognized in enhancing enterprises productivity and growth (Johnson et al., 2002; Levine et al., 2000; McMillan and Woodruff, 2002; Cull and Xu, 2005).

In a comparative study made by Khalily and Khaleque (2013) noted that access to credit accounts for 2.8 percent growth in labour productivity relative to enterprises with no access to credit.

Nanor (2008) showed that microcredit also positively affects different types of expenditure. It means that improvement in standard of living is associated with accessibility of microcredit. Microcredit is translated into children education and food expenditure, which are associated with activities that can improve quality of lives. Specifically, Goldberg (2005) revealed that microcredit improved education of the borrowers' children. Banerjee etal. (2009) noted that there was no effect on average monthly expenditure per capita, but expenditure on durable goods increased. Consumption was thus shifted from consumables to durable goods. In terms of saving, microcredit has a positive impact on the levels of

poor people's savings (Adjei et al., 2009; Barnes et al., 2001a; Dupas and Robinson, 2013; Ssewamalaetal., 2010).

Chatterjee et al. (2018) noted a one on one positive relationship between group based financial services and empowerment of microenterprises female loanees both in economic and social terms. How access to credit facilitates household decision-making, enhances greater control over financial and economic resources, extends social networks and increases mobility have been brought about distinctly in a study of Pitt, Khandker, and Cartwright (2006). A significant positive relationship have been observed between credit and eight different dimensions of women's empowerment in a cross-organizations study of Hashemi, Schuler, and Riley (1996) on the 120 credit recipients households from six villages of Grameen Bank and the BRAC in Bangladesh. Microcredit empowers women because it improves women's decision-making power (Barnes et al., 2001b). There are evidences of women borrowers gaining financial management skills, owning bank accounts, gaining greater mobility outside their homes, and taking pride in contributing to household income (Lakwo, 2006). A study finds that after joining the women groups and receiving microcredit, there is a significant enhancement in the economic situation of women in Kerala (Kumar, 2016). Another study shows a positive association between microfinance and empowerment of women which pushes them into the mainstream (Hashemietal,1996; Maity, 2016). Besides, a study by Vachya (2015) shows that microfinance activities have altered the living condition, and these activities have also contributed to the social empowerment of women.

In a study on 329 households of the Grameen Bank, Hamid, Roberts, and Mosley (2011) revealed the impact of micro-health insurance placement on health awareness, healthcare utilization, and the health status of microcredit members in rural Bangladesh. According to Wright (2000) himself, microcredit empowers people to cope with and overcome many of the shocks like seasonality, illness, theft of assets, natural disaster, Life cycle factors etc. (p-38, ibid). These shocks together are described as "downward mobility pressure" that increases vulnerability of poor (Rahman, H. and M. Hossain et al., 1995). As we will see later, Littlefield and Hashemi (2003) have claimed in a similar fashion that microcredit increased shock-absorbing capacity of poor households.

Khandker et. al. (2013) observed that households with ME involvements have lower poverty, enjoy 36 percent higher average per capita income, and makes 28 percent more expenses as compared to households without ME involvements. The study finds MEs capable of making beneficial contribution in enhancing greater welfare, developing self-confidence, bringing empowerment, introducing social

and political stability, and persuading positive changes in income sharing and demographic characteristics. Additionally, impact of MEs in transforming women's livelihoods in Bangladesh by making them involved in non-farm activities have been discussed in the study. Tangible benefits are noted in increased consumption and improved nutritional levels, especially of women and children, enhanced aspirations for children's education and reduction in household poverty.

5. Performance Analysis and Sustainability of MFI supported Microenterprises

5.1. Introduction

The productive utilization of credit in microenterprises is supposed to increase income and hence the consumption of borrowing households by improving their employment status. It is also argued that credit helps to increase assets of borrowing households by increasing their income. Further, it is expected that when program participants access loans, their relationships as well as exchange systems will be altered. In addition, the shifting economic circumstances may alter preferences, change the dynamics of the household decision-making process, and enlarge the number and enhance the quality of the network opportunities available, so as to move towards inclusive economic growth.

Consequently, there is an increasing policy focus on the need to maintain the economic and social contribution of microenterprises when the financial and other support services from MFIs are withdrawn. This is in relation to sustainable of microenterprise development.

Given the expected impact of credit on borrowing households, it is important for us to examine empirically how successful the existing microloan use for microenterprises in increasing income, consumption and assets of borrowing households and for how long these gains would last. In this part we discuss the relationships between credit supported microenterprises and its poverty impact on the borrowing households in terms of change in expenditure, assets, and other subjective measures. We compare present consumption behaviour and assets status of sample borrowing/program microenterprise households with their pre-BRAC status. It is to be expected that the microenterprise households in the BRAC Progoti program have higher total assets, higher expenditure, doing better in subjective measures than they did before the program. If we find statistically significant higher consumption and assets compared to their previous situation, then it will be possible to conclude that microenterprise development through microfinance have a positive impact on the economic and

subjective welfare counts. In order to investigate the sustainability of economic and other welfare gains, comparisons were also made between the former graduated beneficiaries and the current beneficiaries of BRAC Progoti program in the same survey area.

This part consists of seven different parts. Followed by an introduction in part 5.1, part 5.2 presents BRAC Progoti financed various microenterprise investments of the current borrowers in the survey area. Part 5.3 provides the background for the assessment of impacts of credit-based microenterprises on consumption expenditure and household asset accumulation, while parts 5.4 and 5.5 assess the poverty impacts of micro loan uses on consumption expenditure and household assets, respectively. Part 5.6 makes an assessment on subjective gains of microenterprises and findings on sustaining economic gains of microenterprises have been highlighted in part 5.7.

5.2. Current Investments of BRAC Progoti beneficiaries in various Microenterprises

To understand the investment in various microenterprises, a total of 120 current BRAC Progoti members of the Comilla district of Bangladesh were studied. As our objective is to assess the poverty impacts on borrowing households against their microenterprises, samples were drawn from those who have taken the loans at least one year ago.

The current use of their loans is presented in the table 5.1. Only 13 activities have been identified as the commonly invested microenterprises by the current clients in our sample area.

Table 5.1: Investment in Microenterprises by current beneficiaries

Uses	Total
Farm Sector	
Farm crop and non-crop sector	
Crop Production	18 (15)
Livestock	10 (8.3)
Poultry	8 (6.66)
Fisheries	5 (4.16)
Non-farm sector	
Rural Transport	10 (8.3)
Handlooms and Handicraft	11 (9.16)
Petty Trade	14 (11.66)
Food Processing	12 (10)
Textile dying and block printing (manual)	8 (6.66)
Plastic products	7 (5.83)
Footwear	7 (5.83)
Computer software and information technology	5 (4.16)
Other Microenterprises	5 (4.16)
Total	120 (100)

Figures in the parentheses show percentage

Micro investments in our survey area have been found to be broadly concentrated in agricultural and industrial enterprises. According to our survey data, the sectors where BRAC Progoti loans were precisely used by current beneficiaries fall into three broad categories. Crop production falls under the heading of the 'farm (crop) sector'; livestock, poultry and fisheries under the 'farm (non-crop) sector'; and rural transport, handlooms and handicraft, petty trade, food processing, textile dying and block printing (manual), plastic products, footwear, computer software and information technology and other Microenterprises, such as cartwheels, silk weaving, small grocery stores etc. under the 'non-farm sector'. The first two sectors constitute the farm sector in a broader sense of the term.

Our survey gathered information on different activities in which members are currently involved. Some members started new activities, while others expanded or upscaled their previous activities. However, investments in Computer software and information technology, textile dying, and block printing, plastic products, and footwear have been noted as a newer trend in the survey area.

Our findings demonstrate that crop production, petty trading and food processing dominate the list (table 5.1). However, handlooms and handicrafts, livestock, rural transport were also observed to be popular. Textile dying and block printing (manual), poultry, plastic products, and footwear hold similar importance. Fisheries, Computer software and information technology and other microenterprises, such as cartwheels, silk weaving, small grocery stores come next in line.

5.3. Background for Assessment

The difficulty encountered when measuring financial flows associated with calculating the values for fixed and current business assets also applies to estimating household income. First, the income sources on which micro/small entrepreneurs subsist can be diverse as well as inconsistent due to seasonality (Hentschel and Lanjouw, 1996). Given these circumstances, household income reflects an aggregate figure based on data collected from three different sources: a) wage income (i.e., wages, salaries in cash/kind) b) rental income (i.e., rents and payments from the use of physical and financial property), and c) profits from assisted and other enterprises (i.e., derived from gross receipts minus costs) (Alderman, 1993). Since income is generated from various sources within the households, and since credit and money in general are fungible, it is difficult to posit causal links between loan use and changes in income.

Expenditure data, a proxy for income, reflects the estimated cost of that which is consumed in the household based on income, household savings, home-produced goods, and alternate forms of credit. Another rationale for using expenditure data is that it is easier to collect than income data because people tend to underreport their actual income. Income levels, specifically those of poor people in a rain-fed agrarian economy, fluctuate all through the year. But people always try to even out their expenditure (Ravallion, 1992). Therefore, expenditure levels can be used to estimate poverty.

A higher expenditure level indicates a greater likelihood of moving above the poverty line. Consumption data mirror accurately the total amount the household is capable of consuming, after inspecting the income or wealth from multiple sources. Also, it is argued that by observing changes in

the accumulation of household assets, researchers may gauge the degree to which program participants are prepared for fluctuation in income, short-term crises, and natural calamities.

The impact of microcredit on poverty can be assessed at individual or household level. Most impact assessment studies have been conducted at household level. A few studies have been conducted at the individual level (for example, Peace and Hulme, 1994). Although an impact assessment at an individual level is easier to implement, it fails to identify the impacts which go beyond individual level. Individual level impact assessment fails to distinguish between individual impacts and group impacts (Hulme, 2000). Though an impact assessment at household level is less easy to conduct than an impact assessment at an individual level, a household level assessment is much broader in terms of coverage than the individual assessment. It covers impacts on individuals as well as impacts on other relevant aspects of households that are important for better livelihood for individuals (Hulme, 2000). Given the advantages of household level impact assessments, this study has conducted assessments at that level.

This study is focused on explaining household consumption expenditures and asset accumulation, the key program outcomes. Specifically, the direct and indirect relationship among variables which influence, and possibly explain, clientele households' consumption behaviour and asset accumulation are examined. As seen in the literature review, household consumption behaviour and asset generation are the standard measures through which to evaluate if and how microenterprise clients have benefited from financial assistance and program participation. Additionally, the study will focus on subjective measures of various social gains and sustainability aspect of microenterprise development.

5.3.1. Identification of Items

It is necessary to conduct a preliminary analysis of the proportions of the overall household income allocated to food and non-food consumption during the pre-BRAC and current phases. Understanding the nature of spending patterns with respect to food expenses is critical before observing the spending habits on overall household maintenance, because food expenditures in the developing world represent a larger proportion of household related expenditures. In the developed world, housing, clothing, and other non-food assets (e.g., cars, televisions, refrigerator, computer, smart phone, tab etc.) comprise the bulk of consumed items.

In order to estimate the proportion of funds allocated to the food and non-food budget, it was necessary to calculate total household consumption. This estimate included the weekly costs incurred from

expenditures on commodities consumed in the household. (Eight categories of commodities constituted the weekly consumed household food basket: 1) rice, cereals, cereal products, bread; 2) cooking oils; 3) sugar; 4) produce; (i.e., fruits and vegetables); 5) meat (i.e., fish, beef and chicken); 6) tea; 7) milk; and 8) other (i.e., eggs and salt).

Regarding non-food expenses, yearly estimates were collected for health, education, clothing, costs incurred for energy use (i.e., lighting, cooking,) and personal transportation, expenditure on other major household heads like household repair/maintenance, ceremony, and rituals. For cosmetics (i.e., hair oil, soap and dental care) monthly expenditures were considered. Rent was not included in the household maintenance equation, because over 90% of our sample members are not paying rent (currently or previously) as they owned their own homes[1]. The study therefore uses seven consumption variables, which are (1) weekly total food expenditure, (2) monthly total cosmetic expenditure, (3) yearly total educational expenditure, (4) yearly total medical expenditure, (5) yearly total clothing expenditure, (6) yearly total expenditure for personal transportation and energy use, and (7) yearly total expenditure on other major household heads, like, personal computer, mobile phone, household repair/maintenance, ceremony and rituals.

Thus, the survey used here included the 'list recall method'. That is while collecting data on food expenses, trained enumerators asked all households in the samples to recall the quantity, price, and value of all consumable items used by the household over the course of one week, immediately (a) before the date of the survey, and (b) before receiving BRAC Progoti loan. It needs to be mentioned that this method also captures the cost of food which members have consumed outside the household. While collecting data on monthly and yearly non-food expenses the list recall method was also used.

So, specific consumption data were collected, and these may be considered a more accurate proxy for income. Because, when respondents report their income, they are prone to present erroneous figures about current incomes and their sources. Consumption data reflect the level of goods and services consumed within the household and 'a better picture of the household's long run standard of living' (Hentschel and Lanjouw, 1996). Finally, within some households, foods may be produced and/or bartered rather than purchased from the market, and such consumption would not be reflected in income

[1] Nonetheless, including rent as a variable within total household maintenance expenditures would not only seriously distort the groups average weekly costs, but also the statistical assumption of homoscedastic variances would not be met. Hence, given the wide variability in monthly rental expenses, it was not possible to include these data in the estimates for total household expenditures.) The ratio of the food budget proportion was then calculated from total amount spent on food relative to total household maintenance expenditures.

data. Therefore, the total weekly household consumption data presented in this part will be referred to as weekly income, and the terms household expenditures, income, and consumption will be used interchangeably.

Microenterprise and its impact on household asset generation have also been analysed here to investigate whether microcredit and hence the loan use in microenterprises increases assets of borrowing households through a comparison of pre-and current state of the beneficiary households. It is to be expected that the study will find a higher volume of assets during current period of microenterprise beneficiary households.

Broadly three asset variables were considered: productive asset, consumer non-land asset/consumer durables and household savings/financial assets. The productive assets of households include land, poultry and livestock, big trees with timber of a value of BDT 500 and above in current prices, rickshaws/vans, boats, tubewells, husking machines, power tillers, fishing nets, looms, farm tools and other such assets. On the other hand, consumer durables include houses, jewellery, TVs, radios, clocks, cassette players, and other durable goods, each with a current money value of BDT 500 or more. Computers and mobile phones were either put under productive asset or consumer durables depending on their uses. For gathering information on total household savings or financial assets, both formal (in banks, co-operatives, with BRAC or NGOs) and informal (in the house, with relatives and friends) savings were considered. While collecting data on savings along with cash savings, non-cash savings in the form of paddy seeds, *mushti chaal* (handfuls of rice) saved by cutting food consumption, jute, and potatoes have been considered. All types of savings are converted to cash and are considered as the total savings of the household.

5.3.2. Statistical Techniques Used for Data Analysis

Mean values and standard deviations have been used in the analysis to compare consumption and assets of the pre-BRAC and current situations. Appropriate statistical tests have been conducted on the basis of the nature of the data, basically to assess the microenterprise wise impact of credit use on the poverty of borrowing households by comparing different aspects of present and post situations. For testing null hypotheses, paired-samples T tests have been carried out for comparison. A multi-variate analysis, i.e. the ordinary least square technique (OLS), has also been used to assess the microenterprise wise impact of credit use and also to control for the contribution of other important variables in assessing the

consumption expenditure and asset accumulation of the borrowing households. For both the parametric and non-parametric tests, the minimum accepted level of significance has been chosen at the 10% level.

5.4. Impacts of Loan Uses by Microenterprises: Consumption Expenditure

It is more or less recognized that microcredit, via investment in microenterprises, increases the incomes of borrowing households. Income provides resources for consumption, and increased income causes consumption to increase. It is therefore important to examine whether loan use increases the consumption expenditure of the borrowing households.

In this part we assess the impact of loan uses on consumption expenditure of borrowing households through a comparison of means, a test of hypotheses and linear regression techniques. By examining household consumption patterns, one may understand better the effect that a credit scheme may have on its clientele's welfare. Specifically, observing the test results from a t-test, comparing the proportion of the total household maintenance budget spent on food and non-food items during pre-BRAC and current situations can demonstrate the degree to which respective mean food and non-food ratios are different.

A comparison of the pre-BRAC and current situations of the program households have been carried out altogether for the thirteen microenterprise activities identified in our study of current loan uses. For convenience of analysis, all weekly, monthly, and yearly data have been converted into monthly figures. A list of the consumption variables used in the study was provided above.

5.4.1. Descriptive Analysis

Detailed findings on the current and the previous monthly average consumption expenditures on food and non-food items by all program households are shown in table 5.2 for all the activities undertaken by the program clients in our sample area with BRAC Progoti loans. To avoid complications, instead of going into the detailed breakdown of non-food expenditures, we will continue the discussion of the total average monthly non-food expenditure along with total average monthly food expenditure and total average monthly consumption expenditure.

Table 5.2: Monthly Household Expenditures (in BDT) of BRAC Progoti financed Microenterprise Households in Various Heads

Current beneficiary		Food expenditure	Non-food expenditure	Total Expenditure	Expenditure per capita
Now	Mean	3035.6	2749.8	5785.4	2719.2
	SD	1610.1	3205.7	3756.3	2653.9
Pre-BRAC	Mean	2559.8	1805.3	4365.1	1699.2
	SD	1241.2	1688.8	2384.0	928.3
All	Mean	2816.2	2314.1	5130.3	2248.7
	SD	1470.1	2658.4	3273.2	2108.7

Table 5.2 outlines the household expenditures across microenterprises during current and pre-BRAC stages by the mean values and standard deviations (SD). As a whole, household expenditure of current beneficiary is far higher than their pre-BRAC stage. Consequently, expenditure per capita of current beneficiary is (2719.2) also markedly higher than their pre-BRAC stage. In particular, current beneficiary expends more on food (3035.5) rather than non-food expenditure (2749.8). During their pre-BRAC stage, they similarly spent more money on food expenditure and less on non-foods.

5.4.2. Test of Hypotheses

For each kind of BRAC Progoti-financed Microenterprises, a Paired-Samples T test[2] was applied.

For each of the microenterprises reported in our study, three kinds of hypotheses have been developed for the paired-sample t test, assuming unknown sample variances. The first is for monthly expenses on the total consumption of households, the second for monthly expenses on food items, and the third for non-food items.

The first set of hypotheses with regard to the total consumption expenditure, is the following:

Ho: $X1 = X2$; and

Ha: $X1 \neq X2$

Where, Ho or the null hypothesis is:

[2] The paired-samples T test procedure compares the means of two variables for a single group. Here each subject has the scope for two measures, often called before and after measure. This test computes the differences between values of the two variables for each case and tests whether the average differs from 0.

The mean amount of funds spent monthly on food and non-food items in total (X1), for microenterprise sample households currently is equal to the microenterprise sample households past mean amount of funds spent monthly on food and non-food in total (X2). In other words, there is no significant difference between the present and the past expenditure of the microenterprise sample households;

and Ha or the alternative hypothesis is:

The mean amount of funds spent monthly on food and non-food in total (X1), for microenterprise sample households currently is not equal to the microenterprise sample households' past mean monthly expenditure on food and non-food in total (X2)

The second set of hypotheses, with regard to monthly food expenses on their own is the following:

Ho: X1 = X2; and

Ha: X1 ≠ X2

Where, Ho or the null hypothesis is:

The mean amount of funds spent monthly on food (X1), relative to the total household budget, for microenterprise sample households currently is equal to the past mean amount of funds spent monthly on food (X2), relative to the total household budget;

and Ha or the alternative hypothesis is:

The mean amount of funds spent monthly on food (X1), relative to the total household budget, for microenterprise sample households currently is not equal to the past mean amount of funds spent monthly on food (X2), relative to the total household budget.

The third set of hypotheses with regard to the monthly non-food expenses on their own is the following:

Ho: X1 = X2; and

Ha: X1 ≠ X2

Where, Ho or the null hypothesis is:

The mean amount of funds spent monthly on non-food items (X1), relative to the total household budget, for microenterprise sample households currently is equal to the past mean amount of funds spent monthly on non-food items (X2), relative to the total household budget;

and Ha or the alternative hypothesis is:

The mean amount of funds spent monthly on non-food items (X1), relative to the total household budget, for microenterprise sample households currently is not equal to the past mean amount of funds spent monthly on non-food items (X2), relative to the total household budget.

Table 5.3 and 5.4 presents the test results for all thirteen activities undertaken currently.

Table 5.3: Hypotheses Testing on Consumption Expenditure for Different Microenterprise Households

Activities	Variables	Difference in means (in BDT)	Degrees of freedom	t	Sig (2 – tailed)
Crop	Total average monthly consumption expenditure	1442.11	17	15.273	.000
	Total average monthly food expenditure	728.37	17	15.136	.000
	Total average monthly non-food expenditure	713.73	17	7.201	.000
Petty trading	Total average monthly consumption expenditure	1351.62	13	40.99	.000
	Total average monthly food expenditure	637.12	13	40.28	.000
	Total average monthly non-food expenditure	714.50	13	14.49	.000
Livestock	Total average monthly consumption expenditure	1474.76	9	6.368	.000
	Total average monthly food expenditure	749.46	9	6.192	.000
	Total average monthly non-food expenditure	725.30	9	6.680	.000
Food Processing	Total average monthly consumption expenditure	1561.28	11	20.700	.000
	Total average monthly food expenditure	748.05	11	19.842	.000
	Total average monthly non-food expenditure	813.23	11	7.456	.000
Poultry	Total average monthly consumption expenditure	1309.31	7	17.299	.000
	Total average monthly food expenditure	583.86	7	13.226	.000
	Total average monthly non-food expenditure	725.45	7	8.990	.000
Rural Transport	Total average monthly consumption expenditure	1379.16	9	14.008	.000
	Total average monthly food expenditure	659.43	9	13.502	.000
	Total average monthly non-food expenditure	719.73	9	6.662	.000

Table 5.4: Hypotheses Testing on Consumption Expenditure for Different Microenterprise Households

Activities	Variables	Difference in means (in BDT)	Degrees of freedom	t	Sig (2 – tailed)
Textile dying and block printing (manual)	Total average monthly consumption expenditure	1555.52	7	11.550	.000
	Total average monthly food expenditure	737.80	7	11.034	.000
	Total average monthly non-food expenditure	817.72	7	7.163	.000
Footwear	Total average monthly consumption expenditure	1515.47	6	23.07	.000
	Total average monthly food expenditure	720.41	6	23.20	.000
	Total average monthly non-food expenditure	795.06	6	11.364	.000
Plastic products	Total average monthly consumption expenditure	1482.66	6	6.645	.001
	Total average monthly food expenditure	712.41	6	6.530	.000
	Total average monthly non-food expenditure	770.25	6	12.288	.001
Other Microenterprises	Total average monthly consumption expenditure	1428.37	4	26.269	.000
	Total average monthly food expenditure	705.71	4	32.928	.000
	Total average monthly non-food expenditure	722.65	4	7.580	.002
Fisheries	Total average monthly consumption expenditure	1634.96	4	26.601	.000
	Total average monthly food expenditure	822.14	4	25.667	.000
	Total average monthly non-food expenditure	812.82	4	8.933	.002
Handlooms and Handicraft	Total average monthly consumption expenditure	1363.76	10	6.268	.000
	Total average monthly food expenditure	624.46	10	6.092	.000
	Total average monthly non-food expenditure	739.30	10	6.480	.000
Computer software and information technology	Total average monthly consumption expenditure	1688.36	4	26.269	.000
	Total average monthly food expenditure	815.71	4	29.928	.000
	Total average monthly non-food expenditure	872.65	4	7.570	.002

Table 5.3 and 5.4 show the results of the test on the hypotheses developed for monthly total (food and non-food) consumption expenditure, food expenditure and non-food expenditures of the households currently engaged in different microenterprises with BRAC Progoti loans.

It is to be noted that for all 13 microenterprise activities undertaken with BRAC credit, current average monthly consumption expenditure was found higher than pre-BRAC consumption expenses. Also, the mean amount of funds spent monthly on food and non-food items separately is found higher than the spending made on food and non-food items during pre-BRAC stages. Across all categories of microenterprises, the positive differences are statistically significant at the 1% level. In essence, the statistical evidence illustrated that the monthly allocations for household consumption expenses have increased significantly for the microentrepreneurs' households as compared to their pre-BRAC stages, hence null hypotheses were disproved.

5.4.3. Regression Analysis

This part examines several plausible explanatory variables affecting consumption expenditures of different microenterprise households. A multivariate analysis is made to find out the comparative contribution of loan use in different activities to the expenditure level.

In particular, the ordinary least square technique (OLS) has been used to assess the contribution of different microenterprises undertaken by households with BRAC loans. In this particular exercise of the part, our study is specifically focused on explaining total consumption expenditures (food and non-food), the key study outcomes. Pre-BRAC and current consumption expenditure will be compared. The direct and indirect relationship among variables which influence, and possibly explain borrowing households' consumption behaviour will also be examined through regression analysis. The results from a regression analysis will allow us to observe the extent to which several variables affect the outcome measure simultaneously. That is, one may control for other variables which could otherwise influence the observed dependent variable.

5.4.3.1. Contribution of Loan Financed Microenterprises to Total Consumption Expenditure

Table 5.5: Contribution of Loan Financed Microenterprises to Total Consumption Expenditure

Dependent variable:	Per capita monthly total consumption expenditure (Current)		Per capita monthly total consumption expenditure (Pre-BRAC)	
Independent Variables	Current		Pre-BRAC	
	Coefficients	t	Coefficients	t
Activities where BRAC loan is used:				
Crop = 1, otherwise = 0	60.06**	5.71	39.87	3.73
Petty trading = 1, otherwise = 0	40.19***	4.18	23.00**	3.27
Livestock = 1, otherwise = 0	63.83***	4.85	20.05**	1.89
Food Processing = 1, otherwise = 0	76.89****	6.52	51.87****	4.08
Poultry = 1, otherwise = 0	34.66****	2.80	21.3****	3.60
Rural Transport = 1, otherwise = 0	46.54***	2.49	19.09***	2.31
textile dying and block printing (manual) = 1, otherwise = 0	76.20**	6.01	33.35**	3.08
Footwear = 1, otherwise = 0	74.02****	6.38	56.10****	5.02
plastic products = 1, otherwise = 0	65.80***	6.44	33.09**	2.27
Other Microenterprises= 1, otherwise = 0	58.38**	5.03	24.70*	2.33
Fisheries = 1, otherwise = 0	81.30****	7.22	60.02****	4.87
Handlooms and Handicraft =1, otherwise = 0	42.45**	4.03	30.11**	2.06
Computer software and information technology=1, otherwise = 0	88.42****	7.51	59.83****	5.58
Total amount of loan received from BRAC Progoti	38.66**	5.46	-	-
Amount of other loans taken currently/before	.000044	.190	.000066	.465
Household Size (current/before)	1.29	1.38	.49	.49
Total Asset Value (current/before)	32.30**	2.91	11.29*	1.38
Vibrancy (vibrant = 1, otherwise = 0)	21 .05**	4.63	10. 13	2.2
Intercept / Constant	490.59****	44.13	527.93****	44.40
R^2	0.95		0.94	
Adjusted R^2	0.94		0.93	
F Statistics	120.83****		92.95****	
N	120		120	

** Significant at 10% level, **Significant at 5% level, ***Significant at 2% level, ****Significant at 1% level*

Table 5.5 presents the comparative contributions of loan use in different microenterprises to the total consumption expenditure level (comprising of food and non-food items). To assess the current situation, per capita monthly total current consumption expenditure has been used as a dependent variable in the first regression equation. The independent variables are the total amount of loans received from BRAC Progoti so far, current amounts of other (institutional and non-institutional) loans, different microenterprises where BRAC Progoti loans are used (dummy), the current value of total assets, current household size, and village-level infrastructure and marketing facilities (dummy).

For the pre-BRAC period, per capita monthly total consumption expenditures have been considered as a dependent variable. Independent variables are: the amount of other (institutional and non-institutional) loans in the pre-BRAC period, households engaged in different activities where BRAC loans are currently used (dummy), the value of total assets in the pre-BRAC period, pre-BRAC household size, and village-level infrastructure and marketing facilities (dummy).

Findings reveal that the contributions of loan use for Computer software and information technology, Fisheries, Food processing, Footwear is higher both now and before as compared to Crop, Petty trading, Livestock , Poultry, Rural Transport, textile dying and block printing (manual) , plastic products , other Microenterprises (such as, cartwheels, silk weaving, small grocery stores etc.), Handlooms and Handicraft to per capita monthly total consumption expenditure.

However, currently this contribution has been found to be highest for those using their loans in Computer software and information technology. Also, substantially higher contribution has also been noted for loan uses in Fisheries, Food processing, Textile dying and block printing (manual) and Footwear. Besides, per capita monthly total expenditure was also moderately higher for investments made in Plastic, Livestock, Crops and Other Microenterprises (such as, cartwheels, silk weaving, small grocery stores etc.).

During the pre-BRAC period, the contributions of households involved in computer software and information technology and fisheries now ranked the highest and the second highest. This means comparatively better-off households are currently investing computer software and information technology and fisheries.

Among other variables, total asset values have been found to be positively and significantly contributing in this regard both now and before. This means both now and before, per-capita monthly total consumption expenditure increased with the increase in microenterprise household assets and vice-versa. In both periods, the size of the microentrepreneur's household is seen to be positively associated with per capita monthly total consumption expenditure. This means that for households with large families, per capita monthly total expenditure was higher and in smaller families it was lower. Both now and before, with a very small co-efficient, the amounts of loans taken from other sources were directly associated with the dependent variable per-capita total consumption expenditure. This indicates that a rise in per-capita total consumption expenditure is associated with the rise in the amounts of loans from sources other than BRAC Progoti and vice-versa. The total amounts of loans taken from BRAC Progoti have been found to be significantly associated with the dependent variable. The variable denoting vibrancy is also seen to have a direct relationship with per capita total consumption expenditure during now and the pre-BRAC period. This suggests an increase in per-capita total consumption expenditure as the economy gets more vibrant and a decrease in per-capita consumption expenditure with less vibrancy.

5.5. Impacts of Loan Uses by Microenterprises: Household Assets

Assets are sometimes considered as a useful alternative measure of the income of households. It is assumed that income is used to purchase assets, therefore information on assets of a household can provide a picture of income the level of that household (Inserra, 1996). Apart from providing a picture on income, assets have the capacity to generate a stream of income (Little, 1997) and hence, to reproduce assets. It also enhances the capabilities of borrowing households to tackle socio-economic shocks. The accumulation of assets allows households to maintain the same consumption level of good periods during crises, which means it helps households to smooth their consumption and expenditure during crises (Morduch, 1995). Assets have several types of welfare effects. They improve households' stability, create an orientation toward the future, provide a foundation for risk taking and increase personal efficacy, social influences and political participation by household members (Sherraden, 1991). These indicate that it is very important for a household to increase its assets base. Therefore, it is necessary to assess whether the microfinance activities increase the assets of borrowing households through the utilization of credit. On the basis of available data gathered on productive assets, consumer

non-land assets and total savings/financial assets of the households, in this part we are going to examine the pre-BRAC and current asset situation of the microenterprises borrowing households.

5.5.1. Descriptive Analysis

A detail account of the current and the previous assets of the borrowing households of microenterprises has been set out in table 5.6 for all the activities undertaken by the program clients in our sample areas with BRAC Progoti loans. It needs to be mentioned here that none of our sample households have been found to save formally with any banks or co-operatives other than BRAC. Due to the mandatory nature of savings with BRAC, program households currently have a good savings compared to the previous period. It has been calculated that currently BRAC savings comprised 98 to 100 percent of the total savings of the borrowing households.

Table 5.6: Asset Value (in BDT) of BRAC Progoti financed Microenterprise Households

Current beneficiary		Productive assets	Consumer Durables	Total household savings/financial assets	Total asset	Asset per capita
Now	Mean	24583.5	7150.2	5972.5	37706.2	19624.2
	SD	26043.2	7339.7	11607.1	29944.3	20011.8
Pre-BRAC	Mean	7426.5	4455.7	589.1	12471.3	5282.4
	SD	14812.8	4266.5	4091.8	17093.4	7355.0
All	Mean	16671.3	5907.7	3489.8	26068.8	13010.4
	SD	23224.1	6259.9	9350.9	27850.2	17077.7

Table 5.6 presents the asset value of various current microenterprise beneficiary households during their current and pre-BRAC stages by their mean value and standard deviation (SD). It has been found that currently program clients have higher total asset values compared to their pre-BRAC situation irrespective of their engagements in different microenterprises and current Per capita asset value of current beneficiary is nearly 4 times higher than the their pre-BRAC stage. In particular, the asset value of current beneficiary is nearly 3 times higher than their pre-BRAC stage. Productive assets contribute towards more than 64% of the asset value for the current beneficiary. Mean value of financial asset is 5972 BDT and the consumer durable are 7150.2 BDT. Similar to current status of the beneficiary households, about 60% of total asset of their pre-BRAC stage come from

Productive assets. By contrast, during pre-BRAC stage mean value financial assets are only 589.1 BDT and the mean value consumer non-land assets is 4455.7 BDT.

5.5.2. Test of Hypotheses

For each microenterprise, we can test three hypotheses to assess the impact of loan financed microenterprises on building assets for their households. To compare the means of the two variables, a paired-samples T test procedure was carried out for the total average figure obtained for the sample area.

The hypotheses were tested with reference to the following:

i. Total Household Assets
ii. Productive Assets
iii. Consumer Durables
iv. Financial assets/savings

The results of the tests of hypotheses are presented in tables 5.7 and 5.8 for all the microenterprises in our study.

Table 5.7: Hypotheses Testing on Household Assets for Different Microenterprise Households

Activities	Variables	Difference in means (in BDT)	Degrees of freedom	t	Sig (2 – tailed)
Crop	Total Household Assets	25,072.36	17	30.34	.000
	Productive Assets	15,000	17	22.21	.000
	Consumer Durables	5799.08	17	22.455	.000
	Total household savings	4273.28	17	25.256	.000
Petty trading	Total Household Assets	24,986.29	13	21.12	.002
	Productive Assets	10,914.29	13	4.173	.001
	Consumer Durables	9621.43	13	10.06	.000
	Total household savings	4450.57	13	21.860	.000
Livestock	Total Household Assets	25,055.83	9	4.71	.001
	Productive Assets	19,379.99	9	5.81	.002
	Consumer Durables	1316.67	9	18.83	.000
	Total household savings	4359.17	9	15.18	.000
Food Processing	Total Household Assets	26,117.86	11	1.526	.005
	Productive Assets	10,385.72	11	13.7	.002
	Consumer Durables	10,567.14	11	12.137	.002
	Total household savings	5165	11	43.213	.000
Poultry	Total Household Assets	23,315	7	5.70	.002
	Productive Assets	11,930	7	3.318	.009
	Consumer Durables	6450	7	2.267	.050
	Total household savings	4935	7	25.945	.000
Rural Transport	Total Household Assets	24,088	9	14.58	.001
	Productive Assets	11,000	9	12.0	.003
	Consumer Durables	8050	9	11.89	.000
	Total household savings	5038	9	21.24	.000

Table 5.8: Hypotheses Testing on Household Assets for Different Microenterprise Households

Activities	Variables	Difference in means (in BDT)	Degrees of freedom	T	Sig (2 – tailed)
Textile dying and block printing (manual)	Total Household Assets	25,581.25	7	.063	.002
	Productive Assets	15,962.5	7	4.43	.003
	Consumer Durables	4181.25	7	22.68	.000
	Total household savings	5437.50	7	30.08	.000
Footwear	Total Household Assets	25,685.71	6	9.79	.000
	Productive Assets	14,085.71	6	11.49	.000
	Consumer Durables	5285.71	6	9.53	.000
	Total household savings	6314.29	6	14.30	.000
Plastic products	Total Household Assets	24,847.14	6	22.71	.000
	Productive Assets	13,000	6	13.80	.000
	Consumer Durables	6578.57	6	16.24	.000
	Total household savings	5268.57	6	18.07	.000
Other Microenterprises	Total Household Assets	25,692	4	13.94	.000
	Productive Assets	13708.54	4	6.190	.003
	Consumer Durables	6,442.00	4	.416	.003
	Total household savings	5541.46	4	45.328	.000
Fisheries	Total Household Assets	27,375	4	.829	.005
	Productive Assets	12,000	4	1.00	.001
	Consumer Durables	7750	4	23.00	.001
	Total household savings	7625	4	9.737	.000
Handlooms and Handicraft	Total Household Assets	23,100	10	.590	.001
	Productive Assets	11,700	10	5.090	.003
	Consumer Durables	6100.00	10	12.89	.000
	Total household savings	5300.00	10		
Computer software and information technology	Total Household Assets	26,340	4	5.942	.000
	Productive Assets	15,217	4	7.199	.003
	Consumer Durables	6,000.00	4	6.41	.003
	Total household savings	5123.00	4	42.32	.000

Table 5.7 and 5.8 show results of the test on the hypotheses developed for the four aspects of household assets for different microenterprises financed with BRAC Progoti credit.

Across all 13 activities undertaken with BRAC Progoti credit, the borrowing households currently possess higher total household assets than the pre-BRAC period. The differences in the mean have been found to be substantially higher for productive assets, consumer durables and financial assets. In all categories differences are statistically significant and we, therefore, reject the null hypothesis. In essence, the statistical evidence illustrated that the borrowing households involved in various microenterprises currently possess a significantly higher amount of assets than in their pre-BRAC phase.

5.5.3. Regression Analysis

A linear regression technique has been used to find the relative contribution of microenterprise activities undertaken with BRAC loans to total asset levels, and to assess the degree, direction and significance of other variables affecting total household assets (productive assets, consumer durables and financial assets/savings). As before, two regressions have been carried out to ascertain the current and pre-BRAC status of the microenterprise households' asset accumulation.

Table 5.9 presents the magnitude of the difference in the assets of households for both periods for various BRAC-financed microenterprises. The influence of some independent variables in explaining the changes in the dependent variables has also been examined.

5.5.3.1. Contribution of Loan Financed Microenterprises to Total Household Assets

Table 5.9: Contribution of Loan Financed Microenterprises to Total Household Asset

Dependent variable:	Total Asset Value (Current)		Total Asset Value (Pre-BRAC)	
Independent Variables	Current		Pre-BRAC	
	Coefficients	t	Coefficients	t
Activities where BRAC loan is used:				
Crop = 1, otherwise = 0	43816.20*	1.11	32958.90	2.06
Petty trading = 1, otherwise = 0	41786.54*	1.60	18761.21	1.33
Livestock = 1, otherwise = 0	42679.19*	2.25	22230.45	1.22
Food Processing = 1, otherwise = 0	48782.07**	2.08	34278.26*	2.54
Poultry = 1, otherwise = 0	39752.66*	2.50	18419.09	1.20
Rural Transport = 1, otherwise = 0	40681.34*	2.17	11087.02	2.19
textile dying and block printing (manual) = 1, otherwise = 0	44652.29*	1.21	16170.55	.61
Footwear = 1, otherwise = 0	47369.86**	2.07	31090.54*	2.05
plastic products = 1, otherwise = 0	41008.38**	2.53	9032.42	1.35
Other Microenterprises= 1, otherwise = 0	48669.94**	.1.34	13890.32	1.28
Fisheries = 1, otherwise = 0	55627.87**	2.11	30925.82*	1.82
Handlooms and Handicraft =1, otherwise = 0	38987.55**	2.35	22655.11	1.24
computer software and information technology=1, otherwise = 0	54595.09**	2.09	29870.87*	1.80
Total amount of loan received from BRAC Progoti	22.95*	2.67	-	-
Amount of other loans taken currently/before	.05	.10	.25	.75
Vibrancy (vibrant = 1, otherwise = 0)	39.98***	1.61	14.28***	5.35
Intercept / Constant	71959.71	2.81	74870.14	2.95
R^2	0.60		0.53	
Adjusted R^2	0.54		0.47	
F Statistics	10.46****		8.24****	
N	120		120	

** Significant at 10% level, **Significant at 5% level, ***Significant at 2% level, ****Significant at 1% level*

Table 5.9 compares the contribution of loan use in different microenterprise activities to the total household assets. To assess the current situation the value of total current assets of microenterprise households has been used as a dependent variable in the first regression equation. The independent variables are: the total amount of loans received from BRAC Progoti so far, the current amount of other (institutional and non-institutional) loans, different activities where BRAC loans are used (dummy), and village-level infrastructure and marketing facilities (dummy).

The total asset values of microenterprise households during the pre-BRAC period have been considered as a dependent variable. Independent variables are: the amount of other (institutional and non-institutional) loans in pre-BRAC period, households engaged in different activities with BRAC loans (dummy) and village-level infrastructure and marketing facilities (dummy).

The contribution of credit use to household's asset accumulation have been found to be higher for Fisheries, Computer software and information technology, Food Processing, Other Microenterprises (such as, cartwheels, silk weaving, small grocery stores etc.) and Footwear both for now and before. Loan use also makes substantial contributions to the asset accumulation for textile dying and block printing (manual), Crop, Livestock, Petty trading, plastic products, Rural Transport, Poultry and Handicraft as well. Overall microenterprises pursued with BRAC Progoti credit have been found to make significant contribution in building productive assets, consumer durables and financial assets for the current borrowers as compared to their pre-BRAC state.

Out of the other independent variables, the amount of current BRAC loans have been found to be highly significant (1% level) and directly related to the current volume/value of total household assets. This means that as the amount of loans received from BRAC Progoti goes up, microenterprise households will have more assets at their disposal. Both for pre-BRAC period and now, loans received from other sources have also been found to be directly associated with total household assets. However, the co-efficient for the pre-BRAC period was higher than 'now' for the variable relating to loans received from other sources. Finally, vibrancy have been found to be very significantly (1% level) and positively related with total household assets in both periods. This implies that households in vibrant areas will contribute more to household assets than the households in less vibrant areas.

5.6. Subjective Wellbeing of Current Microenterprise Households

Table 5.10 below computes the aspiration status of the respondents in several categorical aspects.

Table 5.10: Aspirations status of Current BRAC Progoti Financed Microenterprise Households about their future

	Current beneficiary Now (%)	Current beneficiary Pre-BRAC (%)
Not at all optimistic	1.36	14.98
Slightly optimistic	24.94	46.79
Optimistic	60.64	33.96
Very optimistic	13.06	4.27
Total	100.00	100.00

At present the current microenterprise beneficiary households are far more optimistic than their pre-BRAC stage. Under the category of 'not at all optimistic' level, the percentage of population belonging to pre-BRAC state is remarkably higher (15%) as compared to the responses of the current beneficiary microenterprise households (1.4%). Current beneficiary ME households are twice optimistic now as compared to their pre-BRAC. Finally, 13% of the current beneficiary households are very optimistic about their future, which is 9% higher than their pre-BRAC stage.

Table 5.11: Aspirations status of Current BRAC Progoti Financed Microenterprise Households about their children

	Current Beneficiary Now (%)	Current Beneficiary Pre-BRAC (%)
Not at all optimistic	0.90	3.23
Slightly optimistic	15.19	30.11
Optimistic	30.80	30.38
Very optimistic	37.11	20.70
Not applicable	16.00	15.58
Total	100.00	100.00

Table 5.11 describes the aspiration about the children of current microenterprise beneficiary households during current and pre-BRAC stage. It is to be noted that current beneficiaries are mostly responsive at optimistic (31%) and very optimistic (37.11%) level as compared to their pre-BRAC state. During the pre-BRAC stage, they are mostly responsive at slightly optimistic (30%) and optimistic (30.1%) categories.

Table 5.12: Present Subjective Food Status of the BRAC Progoti Financed Current Microenterprise Households

Subjective Food-Poverty	Current beneficiary Now (%)	Current beneficiary Pre-BRAC (%)
Always deficit	0.70	7.75
Sometimes deficit	6.86	51.60
Neither deficit nor surplus	40.96	33.70
Surplus	51.48	6.95
Total	100.00	100.00

Present and previous subjective food status for current microenterprise beneficiary households have been shown in Table 5.12. Foods are almost surplus (more than half of them) for the current microenterprise households but they sometimes experience deficit in their pre-BRAC stage as more than half of them reported to face deficit (51.6%) for some times. However, a large number have been reported to experience either deficit or surpluses in food consumption in their pre-BRAC stage

(34%) Nevertheless, during pre-BRAC stage a substantive amount reported that foods are neither deficit nor surplus. In this category, current beneficiary households are rather more responsive (41%) as compared to their pre-BRAC stage (34%).

Table 5.13: Present Economic Status of the BRAC Progoti Financed Current Microenterprise Households

Subjective Well-Being	Current beneficiary Now (%)	Current beneficiary Pre-BRAC (%)
Very poor	3.43	34.49
Poor	64.83	51.87
Lower middle class	28.54	11.50
Middle class	3.20	2.14
Total	100.00	100.00

Table 5.13 delineates the present and former economic status of current microenterprise beneficiary households currently and during pre-BRAC stage. It is evident from the table that about 68% of the microenterprise households are still poor and 85% of these households were either poor or very poor during pre-BRAC stage. Interestingly, middle class comprises only a very few households both currently and pre-BRAC stage. Out of microenterprise households, 28% fall in the lower middle-class category, which was 11% during pre-BRAC stage.

5.7. Sustainability of the Microenterprises: Comparison between Current and Former BRAC Progoti Beneficiaries

Various economic and social gains from investing in microenterprises have been assessed and discussed in the last part. Now, at this point the most pertinent question that comes into play is the possibility of continued maintenance of these gains in future, particularly in the absence of financial and non-financial support services from MFI or other sources. In this part, the study makes an attempt to compare the performances of former graduated beneficiary households with that of the current microenterprise beneficiary households in order to approximate the sustainability issue and long-term resilience of the graduated beneficiary households.

This assessment of sustainability of the major economic and other gains by the former microenterprise beneficiary households is however, based on the assumption of both the comparison groups belonging to a ‘common gene family’, sharing identical features. It needs to be recalled that even if time differences are there for the BRAC Progoti membership by the two groups, nevertheless the targeting criteria of BRAC Progoti remained relatively unchanged between the two periods for the comparison

groups. During one-on-one qualitative interviews with the current and former beneficiaries, the study also figured likely differences in the program content that might be linked with the former beneficiary pool having had less exposure to training, less for savings, and comprising of slightly higher percentage of elderly people.

Findings about the new survey in the same area on 30 matched former beneficiaries, who graduated from the microfinancing program of BRAC Progoti have been presented in this part. To assess sustainability of the microenterprises, discussions are made on the current investment portfolios of former BRAC Progoti beneficiaries and differences in the wellbeing between the former and the current microenterprise beneficiaries. However, comparisons are not made across microenterprises of the two groups as the scope of the study for this part were just limited to 30 former beneficiaries and cross-matching of microenterprises have been felt difficult.

Table 5.14: Investment in Microenterprises by former BRAC Progoti beneficiaries

Uses	Total
Farm Sector	
Farm crop and non-crop sector	
Crop Production	6 (20)
Livestock	3 (10)
Poultry	3 (10)
Fisheries	3 (10)
Non-farm sector	
Rural Transport	4 (13.3)
Handlooms and Handicrafts	3 (10)
Petty Trade	2 (6.66)
Food Processing	4 (13.33)
Other Microenterprises	2 (6.66)
Total	30 (100)

Figures in the parentheses show percentage

According to our survey data, 50% of the former beneficiaries are engaged in the farm sector and 50% in the non-farm sector. 20% of the survey respondents have been found to engage in farm-crop sector, followed by 13.33% in the rural transport and food processing. Livestock, poultry, fisheries, handlooms and handicraft, petty trade and other microenterprises (small grocery stores) were found next in line. However, it is to be noted that the former beneficiaries were not found to be occupied with the relatively newer form of microenterprise investments (textile dying and block printing, plastic products, footwear, computer software and information technology) like the current beneficiaries.

5.7.1. Monthly Expenditure and Asset Value of Current and Former Beneficiary Households

As before, expenditure and asset data are used in assessing sustainability of microenterprises.

Table 5.15: Household Expenditure (in BDT) of the BRAC Progoti Beneficiaries (Current and Former)

		Food expenditure	Non-food expenditure	Total Expenditure	Expenditure per capita
Current beneficiary	Mean	3035.6	2749.8	5785.4	2719.2
	SD	1610.1	3205.7	3756.3	2653.9
Former beneficiary	Mean	2931.2	2356.1	5287.3	2361.7
	SD	1566.2	3792.3	4276.6	2947.5
All	Mean	2985.5	2561.3	5546.8	2547.9
	SD	1589.2	3502.5	4019.3	2802.4

Mean values of household expenditure have been presented in table 5.15 for current and former beneficiary microenterprise households of BRAC Progoti program. It can be seen that current beneficiary households make a little higher expense than their former counterpart as a whole. As for food and non-food expenditures separately, current beneficiaries also make higher spending as compared to former ones. Also, current beneficiary households spend more on food (3035) and less on non-food (2750). In a similar fashion, former beneficiary households spend more on food (2931) and less on non-foods (2356).

Table 5.16: Asset Accumulation (in BDT) of the BRAC Progoti Beneficiary Households

		Productive asset	Consumer Durables	Financial Asset/ Savings	Total asset	Asset per capita
Current beneficiary	Mean	24583.5	7150.2	5972.5	37706.2	19624.2
	SD	26043.2	7339.7	11607.1	29944.3	20011.8
Former beneficiary	Mean	24423.2	6887.4	5370.1	36680.7	17298.6
	SD	27466.9	9368.0	13566.6	36301.0	18174.7
All	Mean	24506.5	7024.3	5684.0	37214.8	18509.9
	SD	26718.9	8369.0	12580.1	33126.4	19177.5

Mean value of current assets of current beneficiary and former beneficiary households have been shown in table 5.16. It appears that asset value of current beneficiary household is higher than their former counterparts. In case of current beneficiary, productive asset contributes to more than 65% of the asset value, financial asset contributes to 15% of the asset value and Non-land asset contributes to 19% of the asset value. Similar to current beneficiary households, nearly 66% of total asset value of former beneficiary households arise from productive asset, 19% from consumer non-land assets and 15% from financial assets.

5.7.2. Subjective Wellbeing of Microenterprise Beneficiary Households

Subjective wellbeing of the current and former microenterprise beneficiary households has been discussed in this part.

Table 5.17: Aspirations status of BRAC Progoti Financed Beneficiary Households about their future

	Current beneficiary (%)	Former beneficiary (%)
Not at all optimistic	1.36	3.23
Slightly optimistic	24.94	28.60
Optimistic	60.64	57.97
Very optimistic	13.06	10.20
Total	100.00	100.00

Table 5.17 depicts the aspiration motivation among the respondents. It appears that the current beneficiary microenterprise households are a bit more optimistic than their former beneficiary counterparts. For a former beneficiary household, the percentage of population belonging to 'not at all optimistic level' is a bit higher (3.23%) as compared to the current beneficiary microenterprise households. As for Optimistic and Very Optimistic category, current beneficiary group holds higher promises.

Table 5.18: Aspirations status of BRAC Progoti Financed Beneficiary Households about their Children

	Current beneficiary (%)	Former beneficiary (%)
Not at all optimistic	0.90	0.75
Slightly optimistic	15.19	16.7
Optimistic	30.8	36.6
Very optimistic	37.11	29.76
Not applicable (No Children)	16.00	16.49
Total	100.00	100.00

In respect to various optimistic categories, Table 5.18 reflects the aspiration status of current beneficiary and former beneficiary households about their children. It has been distinctly noted that the current beneficiary microenterprise households are largely responsive at optimistic (30.8%) and very optimistic (37%) level about their children. In a similar fashion, former beneficiary graduated households are also found to be mostly responsive at optimistic (36.6%) and very optimistic (29.76%) categories. Nonetheless, both current and former beneficiary households are seen to demonstrate a little interest at not at all optimistic category, which looks relatively better for current beneficiary households.

Table 5.19: Present Subjective Food Status of the BRAC Progoti Beneficiary Households

	Current beneficiary (%)	Former beneficiary (%)
Always deficit	0.70	0.50
Sometimes deficit	6.86	12.44
Neither deficit nor surplus	40.96	47.01
Surplus	51.48	40.05
Total	100.00	100.00

Table 5.19 delineates the up to date subjective food situation for both current beneficiary and former beneficiary households investing in microenterprises. It appears that foods are almost surplus (more than half of them) for current beneficiary households. As opposed to this, 47% of former beneficiary households opined for the category of foods are neither deficit nor surplus. All these demonstrates that the current beneficiary microenterprise households are more likely have higher food as compared to former graduated beneficiary households.

Table 5.20: Present Economic Status of the BRAC Progoti Beneficiary Households

Subjective Wellbeing Indicators	Current beneficiary (%)	Former beneficiary (%)
Very poor	3.43	5.47
Poor	64.83	68.62
Lower middle class	28.54	22.67
Middle class	3.20	3.23
Total	100.00	100.00

Table 5.20 suggests present economic condition of both current beneficiary and former beneficiary BRAC Progoti households investing in microenterprises. Between 68 and 75% of current and former beneficiary households identify themselves as either poor or very poor, however, the percentage of very poor category is very low for both the comparison groups. Middle class constitutes only a 3.20% for the current beneficiary households and 3.23% in case of former graduated beneficiary households. About 28.54% of current beneficiary households and more than 22.67% of former beneficiary households identify themselves belonging to a lower middle-class category.

In summary, current beneficiaries are better off in all the categories- expenditure, asset and other subjective counts.

The economic situation of the former beneficiary households has remained better in comparison to the pre-BRAC stage of the current beneficiary households and this demonstrates optimism about the positive benefits of MFI lending for microenterprises.
Despite doing better as compared to the pre-BRC stage of the current beneficiary households, some indication of definite slackening in economic indicators have been observed when former beneficiary households are compared to the current BRAC Progoti beneficiary households. Under performance is documented in major economic measures, such as consumption expenditure, and household assets. Other subjective measures of well-being have also recorded similar trend in performance outcomes. These findings call for further

attention on the part of MFIs and NGOs on reassuring the resilience aspects in their poverty fights while focusing on SDG goals.

6. Conclusion and Policy Implications

6.1. Conclusion

Bangladesh's journey to the middle-income country status depends on promoting more inclusive and sustained growth. This acknowledges the potential role of the poor to come out of the poverty trap and contribute more dynamically to the overall development of the economy. The idea of poverty trap stipulates a worldview that the poor's income today is so little that it does not produce enough efforts to enhance income tomorrow. Initial low income typically had low domestic savings and investment ratios, thus creating a vicious cycle of low income-low savings-low growth-low income.

Under this backdrop, the proponents of microfinance paradigm express a great deal of optimism about the role of finance in breaking the vicious circle of 'low income, low savings, low investment, low income' by making enough resources available for poor, so as to nudge them to embark on a better income-expenditure and living path, as part of achieving sustainable development goals. NGOs which are engaged in microfinance operations in rural Bangladesh have the capability of working as effective intermediaries which can provide the links between savings and credit for financing MEs as access to finance is a necessary condition for expanding and up-scaling these activities. It is further envisaged that MFI credit, financial products and non-financial support would also help in the acquisition of technology, marketable skills, and know-how to do business that are more income-augmenting and debt reducing. In a broader perspective rural economic growth can be greatly fostered through promoting MEs which have significant production and consumption linkages, having vast employment potential and limitless opportunities for self-employment. Effect of microenterprise performance is expected to uplift the economic wellbeing of low-income households, thus minimizing economic vulnerability. Hence, it is also assumed that superior performance, as indicated by increases in income and asset accumulation, may aid microenterprises owned and managed by low-income micro-entrepreneurs, to better cope with economic challenges.

With a case study of BRAC Progoti microentrepreneurs in the Comilla area of Bangladesh, the research question that we tried to address in this paper is whether a considerable injection of resources coupled with support services—--can improve and sustain the improvements in poverty situation of the microenterprise households. This question is important as Bangladesh's journey to the middle-income country status demands a pivotal role on the part of MEs towards promoting more inclusive growth as drivers of economic transformation, especially in the rural areas. The study compares the pre-BRAC state and the current state of the 120 current beneficiary BRAC Progoti households across different economic and subjective welfare counts and assessed the state of the 30 graduated BRAC Progoti borrowers in the same survey area to get the indication about the sustainability of the microenterprises. Overall, the study finds that the MEs can significantly help create jobs, stimulate incomes, accumulates assets, raise purchasing power, and contribute to poverty reduction and social development in Bangladesh.

Some major conclusions emerge from the preceding analysis are as follows:

In respect of all major indicators of economic wellbeing, the current microenterprise beneficiary households are doing better as compared to their pre-BRAC stage. We focused on consumption expenditure, asset accumulation and other subjective socio-economic measures to assess long-term income growth and economic wellbeing.

As a whole, descriptive findings reveal that current microenterprise households are making 25% more expenses as compared to their pre-BRAC state. This difference is about 19% for food expenses and 52% for non-food expenses in the comparison of the current and pre-BRAC stage of microenterprise households. Across all categories of food, non-food and total consumption expenses for all 13 microenterprises pursued by the current BRAC Progoti beneficiaries, the positive differences have been noted as well in a Paired-Samples T test, which are also statistically significant at the 1% level. In essence, the statistical evidence illustrated that the monthly allocations for household consumption expenses have increased significantly for the microentrepreneurs' households as compared to their pre-BRAC stages. Assessments made through regression analysis also found that per capita monthly total consumption expenditure are relatively higher for the investments made in Computer software and information technology, Fisheries, Food processing, Footwear as compared to Crop, Petty trading, Livestock , Poultry, Rural Transport, textile dying and block printing (manual), plastic products, other

Microenterprises (such as, cartwheels, silk weaving, small grocery stores etc.) and Handlooms and Handicraft. This study finding could be treated as an indication for the potentials on microenterprises for possible future investments.

Interestingly, the statistical evidence presented here is in conformity with the 'Engle's Law'[3] developed by Ernest Engle, which 'posits that the proportion of family budget allocated to food decreases as consumption increases' (Lynch, 1991; Timmer, Falcon and Pearson, 1983). Even if in both the cases households have been seen to make more spending on food as compared to non-food items but spending on food is only about 10% higher for current BRAC Progoti beneficiaries as compared to non-food spending but spending on food was about 42% higher for pre-BRAC state of the current beneficiaries as compared to non-food spending. This confirms the consequent non-food consumption increase vis-à-vis income increase has occurred in the current beneficiary microenterprise households examined here.

These expenditure figures can be compared with data provided by the Household Income Expenditure survey (HIES) of Bangladesh Bureau of Statistics (BBS). In 2016 using the lower poverty line, per capita expenditure of the poor is recorded at Tk. 1862 at national level and using the upper poverty line, per capita expenditure of the poor is Tk. 2268 at national level. We can safely say that the per capita monthly consumption expenditure figures of current BRAC supported microenterprise households are way higher than both lower and higher poverty line per capita expenditure thresholds as presented in the Household Income Expenditure survey (HIES). However, pre-BRAC state per capita expenditure of current microenterprise households falls below than both poverty line per capita expenditure as suggested in Household Income Expenditure survey (HIES) of 2016. From our data analysis one can therefore infer that the microenterprise household's welfare in the current period is greater than their pre-BRAC state.

The microenterprise households seem to outgrow traditional mindset in asset building as only 20% of their non-land assets are represented by consumer durables; in contrast, 65% of their non-land assets are productive assets, and 15% are saved as financial assets for future use. Overall, the asset value of current beneficiary is nearly 3 times higher than their pre-BRAC

[3] That is, the proportion of the total income allocated to food is a measure of welfare, and the richer the household, the lower the proportion of income spent on food. For poor people a major share of increased income is spent on food consumption. Food expenditure increases more than proportionately until income reaches a certain level.

stage and across all 13 activities undertaken with BRAC credit, the borrowing households currently possess higher total household assets than in the pre-BRAC period. The differences in the mean have been found to be substantially higher for productive assets, consumer durables and financial assets and statistically significant. Assessments made through regression analysis found that the contribution of credit use to household's asset accumulation is higher for Fisheries, Computer Software and Information Technology, Food Processing, Other Microenterprises (such as, cartwheels, silk weaving, small grocery stores etc.) and Footwear. These findings are truly satisfactory and important in policy level.

The benefits are not just noticeable in terms of major economic indicators but also reflected in terms of "subjective measures" of well-being. In terms of subjective food-poverty, only 7% of the microenterprise households currently report food-deficit as compared to 59% during their pre-BRAC stage. They also tend to be more ambitious marked with higher aspiration for themselves (74% as against 38%) and for their children (68% vs. 51%).

The economic situation of the former microenterprise beneficiaries has remained better compared to the pre-BRAC stage of the current microenterprise households even after graduation from BRAC Progoti and this is reassuring about the positive benefits of MFI lending on borrowing households. However, there is a sign of visible slow-down in the economic fortunes of the former beneficiaries when they are compared to the current beneficiaries. The relative decline is recorded in economic measures, such as consumption spending, and non-land assets. This is also evident when other subjective measures of well-being are considered. This warrant paying greater focus on the resilience aspects when designing anti-poverty policies of MFIs.

6.2. Policy Implications

During fieldwork, we sought suggestions from BRAC Progoti borrowers about how, in their opinion, microfinancing programme could be improved. The responses were revealing. About 78% of the respondents suggested that they need support with marketing services, while 41% opted for the quick and timely disbursement of credit. A solid majority of 62% recommended improved access to business development services, while about 31% emphasised on the follow-up programs at least during the initial period. About 43% of the respondents preferred higher loan

amounts for expansion and upscaling of their enterprise and 58% stated that continued training in relation to MEs should have been given priority. As many as 80% were in favour of having an effective and accessible alternative institutional arrangement to deal with crises and contingencies.

Following points are therefore, deserve special mention in this paper.

First, there are issues relating to accessibility and delivery of loans that need to be addressed and, in this regard, building of strong, sustainable institutions providing financial and nonfinancial services to meet the demands of MEs are felt. For instance, a recurring observation emerging from the FGDs is the issue of institutional delays on loan disbursements, which often cause delay in investments, investing in less attractive microenterprises and subsequent increase in beneficiary indebtedness. Arranging interim financing from the partner MFIs or any other third source of institutional finance could help in getting timely disbursements. Further, adoption of appropriate credit technologies and the development of appropriate financial products on the part of the MFIs can significantly reduce transaction costs and improve the capacity of MFIs to serve the ME sector and help them to emerge as effective intermediary institutions for ME development in the country.

Second, practical concerns are there involving extension of further opportunities and rigorous monitoring for making less successful microenterprises sustainable over time. This may include more support towards the less entrepreneurial sections of the ME beneficiaries through effective livelihood training, skill formation, and confidence-building measures.

Third, in FGDs, personal circumstances relating to shocks, accidents and emergencies came out as important drivers of relative under-performances. Shocks seemed to be an important explanatory factor for understanding economic outcomes, especially when comparisons were made between former graduated microenterprise beneficiaries and the current microenterprise beneficiaries across different economic and social measures. Initiatives are to be taken by the MFIs in developing diversified insurance products, concerning issues relating to shocks, accidents, and emergencies in this regard.

Fourth, studies reveal that in recent years microenterprise activities in trade, services, agriculture and food processing sectors have expanded rapidly in response to higher demands and there exists more potential for their future expansion. Innovation and searching for new markets are also important for sustaining the growth of existing MEs and flourishing of new MEs. For accelerating future growth and viability of the MEs, accessing new inputs, technological innovation and knowledge transfer, product diversification, and marketing services are the key areas where special attention is needed. Also, supporting microentrepreneurs with improved access to business development services can lead to improved products with larger markets and higher profitability.

Fifth, the study demonstrates the possibility of meaningful enhancements in well-being for microenterprise households with availability of adequate external resources. While this appears as a major success for the BRAC Progoti MFI intervention in our survey area, however, the issue of sustainability of microenterprises has not been established for good. Not just institutional rigidities, field interviews consider other barriers are also impacting BRAC Progoti graduated clients not to move to the next stage (i.e., borrowing SME loans from mainstream banks) as modelled in the formal microfinancing program of BRAC. To maintain their improved well-being and boosting their resilience capacity, former beneficiaries require periodic attention from the MFIs, at least during crisis and contingencies.

References

Adjei, J.K., Arun, T. and Hossain, F., 2009, 'The role of microfinance in asset building and poverty reduction: the case of Sinapi Aba Trust of Ghana', *Working paper, Brooks World Poverty Institute*, Manchester.

Ahmed, F., Rahman, M. M., & Haque, M., 2011, 'Constrains of manufacture based Small and Medium Enterprise (SME) development in Bangladesh', *Journal of Social and Development Sciences*, 1(3), 91-100.

Alamgir, D. A. H., 2009, 'State of Microfinance in Bangladesh', http://www.inm.org.bd/publication/state_of_micro/Bangladesh. pdf.

Alderman, H.,1993, 'Obtaining Useful Data on Household Incomes from Survey', in Braun, J. V., and Puetz, D., (Eds.) *Data Needs for Food Policy in Developing Countries*, pp. 193-20, IFPRI, Washington, D.C.

Al-Mamun, A., Chinnasamy A., Nambhi M., Sayed H., and Sazali A., W., 2011, Examining the effect of participation in microcredit programs on assets owned by hardcore poor households in Malaysia. *African Journal of Business Management* 5: 9286–96.

Al-Mamun, A., Joseph A., and Mohammad N. H. M., 2012, Examining the effect of Amanah Ikhtiar Malaysia microcredit program on microenterprise assets in rural Malaysia. *Asian Social Science* 8: 272–80.

Ashraf, N., Gine, X. and Karlan, D., 2009, 'Finding missing markets (and a disturbing epilogue): evidencefromanexportcropadoptionandmarketinginterventioninKenya', *American Journal of Agricultural Economics*, Vol. 91, No.4, pp.973-990.

Ayyagari, M., & Beck, T., 2003, 'Small and medium enterprises across the globe: a new database', *World Bank Publications*, Vol. 3127.

Banerjee, A.V., Duflo, R., Glennerster, R. and Kinnan,C., 2009, 'The miracle of micro finance? Evidence from a randomized evaluation', *Working paper*, CGAP,Washington, DC.

Barnes, C., Gaile, G. and Kibombo, R., 2001a, 'The impact of three microfinance programs in Uganda development experience clearing house',*Working paper*, USAID,Washington, DC.

Barnes, C., Keogh, E. and Nemarundwe, N., 2001b, 'Microfinance Program Clients and Impact: An Assessment of Zambuko Trust Zimbabwe', *Assessing the Impact of Microenterprise Services*, Washington,DC.

Bartual, S., C., Cervelló R., R., & Moya Clemente, I., 2013, 'Measuring performance of social and non-profit Microfinance Institutions (MFIs): An application of multicriterion methodology', *Mathematical and Computer Modeling*, 57(7–8), 1671–1678.

Biggs. T., Raturi, M., and Srivastava, P., 2002, 'Ethnic networks and access to credit: evidence from the manufacturing sector in Kenya' *Journal of Economic Behavior & Organization*, vol. 49, issue 4, 473-486

Belwal, R, Tamiru, M, & Singh, G., 2012, 'Microfinance and sustained economic improvement: women small-scale entrepreneurs in Ethiopia', *Journal of International Development, 24*, S84–S99. doi:10.1002/jid.1782.

Bhatt, N, & Tang, S-Y., 2001, 'Delivering microfinance in developing countries: Controversies and policy perspectives', *Policy Studies Journal, 29*(2), 319–333.

Biener, C, & Eling, M., 2011, 'The performance of microinsurance programs: a data envelopment analysis', *Journal of Risk & Insurance, 78*(1), 83–115. doi:10.1111/j.1539-6975.2010.01404.x.

Birch, D, L., 1979, 'The Job Generation Process', unpublished report prepared by the *MIT Program on Neighborhood and Regional Change for the Economic Development Administration,* U.S. Department of Commerce, Washington, DC.

Bradley, S. W., J. S. McMullen, K. Artz, and E. M. Simiyu., 2012, 'Capital Is Not Enough: Innovation in Developing Economies', *Journal of Management Studies,* 49(4):684–717.

Brannen, C., 2010, 'An impact study of the village savings and loan association (VSLA)' program in Zanzibar,Tanzania', *BA Dissertation,*Wesleyan University, Middletown,CT.

Chowdhury, A. M. R., M. Mahmud, and F. H. Abed., 1991. 'Impact of Credit for the Rural Poor: The Case of BRAC', *Small Enterprise Development,* Intermediate Technology Publications, London.

Churchill, C., 2007, 'Insuring the low-income market: challenges and solutions for commercial insurers', *Geneva Papers on Risk & Insurance - Issues & Practice, 32*(3), 401–412.

Collins, D, Morduch, J, Rutherford, S, & Ruthven, O., 2010, 'Portfolios of the poor: how the world's poor live on $2 a day, Ranikhet: Permanent Black.

Cull, R., & Xu, L.C., 2005, 'Institutions, ownership, and finance: The determinants of profit reinvestment among Chinese firms', *Journal of Financial Economics* 77, 117–146.

Cull, R., Demirgüç-Kunt, A., & Morduch, J., 2011, 'Does Regulatory Supervision Curtail Microfinance Profitability and Outreach?' *World Development,* 39(6), 949–965.

De Bruyn, T, & Kuddus, U., 2005, 'Dynamics of remittance utilization in Bangladesh', *IOM migration series (vol. 18)*. Geneva: International Organization for Migration

De Gobbi, MS., 2003, 'Mutual guarantee associations for small and micro-entrepreneurs: lessons learned from Europe and Africa' *African Development Review, 15*(1), 23–34. doi:10.1111/1467-8268.00060.

Dunn, Elisabeth, 2005, 'Impacts of Microcredit on Clients in Bosnia and Herzegovina' Available online: https://www.microfinancegateway.org/sites/default/files/mfg-en-paper-impact-of-microcredit-onclients-in-bosnia-and-herzegovina-2005.pdf(accessedon31March2018).

Dupas, P. and Robinson, J., 2013, 'Savings constraints and microenterprise development: evidence from a field experiment in Kenya', *American Economic Journal: Applied Economics,*Vol. 5, No.1, pp.163-192.

Epstein, M., & Yuthas, K., 2011, 'The Critial Role of Trust in Microfinance Success: Identifying Problems and Solutions' *Journal of Developmental Entrepreneurship,* 16(4), 477–497.

Fofana, B.N., Antonides, G., Niehof, A. and van Ophem, J.A.C., 2015, 'How microfinance empowers women in coˆted'Ivoire', *Review of Economics of the Household,* Vol.13, No.4, pp.1023-1041.

Fouillet, C., Hudon, M., Harriss-White, B., & Copestake, J., 2013, 'Microfinance Studies: Introduction and Overview', *Oxford Development Studies,* 42,1

Ghalib, A.K., Malki, I.and Imai,K.S., 2015, 'Micro finance and household poverty reduction: empirical evidence from rural Pakistan', *Oxford Development Studies,*Vol.43, No.1, pp.84-104.

Goldberg,N., 2005, 'Measuring the Impact of Microfinance: Taking Stock of What We Know', *Grameen Foundation,*Washington,DC.

Hallberg, K., 2001, 'A market-oriented strategy for small and medium-scale enterprises', Discussion Paper No. 48, International Finance Corporation.

Hamid, S. A., J. Roberts, and P. Mosley, 2011, 'Evaluating the Health Effects of Micro Health Insurance Placement: Evidence from Bangladesh', *World Development* 39 (3): 399–411.

Hartarska, V., & Nadolnyak, D., 2007, 'Do Regulated Microfinance Institutions Cchieve Better Sustainability and Outreach? Cross-country Evidence', *Applied Economics,* 39, 1207–1222.

Hashemi, S. M., S. R. Schuler, and A. P. Riley, 1996, 'Rural Credit Programs and Women's Empowerment in Bangladesh' *World Development* 24 (4): 635–653.

Hentschel, J., and Lanjouw, J.O., 1996, 'Constructing an indicator of consumption for the analysis of poverty: Principles and Illustrations with reference to Ecuador', *The World Bank, LSMS Working Paper*, No. 124, Washington, DC.

Hermes, N., & Lensink, R., 2007, 'The empirics of microfinance: what do we know?' *The Economic Journal*, 117(517), F1–F10.

Hermes, N., & Lensink, R., 2011, 'Microfinance: Its Impact, Outreach, and Sustainability', *World Development,* 39(6), 875–881.

Hulme, D., 2000, 'Impact Assessment Methodologies for Microfinance: Theory, Experience and Better Practice', *World Development,* Vol. 28, No.1, pp. 78-98.

Imai, K. S., Arun, T., & Annim, S. K., 2010, 'Microfinance and Household Poverty Reduction: New Evidence from India', *World Development,* 38(12), 1760–1774.

Ingham, M., Grafé-Buckens, A., & Tihon, A., 2013, 'Bank-Based Microfinance: From Peripheral to Integrated Responsibility Toward Sustainability' *Strategic Change,* 22(1–2), 107–119.

Inserra, A., 1996, 'A Review of Approaches for Measuring of Micro-enterprise and Household Income', *Assessing the Impact of Micro-enterprise Services (AIMS),* Management System International and USAID,Washington D.C.

Kabeer, N., 2001, 'Conflicts Over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh' *World Development,* 29(1), 63–84.

Kawai, Hiroki., 2002, 'Entry of Small and Medium Enterprises and Economic Dynamism in Japan', *Small Business Economics* 18(1-3):41-51.

Khalily, M. A. B. & Khaleque. M. A., 2013, 'Access to credit and productivity of enterprises in Bangladesh: Is there causality?' Working Paper No. 20. Institute for Inclusive Finance & Development. Dhaka. Bangladesh.

Khandker, S. R., 1998, 'Fighting poverty with microcredit: experience in Bangladesh', *Oxford University Press*, New York, Oxford.

Khandker, S. R., 2005, 'Microfinance and poverty: Evidence using panel data from Bangladesh', *The World Bank Economic Review*, 19(2), 263–286.

Khandker, S. R., Samad, H. A., & Ali, R., 2013, 'Does access to finance matter in microenterprise growth? Evidence from Bangladesh', *World Bank Policy Research*, Working Paper, (6333). Washington DC.

Khan, S, & Ashta, A., 2012, 'Cost control in microfinance: lessons from the ASA case', *Cost Management, 26*(1), 5–22.

Knight, T., Hossain, F., & Rees, C., 2009, 'Microfinance and the commercial banking system: perspectives from Barbados', *Progress in Development Studies*, 9(2), 115–125.

Korosteleva, J, & Mickiewicz, T., 2011, 'Start-up financing in the age of globalization', *Emerging Markets Finance & Trade, 47*(3), 23–49. doi:10.2753/ree1540-496x470302.

Kumar, S.S., 2016, 'Impact of microcredit dispensation on economic empowerment of women in Kerala', *Journal of Rural Development*, Vol.35, No.1, pp.39-49.

Lakwo, A., 2006, 'Microfinance, rural livelihoods, and women's empowerment in Uganda', *African Studies Centre Research*, Report No.85, African Studies Centre, Leiden.

Levine, R., Loayza, N., & Beck, T., 2000, 'Financial intermediation and growth: causality and causes' *Journal of Monetary Economics* 46 (1), 31–77.

Little, P. D., 1997, 'Income and Assets as Impact Indicators', *Assessing the Impact of Micro-enterprise Services (AIMS)*, Management Systems International and USAID, Washington D.C.

Lynch, S., 1991, 'Income Distribution, Poverty, and Consumer Preferences in Cameroon', *CFNPP Working Paper,* No. 16, Cornell Food and Nutrition Policy Programme, Cornell University, U.S.A.

Maes, JP, & Reed, LR., 2012, *State of the Microcredit Summit Campaign report*, Washington, DC: Microcredit Summit Campaign.

Maity, B., 2016, 'Microfinance: women from the margin to the mainstream', *Journal of Rural Development*, Vol. 35, No.1, pp.17-38.

Mallick, R., 2002, 'Implementing and evaluating microcredit in Bangladesh', *Development in Practice*, 12(2), 153–163.

Manne. A. S., 1967, '*Investments for Capacity Expansion: Size, Location and Time-phasing Studies in the Economic Development of India, The Economic Journal,* Volume 77, Issue 307, Pages 614–616.

Martin, I., & Hulme, D., 2003, 'Programs for the Poorest: Learning from the IGVGD Program in Bangladesh', *World Development,* 31(3), 647–665.

Mazumder, M., & Wencong, L., 2013, 'Micro-Credit and Poverty Reduction: A Case of Bangladesh' *Prague Economic Paper,* 3, 403–417.

McMillan, J., & Woodruff. C., 2002, 'The central role of entrepreneurs in transitional economies', *Journal of Economic Perspectives* 16 (3), 153–170.

Mersland, R, & Eggen., 2007, 'You cannot save alone - financial and social mobilization in savings and credit groups'SSRN eLibrary.

Mills David E. and Laurence Schumann., 1985, 'Industry Structure with Fluctuating Demand', *The American Economic Review,* Vol. 75, No. 4 (Sep.,), pp. 758-767.

Morduch, J., 1998, 'Does Microfinance Really Help the Poor? New Evidence from Flagship Programmes in Bangladesh', Harvard University, U.S.A.

Muhumuza, W., 2005, 'Unfulfilled Promises? NGOs' Micro-Credit Programmes and Poverty Reduction in Uganda', *Journal of Contemporary African Studies,* 23(3), 392–416.

Mukherjee, A., & Zhang, X., 2007, 'Rural industrialisation in China and India: role of policies and institutions', *World Development,* 35(10), 1621-1634.

Muneer, F., & Khalily, M.A.B., 2015, 'Returns to microenterprises and access to finance in Bangladesh' *Institute for Inclusive Finance & Development,* Dhaka. Bangladesh.

Nanor, M.A., 2008, 'Microfinance and its impact on selected districts in eastern region of Ghana', Master thesis, Kwame Nkrumah University of Science and Technology, College of Art and SocialSciences,Kumasi.

Nawaz, S., 2010, 'Microfinance and Poverty Reduction: Evidence from a Village Study in Bangladesh' *Journal of Asian and African Studies,* 45: 670–683.

Oboh, G., 2004, 'Contemporary approaches for financing micro, small and medium enterprises' In the International conference of the World Association for Small and Medium Enterprises (WASME) in Abuja between 19th and 22nd July.

Odeh, O., 2005, 'The impact of Federal Government Reform Program on the development of the SMEs sector', In A paper presented at the National Seminar on "Facilitating Easy Accessibility to the SMEEIS Funds by SME operators" Lagos (pp. 10-11).

Panda, Debadutta Kumar., 2009, 'Participation in the group based micro finance and its impacts on rural households: A quasi-experimental evidence from the Indian state' *Global Journal of Finance and Management* 1: 171–83.

Peace, G., and Hulme, D.,1994, 'Microenterprise and Children: What are the Intra-household Impacts of Income-generating Programmes', *Small Enterprise Development*; Vol. 5, No. 1, pp. 21-29.

Penrose, E. T., 1959, 'The Theory of the Growth of the Firm', New York: John Wiley.

Piore, M. and C.F. Sabel., 1984, 'The second industrial divide', Basic Books, New York.

Pitt, M. M., S. R. Khandker, and J. Cartwright, 2006, 'Empowering Women with Micro Finance: Evidence from Bangladesh', *Economic Development and Cultural Change* 54 (4): 791–831.

Quadrini, V., 1999, 'The importance of entrepreneurship for wealth concentration and mobility', *Review of Income & Wealth, 45*(1), 1–19.

Quayes, S., 2012, 'Depth of outreach and financial sustainability of microfinance institutions'. *Applied Economics*, 44, 3421– 3433.

Rahman, H. and Hossain M., eds., 1995, 'Rethinking Rural Poverty: Bangladesh as a Case Study', University Press Limited, Dhaka.

Rasiah, Rajah., 2002, 'Systematic Coordination and Human Development: Knowledge flows in Malaysia's MNC-Driven Electronic Clusters', UNU/INTECH Discussion Paper ISSN 1564-8370.

Ravallion, M.,1992, 'Poverty Comparisons: A guide to Concepts and Methods', *Living Standards Measurement Study Working Paper,* No. 88, World Bank, Washington D.C.

Rivera, JPR, & Reyes, PO., 2011, 'Remittances as avenue for encouraging household entrepreneurial activities', *Journal of International Business Research, 10,* 85–113.

Rosenberg, Richard., 2010, 'Does Microfinance Really Help the Poor People?' CGAP Focus Note. Available online: http://www.cgap.org/publications/does-microcredit-really-help-poor-people.

Schumpeter, J.A., 1911, 'The Theory of Economic Development', Oxford University Press, Oxford.

Sherraden, M.,1991, 'Assets and the Poor: A New American Welfare Policy', M. E. Sharpe, London.

Sipahutar, M.A.,Oktaviani,R.,Siregar, H. and Juanda, B., 2016, 'Effects of credit on economic growth, unemployment and poverty', Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan,Vol.17No.1, pp.37-49.

Snodgrass. D. R & T Briggs., 1996, 'Industrialization and small Firm Patterns and Policies', A co-publication of the international Center for Economic growth and Harvard Institute for International Development. San Francisco, California.

Ssewamala, F., Ismayilova, L., McKay, M., Sperber, E., Bannon, W. Jr and Alicea, S., 2010, 'Gender and the effects of an economic empowerment program on attitudes toward sexual risk-taking among AIDS-orphaned adolescent youth in Uganda', *Journal of Adolescent Health,*Vol. 46, No.4, pp.372-378.

Sutoro, Ann Dunham., 1990, 'KUPEDES Development Impacts Survey: Briefing Booklet', Central Jakarta: Planning, Research and Development Department, BRI.

Timmer, P., Falcon, W., and Pearson, S., 1983, 'Food Policy Analysis', Johns Hopkins University Press, Baltimore, U.S.A.

Tolentino, A. L.,1995, 'Guidelines for the analysis of policies and programes for small and medium enterprise development', International Labor Office, Geneva.

Ullah, A., & Routray, J., 2007, 'Rural Poverty Alleviation through NGO Interventions in Bangladesh: How Far is the Achievement?' *International Journal of Social Economics*, 34(7), 237–248.

Uotila, Antti., 2005, 'Livelihood Impact of Microfinance Access for the Poor: The Case of Vision' FINCA Rwanda. MPhil Thesis, The University of Guelph, Guelph, ON, Canada.

Vachya,L., 2015, 'Micro finance livelihood initiatives and women empowerment in selected villages of Andhra Pradesh', *Journal of Rural Development*,Vol.34, No.1,pp.31-48.

Vial, V., & Hanoteau, J., 2015, 'Returns to micro-entrepreneurship in an emerging economy: A quantile study of entrepreneurial Indonesian households' welfare', *World Development*, 74, 142–157.

Wellalage, N. and Locke, S., 2017, 'Access to credit by SMEs in South Asia: do women entrepreneurs face discrimination', *Research in International Business and Finance*, Vol. 41, pp. 336-346.

Woller, GM, Dunford, C, & Woodworth, W., 1999, 'Where to Microfinance', *International Journal of Economic Development, 1*(1), 29–64.

Woller, GM, & Woodworth, W., 2001, 'Microcredit as a grass-roots policy for international development' *Policy Studies Journal, 29*(2), 267–282.

Wright, GAN., 2000, 'Microfinance Systems: Designing Quality Financial Services for the Poor', The University Press Limited, Dhaka.

Yamawaki, Hideki., 2002, 'The Evolution and Structure of Industrial Clusters in Japan', Small Business Economics, 18(1-3):121-40.

Zapalska, A., Stodder, J., & Wingrove-Haugland, E., 2017, 'Female Micro-Entrepreneurship: The Key to Economic Growth and Development in Islamic Economies', *Entrepreneurship and Management*, Cham: Springer.

Zeller, M., Sharma, M., Ahmed, A., & Rashid, S., 2001, 'Group-based financial institutions for the rural poor in Bangladesh: An institutional- and household-level analysis' International Food Policy Research Institute (IFPRI), Washington.