



RESEARCH REPORT



ISLAMIC MICROFINANCE AND SELF HELP GROUP: AN EMPIRICAL STUDY BASED ON THE “PROVED” PROJECT OF BANGLADESH

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ABBREVIATIONS

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BB	: Bangladesh Bank
BBS	: Bangladesh Bureau of Statistics
CGAP	: Consultative Group to Alleviate Poverty
CMF	: Conventional Micro Finance
CSR	: Corporate Social Responsibility
DFID	: Department for International Development
DID	: Difference in Difference
DMI	: Decision Making Index
FGD	: Focus Group Discussion
FISCAL	: Financial Services to the Poorest Community for Advancing Livelihood
GB	: Grameen Bank
GM	: Gross Margin
HH	: Household
IBBL	: Islamic Bank Bangladesh Limited
IDLO	: International Development Law Organization
IGA	: Income Generating Activity
IICO	: International Islamic Charitable Organization
IMF	: Islamic Micro Finance
IMI	: Islamic Microfinance Institution
IR	: Islamic Relief
IRB	: Islamic Relief Bangladesh
IRW	: Islamic Relief Worldwide
KII	: Key Informant Interview
MDG	: Millennium Development Goal
MF	: Microfinance
MFI	: Microfinance Institution

ABBREVIATIONS

MYRADA	: Mysore Resettlement and Development Agency
NGO	: Non-Government Organization
NP	: Non-Participant
NPO	: Non-Profit Organization
PROVED	: Poverty Reduction of Vulnerable Households through Small Scale Enterprise Development
SHG	: Self- Help Group
Tk.	: Taka (Bangladeshi Currency)
UAE	: United Arab Emirates
UP	: Union Parishad

The authors

EXECUTIVE SUMMARY

The present study based on DFID financed “PROVED” project of Islamic Relief, Bangladesh (IRB) was carried out in Mithapukur upazila of Rangpur district during January to February, 2014. The study aimed at examining the performance of the Islamic Microfinance (IMf) program through Self-Help Group (SHG) approach implemented by the IRB and measuring the impact of IMf program on the livelihood of the rural poor. A total of 300 respondent household (HH) comprising 150 samples from the women borrower of “PROVED” project of IRB, 50 sample borrowers of Conventional Microfinance (CMf) program and 100 samples of non- borrower women (Non Participants). The borrowers of IMf were selected from 15 SHGs taking randomly 10 borrowers from each selected SHG. A total of 15 SHGs were selected randomly from 215 SHGs based on the criterion that the SHG completed at least one cycle of loan. In addition, 13 Focus Group Discussions (FGDs) and 8 Key Informant Interviews (KIIs) was held to have information required for the study. Multi-stage simple random sampling technique was applied to select the sample for the study. Data were collected through face to face interview with the respondents using pre-designed, pre-tested interview schedule by the trained

enumerator under the direct supervision of the researchers. Both tabular and econometric techniques were used to analyze the data.

Average age of the respondents was within 35 years ranging from 33.28 to 35.10. Only 8% of the respondent in the IMf category, 12% in the CMf and 14% in the NP category was the head of the HHs. Average family size of the sampled HHs was 4.2, 4.08 and 3.91 for IMf, CMf and NP category, respectively. Most of the respondents were illiterate representing 43% in the IMf, 42% in the CMf and 41% in the NP category. About 27% of the respondents in the NP, 24% in the IMf and 22% in the CMf category were observed having the education up to primary level. About 32% of the respondent in the IMf and NP category had the education up to secondary level followed by 26% in the CMf category. There was found only 1.33% respondents in the IMf and 6% in the CMf category who passed HSC exam. Average farm size of the respondent HH was 32.42 decimal, 43.77 decimal and 27.48 decimal for IMf, CMf and NP category. Considering the farm size consists of own cultivable land, it revealed that all the IMf borrowers belonged to land less and marginal category.

The average annual income of the IMf borrower households was Tk.77685 and that of the CMf borrower and NP category was Tk. 78953 and Tk. 61138 respectively. Regarding income group, 19 % respondent of IMf category, 10% CMf and 29% NP category fell in the lowest income quartile (income < Tk.3000) while 21.3% of IMf, 18% of CMf and only 5% of NP category respondent HHs fell in the highest income quartile (income> Tk.9001). Highest number of the IMf borrower received loan for dairy farming (47%) while that was highest for petty business (46%) in case of CMf borrower. Regarding utilization of loaned money, IMf borrower utilized 95% and CMf borrower utilized 80% of the borrowed money in the productive purpose. IMf borrower had an average cycle of borrowing 1.83 whereas that of CMf borrower was 3.06. The average amount of loan received by the IMf and CMf borrower were Tk. 14220 and Tk.15960 respectively. The amount of loan received as percent of the applied amount was almost equal for the two categories of borrowers (89 and 90 percent). IMf borrower had to repay the loaned money within 40 installments while the CMf borrower had to repay the loaned money within 45.02 installments on an average.

Regarding borrowing cost, the CMf category borrower had to incur the cost more than 4 times than the cost incurred by the IMf borrower for taking 1000 Tk. credit. Majority of the credit receiver women of IMf (83 %) and CMf (80%) category gave credit money willingly to the husband for use of productive purposes. Husband plays dominating role in case of managing the borrowed money rather than wife. About 75% of the total invested money comes from the borrowing sources (both for IMf and CMf) and the rest 25% of the invested money comes from non institutional sources. Gross margin from the IGA was Tk.12153 for the IMf category as against Tk. 7429 for the CMf category. The Benefit-Cost Ratio (BCR) from the investment of IMf borrower accounted for 1.56 and that from the investment of CMf borrower accounted for 1.12 implying that IMf borrower earned more profit from their enterprise than that of the CMf borrower. The main factors that influenced the repayment of borrowed money were due to smooth future borrowing (95%), weekly installments (95%) and self consciousness (93%).

About 45% of the IMf borrower received advocacy services in contrast, only 16% of the CMf borrower received advocacy services other than credit. Cent percent of the borrower of the both category received savings related advocacy. Cent percent of the IMf borrower received enterprise based training and advocacy on health and sanitation whereas only 24% and 28% of the CMf borrower received the respective services. About sixty nine percent of the respondent in the IMf category received training on family planning as against only 22% in the CMf category.

About 98% of the SHG sample members opined that forming SHG is easier than solidarity group according to Likert value it ranked 1st, IMf credit is interest free which comply Islamic principle and rules ranked 2nd. The perception on the fact that 'to get credit from IMf is easier than CMf' and 'IMf services are better than CMf' both ranked 3rd. More than 94% of the SHG members opined that SHG would sustain if the service from IRB is ended which ranked 5th.

Respondent households of IMf, CMf and NP category spent major portion of its total expenditure for the consumption of food (61-63%). Calorie intake (per person/day) of IMf borrowers registered highest (2180 K. calorie) followed by 2071 K.cal and 1911 K. cal for CMf and NP category, respectively. That highest percentage of calorie intake was derived from rice consumption by the respondent households of each category manifests the heavy dependence on rice for their daily diet.

The respondent households had an average asset (agricultural implements) worth of Tk. 1445 for IMf category and asset worth of Tk.4707 and Tk. 243 for CMf and NP category, respectively. The asset position of the NP households was lesser than that of the other two categories. Every farm family more or less had livestock/poultry as an emergency asset. Besides this 28% of IMf borrower HHs had an average savings of Tk. 1877 in the Banks and 47% of the HH had a cash balance of Tk. 882. On the contrary 16% of the CMf borrower HHs had a cash balance of Tk. 3900 and average savings in the bank Tk.1740.

After joining the IMf program, the frequency of taking treatment by the respondent from the village doctor decreased from 3.33 to 2.74 times and that of slightly increased from private clinic. The percentage of HHs washing hand after toilet with soap increased from 56% to 93% and the percentage of HHs washing hands with ash decreased from 37% to 7% and also there found no HHs who used only water to wash their hands after toilet use. After joining the CMf program, 84% of the HHs used soap, 12% of the HHs used ash and 4% of the HHs used water with mud for hand wash after using toilet. In the case of before taking meal, the percentage of HHs washing hands increased from 55% to 89% after joining the IMf program and the percentage was increased from 59% to 70% after joining the CMf program.

About 91% and 88% of the room of their house were katcha under IMf and CMf category, respectively. In the NP category -none of the household was found having pucca room in the study areas. The majority of the respondent households (65% IMf, 44% CMf and 81% NP) were found using ring slab and tin-shed latrine in the study areas. Still 8% of the IMf borrower, 16% of the CMf borrower used open space for their natural call.

One of the important findings of the study by adopting DID (Difference in Difference) method showed that microcredit participants gained 18.3% increase in income through borrowing credit from IMf. Total expenditure, food expenditure and savings of microcredit participants increased by 16, 15.54 and 76.8 percent due to involvement in IMf programs, respectively.

The coefficient value in probit model for age and education level of program participants depicted positive association. Similarly, the coefficient value of family size influenced positively in participation of IMf programs while household headship was negatively influenced. Those who live in a far away from IMf office are likely to be less involved in IMf program. Positive association was found between own cultivable land and participation in IMf programs.

The marginal effects after probit showed that age and family size were statistically significant at 1% and 10% level. Education and owned cultivable land although positively influenced in participation of IMf programs but statistically not significant. On the other hand, distance between IMf office and program villages and total cultivable land were statistically significant at 5% and 10% level but negatively associated.

About 78% of the households in the CMf category and 77% in the IMf category sent their children to the school as against 64% of household in the NP category. More than 60% of the respondents in the both IMf and CMf category replied that they were able now to bear the educational expenses of their children.

After joining the IMf program, women have been able to play vital role in decision making on several activities such as in taking loan, utilization of loan, for business/enterprise expansion, using business profit, re-invest the profit, visiting neighbor houses and participating social activities. After joining the IMf, the borrower felt changes on various aspects of their life such as increased family income according to Likert value is ranked 1st followed by increased awareness ranked 2nd, increased savings ranked 3rd, improved health care ranked 4th and decreased dependency ranked 5th. These changes indicated that the borrowers were able to improve their livelihood after participation in IMf program.

IRB provides microfinance services complying Islamic principles through SHG approach to its women clients. Islamic Relief first formed a group with the clients of same socio-economic condition and then provided a substantial amount of money to the each SHG from where the members of the SHG can borrow money. Savings is compulsory for the members and as a consequence the average savings per SHG stood at Tk. 50783. The maximum group savings was Tk. 77220 and the minimum was Tk. 6110. Majority of the members of SHG had invested their credit money in dairy farming (49%), beef fattening (16%), petty business (23%) and crop production (7%). Members of the SHG attended weekly meetings regularly. In the last year, out of 46 meetings, 100% members attended in 39 meetings and more than 90% of the members attended in remaining 7 meetings. Attendance in the regular meetings fostered a strong friendship and co-operation among different families of the locality cutting across religion, caste and political affiliation. Members were also involved in community activities like helping other members in their difficulties. The repayment performance of the borrower for loans issued from the common fund was 100 percent. Most of the women were able to increase

their income level manifold of their family. Due to increased income, SHGs members have been able to spend more for educating their children. IRB provided advocacy services on different issues like health, hygiene and sanitary which resulted increase awareness of the borrower. Accordingly, the frequency of incidence of many contaminated and water borne diseases was reduced. Borrower women were participating in the financial decision of the family which earlier they were not allowed to do. All the members were getting support from their husbands that were not available before they joined the group. The respondent now has built a strong confidence because of their ability to contribute to not only their family but also to their society in many ways. The members of the SHG were able to generate a greater sense of solidarity, closeness and will to shoulder responsibilities within the group thus women after joining the SHG have been empowered.

Islamic Microfinance through SHG approach provided by IRB has proved that they can serve as an alternative instrument of financial intermediation for the rural poor women folk. Also the microfinance services complying Islamic principle and rules offered by the IRB have helped alleviate poverty of the rural women borrower in the project areas. The “PROVED” project implemented by IRB can be a unique and classic example of Islamic microfinance to the rural poor following the Islamic *Shariah* based principle in alleviating the poverty.

INTRODUCTION

Section 1

1.1 Background of the study

Microfinance has been recognized as a sustainable means of reducing poverty and inequality. Microfinance is the financial and non-financial services to poor people who are traditionally not served by conventional financial institutions recognized the poor as not credit worthy. Microcredit is the core of microfinance, designed to help individuals, families and communities by providing a little start-up capital for micro-enterprise to generate income, encourage self-reliance, create employment, increase wealth and alleviate poverty (Rahman and Luo, 2012; Rahman, 2007). The impact of microfinance is more visible in countries where poverty is high mainly in developing countries such as Asia, Latin America, and African continent. In fact, the founder of contemporary microfinance Muhammad Yunus started the initiative in a village of Bangladesh in the late 70s and subsequently spread not only to other parts of the country but also some developing and developed country in the globe. However, Conventional Microfinance (CMf) does not tailor with the culture and belief of Muslims where they exist (Muhammad et al., 2009). If there is an easy access to the CMf, some poor folk are voluntarily excluded because of the nature of the product. This poses challenges to the targeted number of poor to be reached by the microfinance industry by 2015 and this has an implication on the MDG of fighting against poverty.

Islamic Microfinance (IMf) differs considerably with conventional microfinance systems. Microfinance involves providing credit without collateral to the marginally poor. Weaknesses of conventional microfinance such as charging high interest rates, credit rationing and inconformity with the Islamic faith necessitate the creation of IMf. An estimated 72% of people living in Muslim countries do not use formal financial services (Honohon, 2007). Even when financial services are accessible some Muslims view conventional banking products as incompatible with Islamic principles and law (*Shariah*). In recent years, some Microfinance Institutions (MFIs) have stepped into service low income Muslim clients who demand products consistent with Islamic financial principles- leading to the emergence of IMf as a new market niche (Karim at al., 2008).

People of Bangladesh are very sensitive to religious belief and many of them have strong confidence on *Shariah* related banking transaction. That's why a large number of Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs) started Islamic *Shariah* based banking in their banking business and as a consequence the banks are gaining benefits in terms of deposit and savings. Islamic banking has been thriving in the vibrantly growing Bangladesh economy, by now comprising a fifth of total banking sector assets and liabilities. Islamic microfinance services in the economy are also growing healthily: with avid participation of the Islamic banks in the financial inclusion campaign (Rahman, 2012). The outreach of IMf is very limited. According to the CGAP survey, IMf reach 300,000 clients through 126 institutions operating in 14 countries and an estimated 80000 clients through a

network of Indonesian cooperatives, Bangladesh has the largest IMf outreach, with over 100000 clients by two active financial institutions. In the rural areas- the poor are also sensitive to their religious belief and Islamic values and ethics. Major portion of the poor segment still are no more interested to get loan or credit from the CMf as conventional MFIs do business with interest or “*Shud*” that is prohibited in Islam.

Bangladesh is characterized by high level of poverty (31.5%) accompanied by less productive activities (BBS, 2010). Rangpur, northern part of Bangladesh is one of the most vulnerable regions. Nearly half of the population of Rangpur in rural areas (44.2%) lives below poverty (BER, 2012). The rural poor folk always struggle and fight against hunger and poverty. They are lack with productive assets, employment opportunity especially in the lean period that made their livelihood worst. In quest of job, the male members generally migrate to another place leaving the family in a vulnerable situation that shifted a pathetic stress to the woman of that family. Women are further constrained by lack of awareness, lack of leadership and lack of fund. Inability to provide collateral and typical dealing in small denominations of money, these rural poor women are denied the access to not only the formal banking system but also to the CMf and thereby deprived of the facilities to borrow and invest in productive activities and savings.

Addressing these issues, Islamic Relief Bangladesh (IRB) with the financial assistance from DFID has been implementing a project aimed at reducing poverty of the poor women through providing financial services following the Islamic *shariah* based principle. The shariah based financing instruments are (1) profit-loss-sharing such as mudarabah and musharaka (2) sale-based modes such as murabaha (3) leased base mode such as ijarah and (4) Qard-hassana. Qard- Hassana has been found as an effective mechanism of financing poor. Given its strong religious connotations, Qard-hassana is used by many Islamic MFI such as Baitul mal waltamwil, Indonesia to mobilize funds and finance micro entrepreneurs (Hassan et al., 2013).

Since 2005, IRB has been operating microcredit program through institutional microfinance approach with Islamic principle. In 2011, IRB changed its microfinance operational strategies and trying to experiment on Self-Help Group (SHG) based IMf approach. Islamic Relief started its IMf program in the name of “PROVED” (Poverty Reduction of Vulnerable Households through Small Scale Enterprise Development) project on January, 2013 to promote IMf in Bangladesh. Under this program IRB has been providing financial services to SHG. The IRB has been working to develop a unique model of Islamic microfinance and to expand the model as an alternative approach of microfinance other than conventional microfinance. If the Islamic microfinance works, it is believed that this system could cover more rural poor in the rural credit market. However, the remaining questions are; Can SHG

model be able to achieve institutional sustainability by providing financial services to its members based on Islamic *sariah*? Whether IMf can truly improve the livelihood of the program participants? The present study was undertaken aims at having a clear picture of Islamic microfinance practices in “PROVED” project’s area based on following research objectives. The specific objectives of the present study are as follows:

- i) to assess the socio-economic status of the project beneficiaries;
- ii) to evaluate the impact of IMf on the livelihood of the project beneficiary households;
- iii) to determine the adequacy, utilization and repayment of loan in the study areas in contrast with conventional microfinance;
- iv) to examine the credit mechanism, management, sustainability and empowerment of women of Self-Help Group;
- v) to address the constraints and prospects of IMf program.

REVIEW OF LITERATURE

Section 2

This section comprehensively reviews the extant literature on conventional and Islamic microfinance relevant to the present study. It is always beneficial for the researcher to consult available literature to assess the past stock of knowledge with the hope of receiving future guidelines for further research in the particular area. Some of the relevant study findings are presented here based on three broad categories.

2.1 Conventional microfinance issues

Khandker et al. (1995) stated that microfinance programs offer skill-based training to augment productivity and support and consciousness-raising training to empower the poor. Rashidul and Salam (1996) in their study reported that 76 percent of the members were able to improve their economic condition, 84 percent of the members gained respect in their family, and 72 percent of the borrowers expressed a positive attitude towards family planning after becoming active in the income generating activities. Todd (1996) outlined the impact of the microfinance in terms of improvement in the living conditions and freedom from the clutches of the exploitative money lenders. Pitt and Khandker (1996) observed influence of borrowing from the group by both men and women on a variety of household and intra household outcomes involving school enrolment of boys and girls, the labor supply of women and men, the asset building of women, recent fertility and contraceptive use, consumption and anthropometrics status of children. Nina et al. (1999) observed that microfinance has contributed to building self-esteem and self-reliance of the poor. Puhazhendhi (2000) found a significant change in the overall socio-economic status of the members in terms of increase in income, improvements in literacy level, improvement in housing facilities and increased level of food security. Motamed and Nematian (2004) showed in their paper that although microfinance, as a service, has some costs for the institutions in short run, but in long run, it will bring about some kinds of benefits for them as well. Elias and Rahman (2009) in their study suggested that even though microcredit was an attractive tool to produce better outcomes in the generation of income, savings and assets of the borrowers, it is more effective for relatively higher income poor only compared to the hardcore poor. Bangoura (2012) stated that different approaches certainly point to differences over methods of financing, the role of microfinance and the procedures for granting credit to the poor, but they all converge towards a common goal to fight against poverty. Rahman et al. (2014) found that microcredit programs increased participants' income by an average of 4.07 percent annually. Total expenditures and savings-2 among microcredit participants were increased by 6.45 and 3.13 percent, respectively.

1.2 Islamic microfinance issues

Aseanty and Hassan (2013) showed that microfinance played a very important role in enhancing women's economic independence and sense of self-confidence and they opined that it is necessary to redirect Islamic microfinance towards developmental activities that will contribute to the improvement, in the long run, of the wellbeing of the recipients. Habib (2002) focused on the idea of finding the most suitable Islamic financial ways to be used in the Islamic microfinance provision and argued analytically that asset-based Islamic trade contracts (like *Murabaha*) were more fruitful for inclusion in Islamic micro-crediting. Mazar and Farzin (2003) analyzed credits in the framework of four plans implemented by Keshavarzi Bank and put forward new methods of microfinance to enable low income groups, especially the women. Hassanzadeh et al. (2006) conducted a study in Iran on microfinance which used *Qard al-Hassan* loans as a proxy for total microfinance variable showed that microfinance can only alleviate poverty if the lower income group was well distinguished, and the credit is spent for job creation. Chapra (1992) stated that lack of access to finance by the poor entrepreneurs brings about lack of broad-based ownership of business and industries which in turn, hinders realization of egalitarian society. This phenomenon is rampant in Muslim majority countries thus requires attention from Islamic financial institution. Rahman (2007) opined that as interest (*riba*) are prohibited in Islam Hence, various Islamic financing schemes based on the concepts of *mudarabah*, *musharakah*, *murabahah*, *ijarah* etc. have the salient features and characteristics that can contribute towards a more ethical economic and financial development of the poor and micro entrepreneurs. IMf is argued as a missing component in Islamic banking. He also argued that there is a nexus between Islamic banking and microfinance as many elements of microfinance could be considered consistent with the broader goals of Islamic banking. Habib (2007) showed that if a microfinance institute established by money from Islamic and *Qard al-Hassan* financing, it wouldn't face challenges facing traditional microfinance institutions (including credit risk, moral hazards, and economic viability). Ahmad (2007) reported that contemporary Islamic finance has been largely disengaged from microfinance. Islamic financial system has been dominated mainly by Islamic banks. He showed in his study that the proportion of waqf funds that can be allocated into microfinancing will depend on the takaful and economic capital reserves. Demirkuc-Kunt et al. (2008) found that even if the finance is made available, some poor folks were voluntarily excluded because of the nature of the product. Obaidullah (2008) identified that if various organizations including Govt. agencies, Central Bank, Commercial and Islamic Banks, Takaful and Cooperative Companies as well as NGOs and NPOs could be interlinked, they can reach at 'the poorest of the poor' of a society and significantly contribute towards the development of micro-enterprises, enhancing the financial inclusion and alleviating the poverty from the grass-root levels of a society. Frasca (2008) while focusing on the competitiveness of Islamic

Microfinance, argued that Islamic finance could be potential 'heaven' for the investors who had become victim of current global credit crisis to relieve them from the speculative excess of the conventional system. Karim et al. (2008) conducted a survey and argued that to reach more people and build sustainable institutions, it is essential to focus on designing affordable products, training and retaining skilled loan officers and administrators, improving operational efficiency, and managing overall business risk. In IDLO (2009) it was stated that the League of Arab States announced the formation of a US\$2 billion fund run by the Arab Development Fund that is set to include a microfinance program that is aimed at helping small businesses through the credit crunch, extending credit to cottage industries and reducing unemployment across the Arab world.

Hailey (2009) found Islamic finance and microfinance are not only compatible in many ways, but can both have a significant impact on one another's development and influence upon large swathes of the developing world-it is worth reexamining the origins of microfinance and the thinking that led to models currently applied in cities and villages from Bolivia to Bangladesh. Akhter et al. (2009) indicated that Islamic microfinance is providing its services for all living below the poverty line including the "extreme poor" and Interest free loans can be used as a powerful tool against poverty and recommended that integrating Islamic microfinance with NGOs, NPOs (non- profit organizations), Zakah, Awqaf and with Takaful as well as with professional training and capacity building institutions will enhance the financial stability of Islamic microfinance institutions and will be helpful to achieving their aim of providing micro financial services to the poorest of the poor under one roof. Muhammad et al. (2009) found that conventional microfinance did not tailor with the culture and belief system of Muslims where they exist. Kustin (2010) found how Islamic banking might represent the financialization of everyday life or public institutionalization of Islam, and whether absorption into this institution produces religious subjects. His study research and this paper focus upon IBBL's Islamic micro-investment program as a way of understanding the broader problematic of unstable notions of "Islam" and "finance" operational in Islamic finance, and whether these instabilities unsettle the pursuit of social justice integral to the IBBL's self-proclaimed mission. Hassan and Ashraf (2010) presented a model in their study in which *Zakat* and other Islamic institutions are mentioned as sources for microfinance. After explaining the characteristics of *Zakat* and other Islamic institutions and presenting a model, they show that the application of their model will reduce the challenges faced by interest bearing microfinance institutes (including viability of the microfinance institute). Mirghani (2011) stated that Islamic finance industry needs to adapt and modify the range of products and operating models that are not used in accordance with the fundamental rules of Shari'ah in order to meet the needs of the poor. Rahman (2010) presented that Islamic

micro-investment program appears to spur more ethical and economically desirable behavior leading to poverty alleviation. Result showed that a significant of clients have improved their religious observations such as prayers and fasting. Arabi and Meisami (2013) due to increasing level of Islamic finance in the country which is based upon a theoretical analysis is that Islamic microfinance has its own definition and characteristics (like targeting the family as a whole, paying attention to the poorest and so on), different from that of conventional finance.

2.3 Self-Help Group (SHG)

Aswathi et al. (2001) reported that Self-Help Group made a positive impact in creating leadership, improving literacy, consciousness about health and hygiene and skill formation among the group members. Khawari (2004) stated that microfinance campaign through women SHGs initiated new forms of institutions and organizational structures that make it feasible for the poor to get uncollateralized loans. Tripathi and Sharma (2007) observed that there was an improvement in savings and credit usage by SHG members in a significant manner and a gradual shift from consumption loans to production loans by the SHG members. Kalpesh and Shiyani (2007) found that the amount of total savings, working capital and the saving per member were found substantially higher in the case of women SHGs as compared to their counterpart in the study area. Anjugam and Ramasamy (2007) found that the intervention of SHGs resulted in increase in asset position, namely, livestock and material assets. They suggested that more SHGs may be organized among the rural poor. Dhindsa and Bhatia (2007) suggested that there was dire need of NGO's to come forward and help in forming these groups and making them a success. Kumar et al. (2007) conducted a study which revealed that after joining the SHG, the average income, value of assets and average borrowing was increased of the SHGs member than pre SHG situation. Puhazhendhi (2007) found that the intermediation of Self-Help groups and NGOs / Self-Help groups Promoting Institutions (SHPIs) reduced the time spent by bank personnel in identification of borrowers, documentation, follow up, credit linkage as well as credit delivery. Kumar and Prasanna (2007) found that higher amount of loan and socially and economically more heterogeneous groups may add to default in repayment of loan in the Jaunpur District of Uttar Pradesh. Shukla (2007) found the increasing trend of the number of SHGs linked with the banks in Uttar Pradesh. He observed an increasing trend of amount of loan for SHGs too and there all possibilities of massive growth of program of SHGs if efforts are made to keep their functioning successfully. Reji (2009) found that socio economic impact of self-help groups on its beneficiaries revealed some positive change in the levels of living of the members. Tripathy and Jain (2010) concluded that the success of the micro-entrepreneurial venture depends on the literacy, awareness levels, socio-economic

background of the people being organized into SHGs, as well as the capacity of facilitator involved in the process of social mobilization and group formation. Devi et al. (2011) stated that the SHGs proved that they could serve as an alternative instrument of financial intermediation for the poor and help alleviate rural poverty. Devi and Jain (2011) found that the per day average net cost of maintaining a buffalo, crossed bred cow and local cow was relatively higher in case of SHG member households as compared to non-SHG member households. Singh and Mehta (2012) found that it has also empowered women members substantially and has contributed to increased self-confidence and positive behavioral change in the post-SHG period as compared to the pre-SHG period. Rulindo and Pramanik (2013) found that Islamic microfinance initially able to provide positive impact on their clients with some limitations. In addition, this study also found that higher spirituality level in general able to bring more wealth, while having higher religiosity may enhance clients' economic performance.

Based on extensive reviews in the above, it is apparent that no such empirical studies have been carried out relevant to the application of SHG and the Islamic microfinance practices in Bangladesh.

3.1 Selection of the study area

Selection of the study area is an important step of methodology. To achieve the objectives of the present study, different areas of Mithapukur upazila of Rangpur district were selected purposively since the IMf program under PROVED project is working there.

3.2 Selection of sample and sampling technique

Multi-stage sampling technique was followed to select the sample. Mithapukur upazilla of Rangpur district was selected purposively as the “PROVED” project is being implemented there. A list of SHG was collected from the IR regional office at Boldipukur of Mithapukur upazila of Rangpur district. From the list, 60 SHGs were selected out of 215 SHGs based on the criterion that the group completed at least one loan cycle. Among the 60 SHGs, 15 SHG were selected randomly located in different villages of Mithapukur upazila. Again 10 women borrowers were chosen randomly from each SHG comprising a total no. of 150 borrowers. Again a total of 50 women borrowers in the CMf category were selected randomly from the surrounding areas where selected SHG were located. Further, a total of 30 non-participants from the surrounding areas of SHGs were selected (those did not receive any credit from any financial institutions/other source). In addition, 40 new clients (who formed SHG and eligible to borrow) were chosen from expansion areas of IRB, with the help of the IRB personnel. Afterwards, another 30 non-participants from expansion areas were chosen as part of the sample (who did not receive any credit from anywhere).

Finally, a total of 300 samples were selected as sample of the present study taking 150 samples from IMf category, 50 samples from CMf category and 100 from Non-Participants (including new clients’ category). Besides quantitative survey, qualitative tools such as Focus Group Discussion (FGD) and KII (Key Informant Interviews) were held out to have better understanding on existing practices of IMf. A total 13 FGDs and 8 KIIs were conducted by the researchers themselves.

3.3 Preparation of survey instruments and pre-testing

To collect the required data, two types of survey instruments were prepared in accordance with the objectives set for the study. The survey instruments were checked by the concerned persons of IRB head office. Survey instruments then were pre-tested in the field among some credit recipient before final data collection. After pre-testing, the final survey instruments were prepared after making necessary corrections, modifications and adjustment in the light of the experience gained from the field. The survey instruments were prepared in such a way that all aspect of information associated with the objectives could be included.

3.4 Data collection and processing

A day long training workshop on “Data Collection Procedure” was held in presence the concerned persons of IRB’s head office before going to the field. Data were collected by the trained enumerator through face to face interview with the selected respondent using the survey instruments under the direct supervision of the researchers. Afterwards, collected data were edited, processed, summarized and scrutinized carefully.

3.5 Analytical technique

Both tabular and statistical techniques were adopted to analyze the data.

3.5.1 Tabular technique

Tabular analysis was used to find out simple statistical measures like average, percentage, ratios etc. This method is simple in calculation, easy to understand and applied to classify the data.

3.5.2 Statistical techniques

i) DID Model

The difference in difference (DID) method was used to determine the impacts of IMf programs. This study adopted Coleman’s (1999) model for assessing the impact of microcredit. Karlan (2001) criticized the implicit assumption that selection bias is static, pointing out that new borrowers may not have borrowed in the past for some unknown reason. Early participants may have borrowed at the first chance because they knew that high returns to credit would be generated; late participants might have been hesitant because of their lower ability to repay. Recognizing the arguments raised by Karlan (2001), this study avoided selection bias by including appropriate numbers of graduate and problem clients. A quasi-experimental design was applied in which treatment and comparison groups for each selected IMF were used. Treatment villages are those where IMf lending had been going on for some time. The comparison villages represent expansion areas where program clients were identified and organized into groups, but no loans had been made. Treatment and comparison villages are not only close in distance, but also households are similar in socioeconomic characteristics. DID method is a combination of before-after and with-without comparisons. It compares observed changes in outcome of participants with those of non-participants. This study adopted a similar modification of this approach to Kondo’s (2007) and Rahman et al. (2014), instead of comparing differences for participants and non-participants between pre-treatment and post-treatment periods, a difference in eligible and non-eligible households in treatment villages was compared with the same difference in expansion/comparison villages. A modified assumption in this case is that a difference between eligible and non-eligible households in comparison/expansion villages is a proxy of

the same difference in treatment villages. The DID method eliminates bias due to fixed, unobservable characteristics (Kondo, 2007). A simple framework is shown in Tables 1 and 2.

Table 1: Sampling Framework for respondent households

Type of household	“Treatment”	“Comparison”
Participating HH	(A1) Exiting clients (A2) Former clients (graduates; problem clients)	(C) New clients
Nonparticipating HH	(B) Qualified non-participating	(D) Qualified non-participating

Source: Kondo, 2007

Table 2: Factors determining outcome of microfinance programs

Type of household	“Treatment”	“Comparison”
Participating HH	(A) <ul style="list-style-type: none"> • Observable characteristics • Unobservable characteristics affecting participation • Area attributes (T) • Microcredit program 	(C) <ul style="list-style-type: none"> • Observable characteristics • Unobservable characteristics affecting participation • Area attributes (C)
Nonparticipating HH	(B) <ul style="list-style-type: none"> • Observable characteristics • Area attributes (T) 	(D) <ul style="list-style-type: none"> • Observable characteristics • Area attributes (C)

It is apparent from Table 2 that new clients will not have experienced the impact of microcredit programs, as although they have already been identified as qualified clients they have not yet received loans. Non-participating households will have experienced neither the effect of unobservable characteristics influencing participation nor the impact of a microcredit program because they have not participated. The expression (A-B) gives the net effect of unobserved characteristics influencing participation plus the microfinance impact. The expression (C-D) shows the net effect of the unobserved characteristics influencing participation. Thus, (A-B)-(C-D) yields the net effect of the microcredit program.

Estimation procedure/technique

A simple regression equation estimates the impact of microcredit programs on participant households. The regression equation omits three known sources of bias: (1) selection bias, (2) nonrandom program placement, and (3) dropout bias from inclusion of graduate and problem clients in the treatment households. The advantage of using the regression framework is that it accounts for differences in household and community characteristics that occur even in well-designed sampling schema. The DID method is represented as:

$$Y_{ij} = F(\beta_1 X_{ij} + \beta_2 V_j + \beta_3 M_{ij} + \beta_4 T_{ij} + \epsilon_{ij}) \dots \dots (1)$$

Where,

Y_{ij} = household outcome of interest

X_{ij} = household characteristics

V_j = village characteristics or village fixed-effects

M_{ij} = membership dummy; one if participant in existing and expansion areas, zero otherwise

T_{ij} = treatment variable; one (or >0) if participant in existing areas, zero otherwise;

ϵ_{ij} = Error term.

Outcomes can be modeled linearly ($y=x\beta$) for continuous variables, and the elements of the control function include the other independent variables, namely, household characteristics and treatment variables. The coefficient of the treatment variable in the linear model generates the average effect of microcredit programs. Among four prospective treatment variables: (i) have availed microcredit services; (ii) number of months since first loan released to the village; (iii) total amount of loans; and (iv) number of loan cycles the household borrowed. The first treatment variable (availed loan) was applied to determine the IMF impact

ii) Probit Model

To find out the influencing factors toward IMF credit program participation, the following Probit regression function was fitted. Probit model helps to understand the impact of explanatory variables (personal attributes, family attributes and external environment) on the

probability of participation in IMF credit program. The model was used by Rahman (2012); Panda (2009), Roodman and Morduch (2009), ADB (2007), Cheng and Ahmed (2010), Dutta and Magableh (2006), Bending et al (2009), and Cheng and Abdullahi, (2009) found suitable to explain the probability of participation as explanatory variables.

Probit model can be written as follows:

$$Y_i = f(X_1, X_2, X_3) + e_i$$

Y= Types of program participants (if participated in the IMF program= 1, otherwise=0)

X₁= Personal attributes (i.e., age, education level)

X₂= Family attributes (i.e family size)

X₃= External/supportive environment (distance between IMF center and clients villages)

iii) Women empowerment Decision Making Index (DMI)

Women's empowerment depends on how much women participate in the household and other affairs. Decision Making Index (DMI) is an important indicator for assessing women's empowerment. DMI were measured on a three-point basis. Decisions made by a women/wife alone were scored with a two, man and woman together with a one, and man/husband alone with zero. The role of women in decision-making was related directly with their magnitude of active participation in microcredit programs. The following equation was used to determine the DMI.

$$\text{Decision Making Index (DMI)} = \frac{(\text{Man} \times 0 + \text{Woman} \times 2 + \text{Both} \times 1)}{\text{No. of Respondent}}$$

DMI value one (1) implies man and woman are equally empowered while greater than one implies women are more empowered and less than one implies less empower.

iv) Qualitative analysis through MAXQDA

The process of qualitative data analysis starts with the data preparation, which involves three main tasks, such as producing verbatim transcript of the interview, translate the transcripts if necessary, and anonymizing data removing identifiers from the data (Hennink et al., 2011). All recorded FGDs were turned into verbatim transcripts. The process of verbatim transcription was started just after the completion of the interview. All identifiers from the transcripts were then removed in order to preserve the anonymity of the participants.

After data preparation, codes were developed. In this research, a set of deductive codes (based on interview guide and literature review), inductive codes (based on the issues raised by the participants themselves) and in-vivo coders (specific phrases and metaphors used by the participants) was produced (see annex 2). For coding, data were read carefully, and then the sections of data were identified relevant to each code. A thick description of each code was developed then. Concepts were then made based on the relationship between the categories. These concepts were developed taking into consideration of specific research questions. Data were analyzed with the use of MAXQDA qualitative data analysis software. Moreover, a case study about a single participant was also presented in order to assess the role of an individual towards sustainability of SHG. KII also carried out among Branch Manager, Community Organizer, Imam, school teacher, UP members etc.

3.6 Limitations of the study

The study was subjected to a number of limitations, which are as follows-

- i. Updated, reasonable and complete secondary data was unavailable particularly related to Islamic microfinance practices in Bangladesh;
- ii. The present study is based on primary data of 300 sample in a particular area that did not cover the whole population, as a consequence the findings of the study should not be generalized;
- iii. It was very difficult to get accurate information because respondents do not keep any written records with respect to their activities, financial transaction, production, income and savings. Hence, information was generated based on memory recall of the sample respondents.
- iv. Severe cold weather prevailed during the field investigation period which hampered timely data collection;
- v. The implementation period of PROVED project was only 11 months at the time of field investigation so it was hard to get actual impacts of IMf program.

3.7 Organization of the research report

This research is composed of six sections. The first section covers the background information including microfinance and Islamic microfinance issues, IRB activities, PROVED project and the objectives of the study. Section two reviews previous literatures on microfinance issues, Self-Help Group and Islamic microfinance while section three presents the methodology of the study with some specific analytical models those are suitable for analyzing microfinance impacts and determinants of program participation. Section four represents the results and discussions. On the other hand section five describes the findings of Self-Help group. Section six presents the conclusion and recommendation.

4.1 Socio-economic characteristics of the respondents

4.1.1. Demographic information of the respondents by category

The findings revealed that average age of the respondents in the IMf, CMf and NP category was within 35 years ranging from 33.28 to 35.10. Regarding household head, it revealed that only 13% respondent households in the IMf category, 6% in the CMf category and 14% in the NP category were the household head. Average family size of the sampled household was 4.2 for IMf category, 4.08 for CMf and 3.91 for NP category. The number of male members in the family of IMf category was greater than that of the female members. But in the CMf and NP category, number of female member was higher than that of the male member (Table 3).

Table 3: Demographic information of the respondents

Characteristics	IMf (n=150)		CMf (n=50)		NP (n=100)	
	Mean	S.D	Mean	S.D	Mean	S.D
Respondent age	35.10	9.43	34.6	9.43	33.28	11.80
Household head	0.13 (13)	0.34	.06(6)	0.24	0.14 (14)	0.35
Family size	4.20	1.11	4.08	1.31	3.91	1.26
Male	2.12	0.89	1.98	0.82	1.92	0.97
Female	2.08	0.87	2.08	0.92	1.99	0.93

Source: Field survey, 2014; Parenthesis indicate the percentage

4.1.2 Distribution of respondent according to educational attainment

It is evident that 43% of the respondents in the IMf category was illiterate followed by 42% in the CMf and 41% in the NP category. It was observed that 27% of the respondents in the NP category, 22% in the IMf and 22% in the CMf category had the education up to primary level. It is also evident that 32% of the respondent in the IMf and NP category had the education up to secondary level followed by 26% in the CMf category. There found only 2 (1.33%) respondents in the IMf and 3 (6%) respondents in the CMf category who passed HSC (Table 4). These findings reflect the general notion that the poor are illiterate.

Table 4: Year of schooling of the respondent

Year of Schooling	IMf (n=150)		CMf (n=50)		NP (n=100)	
	Freq.	%	Freq.	%	Freq.	%
Illiterate	64	43	21	42	41	41
Upto primary level	36	24	11	22	27	27
Upto secondary	48	32	13	26	32	32
Above 10	2	1.33	3	6	-	-

Source: Field survey, 2014

4.1. 3 Landholding of the respondent households

It revealed that the average farm size of the respondent household of IMf category was 32.42 decimal having the owned cultivable land of only 10.03 decimal. It was also observed that 68% of the IMf borrower had no cultivable land of her own and 5.33% of the IMf borrower households had no house on her own land. In contrast, farm size of the borrower in the CMf category was 43.77 decimal having the average owned cultivable land of 23.11 decimal (Table 5). The findings implied that the Islamic microfinance provides credit to the landless clients.

Table 5: Distribution of respondent according to the size of landholding (decimal)

Particulars	IMf (n=150)		CMf (n=50)		NP (n=100)	
	Mean	S.D	Mean	S.D	Mean	S.D
Homestead area	6.89	5.20	8.65	9.13	6.51	6.14
Own cultivable land	10.03	17.48	23.11	55.80	8.38	14.72
Rented and leased in land	20.78	25.69	20.04	35.10	13.31	16.89
Pond	1.36	7.21	2.31	7.25	.75	2.90
Total cultivable land	32.42	33.23	43.77	67.65	27.48	34.00

Source: Field survey, 2014

The following Table (6) represents the distribution of own cultivable land by different category of respondent. It revealed that all IMf borrowers belonged to landless and marginal category which implies that IMf further downscales microcredit services to the bottom people, those somehow ignored by conventional MFI or formal financial institutions.

Table 6: Distribution of own cultivable land by borrowing category

Particulars	IMf (n=150)		CMf (n=50)		NP (n=100)	
	Freq.	%	Freq.	%	Freq.	%
Land less (less than 0.05 acre)	102	68	34	68	67	67
Marginal (0.05-.49 acre)	48	32	8	16	33	33
Small (0.50-2.49)	-	-	8	16	-	-
Medium (2.50-7.49)	-	-	-	-	-	-
Large (above 7.49)	-	-	-	-	-	-

Source: Field survey, 2014

4.1.4 Average income of the households

Average household income was calculated by adding up all the income streams of the respective household in a year. The average income of the IMf borrower household was Tk.77685 and that of the CMf borrower was Tk. 78953 (Table 7). Average annual income of the borrower in the CMf category accounted highest amount while that accounted lowest in the NP category.

Table 7: Average annual income of the households

Sources of income	Amount (Tk.)		
	IMf	CMf	NP
Enterprise /business where credit used	19964	14036	-
Other enterprise or sources	6741	2940	9494
Agriculture/ farming	12607	27070	13395
Livestock & poultry	4110	11442	4851
Fisheries/ponds	918	1140	270
Wages and salaries	31838	20156	30928
Remittance	80	0	500
Others	1426	2170	1700
Total	77685	78953	61138

Source: Field survey, 2014

4.1.5 Distribution of borrower according to size of income

The respondents were categorized according to different size of income such as Q1 (whose income <Tk.3000), Q2 (Tk.3001-5000), Q3 (Tk.5001-7000) Q4 (Tk.7001-9000) and Q5 (Tk.9001 and above). It reveals from the Table 8 that 22.7% household of IMf category, 20% of CMf and 24% of NP categories fell in the income group Q2. It is evident that 18.7% household of IMf category fell in the lowest income quartile while 10% CMf and 29% of NP category fell in the lowest income quartile (Q1), respectively. About 21.3% of IMf category, 18% CMf and 5% of NP categories fell in the highest income quartile Q5.

Table 8: Distribution of sample according to different income group

Income quartile	Amount (Tk.)					
	IMf		CMf		NP	
	Freq.	%	Freq.	%	Freq.	%
Q-1 (Tk.<3000)	28	18.7	5	10.0	29	29.0
Q-2 (Tk. 3001-5000)	34	22.7	10	20.0	24	24.0
Q-3 (Tk. 5001-7000)	32	21.3	13	26.0	24	24.0
Q-4 (Tk. 7001-9000)	24	16.0	13	26.0	18	18.0
Q-5 (Tk. 9001 and above)	32	21.3	9	18.0	5	5.0
Total	150	100	50	100	100	100

Source: Field survey, 2014

4.1.6 Purpose of borrowing and utilization of credit in different IGAs

Generally, Islamic Relief provides loan under IMf program to the borrowers for different productive purposes or IGAs. It was observed that about 47% (highest) of the IMf borrower received loan for dairy farming while only 22% of the CMf borrower received loan for the same purpose. Again it revealed that 46% of the CMf borrower received loan for petty business (highest) while only 22% of the IMf borrower received credit for the same purpose. The Table 10 also shows that 13% of the IMf borrower and only 2% of the CMf borrower took loan for the purpose of beef fattening. About 11 % of IMf and 16% of CMf received loan for the purpose of high value crop production. Regarding utilization of loaned money, it revealed that IMf borrower utilized 95% of the borrowed money in the productive purpose and CMf borrower utilized 80% of the borrowed money in the productive purpose. Islamic Relief through SHG provides most of the credit for agricultural activities whereas conventional MFI provides credit for petty business.

Table 9: Purpose of borrowing and its utilization in different IGAs

Purpose of borrowing	IMf			CMf		
	Freq.	%	Credit utilization (%)	Ferq.	%	Credit utilization (%)
Dairy farming	70	46.7	88.57	11	22.0	81.82
Beef fattening	20	13.3	93.63	1	2.0	100
Goat rearing	2	1.3	100	1	2.0	100
Poultry farming	1	0.7	100	2	4.0	50
Fish farming	1	0.7	100	1	2.0	100
Petty business	33	22.0	87.4	23	46.0	59.09
Tailoring	2	1.3	100	-	-	-
Van/rickshaw pulling	5	3.3	100	3	6.0	66.66
Crop farming (high value)	16	10.7	86.66	8	16.0	83.33
Total	150	100	95.14	50	100	80.11

Source: Field survey, 2014

4.1.7 Amount of credit received by the borrower

It was observed that the IMf borrower had an average cycle of borrowing 1.83 whereas the average cycle of the CMf borrower was 3.06. The average amount of loan received by the IMf and CMf borrower was Tk.14220 and Tk.15960, respectively. The amount of loan received as percent of the applied amount was almost equal for the two categories of borrowers (89 and 90 percent)(Table 10). The minimum credit taken by the borrower was Tk. 4000 and maximum was Tk.28000 for IMf category while it was Tk. 4000 as minimum and Tk. 35000 as maximum for CMf category. It is evident from the Table (10) that multiple borrowing was found in IMf (5%) and in CMf (14%) categories, respectively. Multiple borrowing implied that the borrowers needed additional fund for smoothly running the IGAs as well as expansion of their IGAs.

Table 10: Amount of credit received as percent of amount applied for

Type of borrower	Average cycle of borrowing	Amount applied Tk.	Amount received Tk.	Percent	Multiple borrowers	
					Freq.	%
IMf	1.83	15960	14220	89.09	7	4.66
CMf	3.06	14800	13340	90.14	7	14

Source: Field survey, 2014

4.1.8 Installment status of current cycle

Islamic Relief as *Quard-al-Hassana* provides credit through SHG to its member without any interest (*Riba*) that to be repaid in 40 installments. In the case of CMf, the borrower has to repay the loaned money in 45.02 installments (average). It revealed that 50 % of the loan was repaid in the current cycle (Table 11). None of the borrowers were found defaulters in the previous borrowing cycle which implies that repayment was 100% in the both category.

Table 11: Repayment patterns of borrowers in present cycle

	IMf	CMf
Total installment	40	45.02 ³
Installment repaid	20.34	23.5
Remaining installment	19.61	21.36

Source: Field survey, 2014

4.1.9 Types of labor employed in IGAs by the borrower category

Generally, micro credit extends services to micro or small enterprises where labor is required for operating the enterprise. Most of the credit money of IMf borrower was invested in agricultural activities hence the total no. of labor was required 2.7 whereas it was 1.48 for CMf borrower. Hired labor used by IMf households was 0.13 person as against 0.30 person for CMf households.

Table 12: Labor employed according to the category of borrowers

³ Some local MFIs offer 44 installments and others 46 for repaying the loan.

Sources of labor	Borrower category	
	IMf	CMf
Average family member	1.57	1.18
Average hired labor	0.13	0.30
Total labor required	2.70	1.48

Source: Field survey, 2014

4.1.10 Comparison of service provided in IMf and CMf program

Islamic Relief not only provided credit (money) to its clients under the IMf program but also provided training, advocacy, awareness on health and hygiene, awareness on social issues, child education program, savings program etc. It is evident (Table 13) that about 45 % of the IMf borrower received advocacy services provided by the IRB in contrast only 16% of the CMf borrower received advocacy services other than credit. Cent percent of the borrower of the both category received savings related advocacy along with the credit. Cent percent of the respondent in the IMf category received enterprise based training as against only 24% in the CMf category. It revealed that about 100% of the IMf borrower received advocacy on health and sanitation as against only 28% of the CMf borrower. It also revealed that 69% of the respondent in the IMf category received training on family planning as against only 22% in the CMf category (Table13). It can be said that IRB provides training matched credit whereas conventional CMf does not provide that.

Table 13: Services (other than credit) provided by IMf and CMf

Type of services	Borrower category					
	IMf			CMf		
	Freq.	%	Rank	Freq.	%	Rank
Savings	150	100.00	1	50	100	1
Enterprise training	150	100.00	1	12	24	3
Health and sanitation	148	98.67	2	14	28	2
Family Planning	104	69.33	3	11	22	4
Advocacy on social issues	67	44.67	4	8	16	5
Child education	24	16.00	5	7	14	6

Source: Field survey, 2014

4.1.11 Perception of borrowers on the activities of IMf

In order to analyze the opinion and perception of the IMf borrower/ SHG members, the sample SHG members were asked about their perception on various statement related to IMf activities. The five point Likert scale (strongly agree, agree, indifferent, disagree, and strongly disagree) was used to analyze different opinions. A Likert scale is an ordered scale from which respondents choose one option that best aligns with their view. It is often used to measure respondents' attitudes by asking the extent to which they agree or disagree with a particular question or statement (Losby and Wetmore, 2012). The opinion and perception of borrower on the activities of IMf were analyzed through Likert scale showed that the borrower had perceived “forming SHG is easier than of solidarity group” as the first and foremost choice followed by “IMf credit is interest free that complies/comply with the Islamic principles”, “to get credit from IMf is easier than CMf” and “the service provided by the IMf is better than that by CMf”. Considering the value of Likert shown in the Table 14, the borrower prioritized the factor that IMf provides credit to the real poor clients. The IMf borrower was asked a question about the sustaining of SHG if the service from IRB is ended, more than 94% of the SHG sample members opined that SHG would sustain if the service from Islamic Relief Bangladesh is ended and according to Likert value it ranks 5th.

Table 14: Knowledge and perception about IMf activities

Particulars	Likert value	Likert rank	Percent
Forming SHG is easier than solidarity group	4.90	1	98
IMF credits are interest free that comply Islamic rules	4.87	2	97.4
To get credit from IMf is easier than CMf	4.81	3	96.2
IMf services are better than CMf	4.81	3	96.2
IMf provides credit to the poor clients	4.77	4	95.4
SHG can sustain without supports from IRB	4.71	5	94.2
Further expansion of IMf activities are necessary	4.67	6	93.4
Weekly installment is convenient	4.64	7	92.8
IMf personnel provides enterprise/business training	4.61	8	92.2
IMf personnel are friendly	4.52	9	90.4
IMf personnel attend to the SHG group meeting	4.45	10	89

Particulars	Likert value	Likert rank	Percent
IMf provides advocacy services	4.38	11	87.6
Government supports required	4.21	12	84.2
Familiarity with IMf registration status	4.05	13	81
Strong network with local government and other financial institution required	3.94	14	78.8
Familiarity with IMf's sources of fund	3.68	15	73.6
IMF personnel take care during natural calamity	3.19	16	63.8

Source: Field survey, 2014

4.1.12 Cost of borrowing credit

It is an important component in the decision process of receiving microcredit. The borrower had to incur some sort of cost to receive loaned money in his hand. It is evident from the Table 15 that on an average, IMf borrower had to pay Tk. 29.81 for getting a loan of Tk.1000 as against the borrowing cost for CMf was Tk.136.63. The CMf borrower had to incur the cost more than 4 times than the cost incurred by the IMf borrower for obtaining credit of Tk.1000.

Table 15: Average cost of borrowing credit from IMf and CMf program

Sources of cost	IMf	CMf
Passbook	7.17	12.2
Revenue stamp	0.93	7.96
Transportation	13.80	22.76
Cost of days spent in borrowing credit	0.00	6.30
Service charge	300.00	1865.8
Photograph	25.47	17.7
Total	347.37	1932.72
Cost of borrowing per Tk.1000	29.81	136.63

Source: Field survey, 2014

The following figure (Figure 1) delineates the dismal picture of borrowing money from conventional MFI. It is evident from the figure that to get credit from IRB is quite less costly than that from conventional MFI.

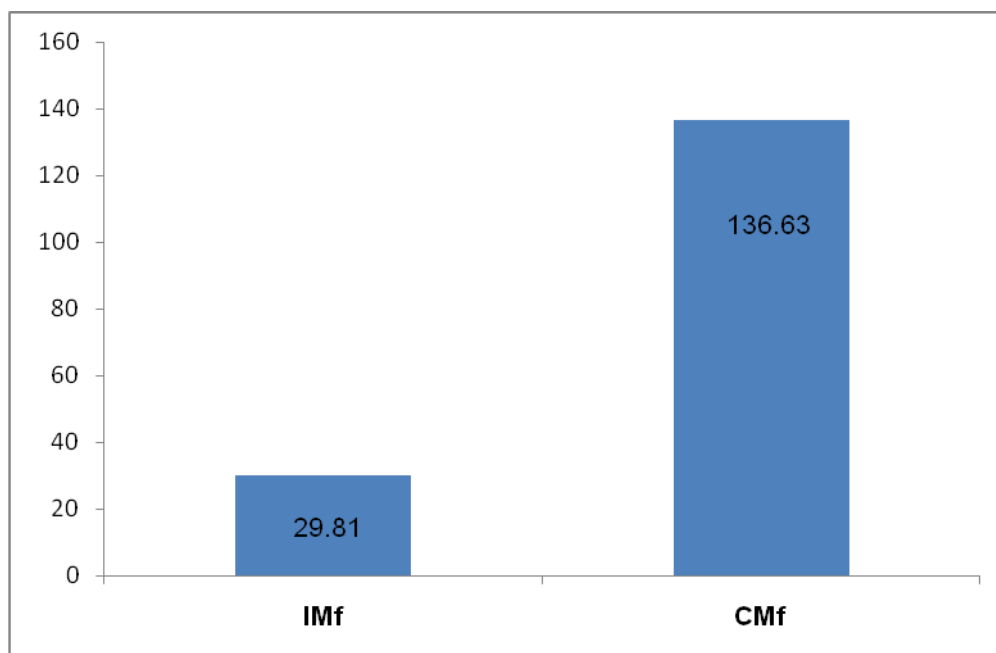


Figure 1: Cost of borrowing per Tk. 1000 for IMf and CMf borrower

4.1.13 Management aspect of the borrowed money

The sampled borrowers were asked about the management of the credit money. i.e., how they utilized the borrowed money. It reveals from the Table16 that about 83% of the credit receiver women in the IMf category gave their borrowed money to the hands of their husband for the use of productive purposes. Both the husband and wife (52% in the IMf category and 46% in the CMf category) took decisions on the investment of the borrowed money. Borrower herself took decision on the investment of borrowed money (25% in the IMf category and 22% in the CMf category). Only 5% of the borrower of IMf category reported that their husbands took the credit money by giving pressure where as 12% of the borrower of CMf category gave the credit money to their husbands. It is evident from the Table that still the rural women are dominated by the men due to patriarchal nature of society.

Table 16: Management of credit money

Managing the borrowed money	IMf			CMf		
	Freq.	%	Rank	Freq.	%	Rank
Given credit willingly to the husband	124	82.67	1	40	80	1
Both husband & wife	78	52.00	2	23	46	2
Spending credit by herself/ himself	38	25.33	3	11	22	3
Giving credit to sons/daughters	24	16.00	4	5	10	5
Husband takes the credit by creating pressure	8	5.33	5	6	12	4

4.1.14 Cost, return and gross margin from enterprise/business

It revealed that the borrower in the IMf category invested Tk.17560 where as CMf category borrower invested Tk. 19060 in different IGAs or enterprise. The Table 17 shows that about 75% of the total invested money comes from the borrowing sources (IMf and CMf) and the rest 25% of the invested money comes from non institutional sources. The borrower invested their credit in the various enterprises, it was observed that the gross margin was Tk.12153 for the IMf borrower as against Tk. 7429 for the CMf borrower. It is noteworthy to state that “Pair mean test” revealed statistically significant outcome on gross margin. The BCR of IMf borrower accounted for 1.56 and that of CMf borrower accounted for 1.12. It revealed that IMf borrower earned Tk. 1.56 per taka investment and CMf borrower earned Tk.1.12 per Tk. investment implying that IMf borrower earned more profit from their enterprise than that of the CMf borrower (Table 17). The higher earnings of IMf borrowers may be justified by the contribution of SHG and IRB personnel who provided training, monitoring and supervision for successful operation of the enterprises.

Table 17: Cost returns analysis (Gross margin, Benefit Cost Ratio)

Particulars	IMf	CMf
Investment from borrowing sources	13340	14220
Investment from other sources	4220	4840
Total investment in the enterprise/business	17560	19060
Current value of the enterprise/business	22439	21914

Particulars	IMf	CMf
Gross income (product +by-product + appreciation)	19964	14036
Operation and maintenance cost	6966	5422
Other cost	845	1185
Gross cost	7811	6607
Gross Margin	12153***	7429
BCR (Benefit Cost Ratio)	1.56	1.12

Source: Field survey, 2014; ***Significant at 1% level; Gross Margin (paired t value 3.117)

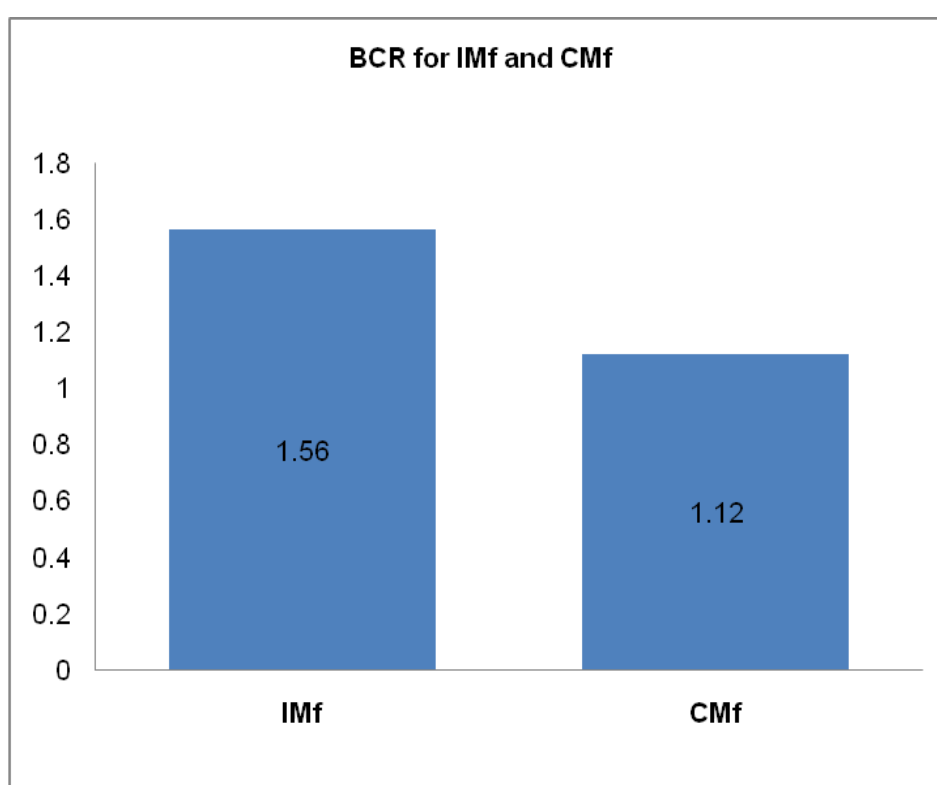


Figure 2: Benefit Cost Ratio for IMf and CMf category

4.1.15 Influencing factors for repayment of credit

The sampled respondents were asked about the factors that might have influenced the repayment of borrowed money. About 95% of the IMf borrower repaid their borrowed money with a hope that they would get loan again in the future. About 93% of the IMf and 94% of the CMf borrower repaid their loaned money due to self consciousness. Again 95 % of IMf and 82 % of the CMf borrower repaid their loan due to weekly installments that is convenient

for them. About 71% of IMF borrower and 68% of the CMf borrower repaid their borrowed money from the financial help of the family members. It is apparent from Table (18) that a significant number of borrowers were dependent on family and friends in repaying the borrowed money from IMf and CMf.

Table 18: Influencing factors for repayment of borrowed money

Factors of repayment	IMf		CMf	
	Freq.	%	Ferq.	%
Smooth future borrowing	142	94.67	41	82
Self consciousness	139	92.67	47	94
Pressure by the SHG/group members	47	31.33	23	46
Pressure by the official staffs	22	14.67	27	54
Pressure by the relatives	4	2.67	8	16
Provision or possibility of penalty	3	2.00	12	24
Debt is considered as sin by the society	31	20.67	7	14
Weekly installments	142	94.67	41	82
Financial help by the family members	106	70.67	34	68

Source: Field survey, 2014

4.1.16 Household expenditure of the respondent

The respondents were asked about the expenditure they had to incur in maintaining their family. Households under IMf category spent about 61% of its total expenditure for the consumption of food followed by 7.35% for clothing, 7.22% for education of children, 5% for medical or treatment purpose. In the case of total household expenditure, there was no significant difference between the CMf and IMf category (Table 19). On the contrary, the respondent of NP category spent a total of Tk. 5046 which is less than that of the two other categories but the expenditure for food consumption was accounted for 62% of their total expenditure close to the food expenditure of CMf borrower in terms of percentage (63%). It

is well documented that poor people in rural Bangladesh spend majority of their earnings for food consumption, which is also justified by the present study findings.

Table 19: Average monthly expenditure per household

Item of expenditure	Amount (Tk.)					
	IMf		CMf		NP	
	Amount	%	Amount	%	Amount	%
Food	3891	60.98	4234	63.43	3136	62.15
Repairing/Rental	358	5.60	350	5.24	240	4.76
Transport	235	3.68	319	4.78	215	4.26
Education for child	461	7.22	490	7.34	422	8.36
Clothing	466	7.30	361	5.41	341	6.76
Medical /treatment	322	5.05	357	5.35	188	3.73
Household utensils	101	1.58	60	0.90	67	1.33
Festival	305	4.77	277	4.15	252	4.99
Electricity/kerosene	186	2.91	183	2.74	133	2.64
Social expenses	50	0.78	42	0.63	38	0.75
Others	9	0.14	2	0.03	15	0.30
Total	6382	100	6675	100	5046	100.02

Source: Field survey, 2014

4.1.17 Daily calorie intake by the respondent households

The following Table shows the calorie intake from different types of food consumed by the members of the respondent's household in different categories. The data on food intake were collected from the respondents on the basis of food consumed by the members of the household during the last 24 hours from the time when interview was taken. It is evident that calorie intake (per person/day) of IMf borrowers registered highest (2180 K. calorie) followed by 2071 K.cal and 1911 K.cal of the borrowers household of CMf and NP category, respectively. The Table 20 also shows that highest percentage of calorie intake was derived from rice consumption by the respondent households of each category manifests the heavy dependence on rice for their daily diet. The second highest energy was derived from taking

vegetables in the diet of the respondent households in the study areas. The rural poor household is still under poverty line in the study areas in terms of calorie intake.

Table 20: Calorie intake (per day per person) according to category of borrower

Items of food	Calorie intake per day per person					
	IMf		CMf		NP	
	Calorie	%	Calorie	%	Calorie	%
Rice	1347	61.79	1313.45	63.42	1274.88	66.71
Wheat flour	53.44	2.45	67.58	3.26	21.07	1.10
Muri (puffed rice)	183.98	8.44	87.73	4.24	117.16	6.13
Vegetables	243.36	11.16	235.13	11.35	187.27	9.80
Fish	73.96	3.39	57.39	2.77	74.19	3.88
Red meat	26.17	1.20	16.39	0.79	18.09	0.95
Chicken	16.93	0.78	30.28	1.46	11.87	0.62
Egg	0.9	0.04	1.16	0.06	5.36	0.28
Oil	94.27	4.32	88.69	4.28	78.35	4.10
Milk	27.76	1.27	50.84	2.45	31.26	1.64
Fruits	8.9	0.41	2.69	0.13	5.84	0.31
Pulses	43.48	1.99	48.98	2.37	28.79	1.51
Spices	35.35	1.62	36.19	1.75	30.46	1.59
Sugar/gur	24.23	1.11	34.21	1.65	26.34	1.38
Total calorie intake	2180	100	2071	100	1911	100

Source: Field survey, 2014

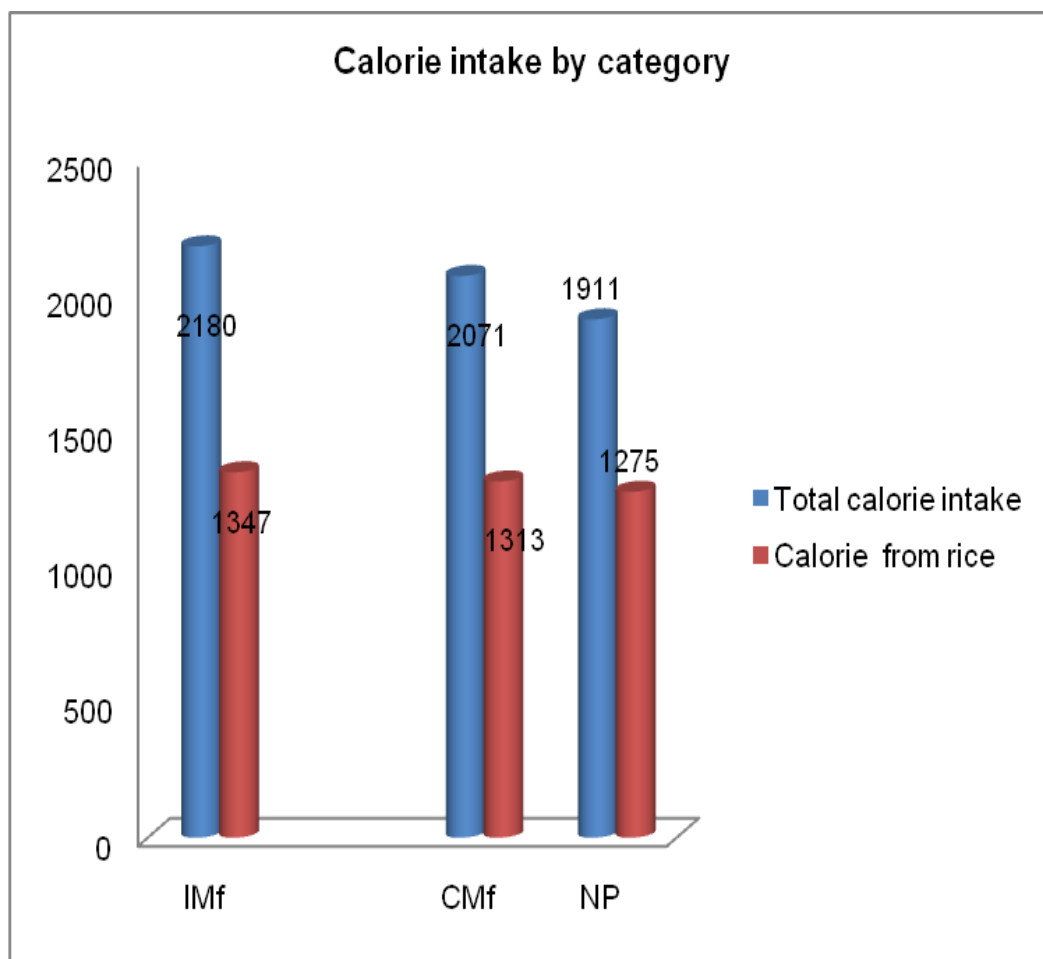


Figure 3: Total calorie intake and that from rice by different category of household

4.1.18 Productive household assets

The household has the average asset of worth Tk. 1445, Tk 4707 and Tk 242.7 for IMf, CMf and NP respectively. The households have the agricultural implements including country plough, power tiller, ladder, spade, thresher, hand weeder. It was observed that 6.6% and 1.33 % households had country plough and power tiller of their own in the IMf category. Twelve percent and 6 percent of households had country plough and power tiller of their own in the CMf category. In contrast, none of the non participants' household had power tiller (Table 21).

Table 21: Agricultural implements (asset wise household)

Agricultural Implements	IMf			CMf			NP		
	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH
	No.	%		No.	%		No.	%	
Country plough	10	6.66	23.47	6	12	54	5	5	21.5
Power tiller	2	1.33	866.67	3	6	4100	0	0	0
Ladder	34	22.66	56.33	8	16	43	63	63	28.2
Spade	107	71.33	174.27	31	62	153	8	8	133.2
Sprayer	21	14	129.34	8	16	164	5	5	55.8
Thresher	3	2	176.67	1	2	160	-	-	-
Weeder	73	48.66	41.33	21	42	33	3	3	20.56
Total	-	-	1444.61	-	-	4707			242.7

Source: Field survey, 2014

4.1.19 Possession of household amenities

It is found from the Table 22 that in the IMf category, about 97% of the HH possesses cot (*chouki*) followed by quarter of the household possesses TV or Radio, 36% HH Almirah, 83% HH table, 79% HH chair and only 28% households possesses dressing table in their house. The findings showed that the household in the CMf category possessed assets worth of Tk. 94217, and the household in the IMf category possessed assets worth of Tk.85699. The asset position of the NP households was lesser than that of the other two categories.

Table 22: Possession of household amenities by different category

Household amenities	IMf			CMf			NP		
	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH
	No.	%		No.	%		No.	%	
Houses	150	100	75413	50	100	79560	100	100	40340
TV/Radio	38	25	1819	15	30	2490	12	12	718
Cot (Chouki)	145	97	4323	49	98	7160	96	96	2961

Household amenities	IMf			CMf			NP		
	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH
	No.	%		No.	%		No.	%	
Almirah	54	36	1715	19	38	1806	22	22	882
Table	124	83	673	42	84	874	70	70	522
Chair	118	79	690	41	82	1257	73	73	538
Dressing table	42	28	1066	14	28	1070	22	22	581
Total	-	-	85699	-	-	94217	-	-	46542

Source: Field survey, 2014

4.1.20 Possession of livestock and poultry by the household

Generally in the rural areas of Bangladesh, every farm family more or less has livestock/poultry as an emergency asset. It is revealed from the Table 23 that 79% of the households possessed cow, 60% HH possessed chicken, 36% HH goat or sheep, 25% HH duck in the IMf category. About 78%, 38% and 74% of CMf household had cow, goat, duck and chicken, respectively. A greater percent of household in NP category possessed duck, duck than that possessed by other two categories of borrower.

Table 23: Possession of livestock and poultry by different category

Livestock and poultry birds	IMf			CMf			NP		
	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH	HH		Avg. Asset (Tk)/HH
	No.	%		No.	%		No.	%	
Cow	119	79	23775	39	78	24494	64	64	11745
Goat/Sheep	54	36	2087	19	38	2140	39	39	1157
Duck	38	25	182	12	24	208	52	52	126.9
Chicken	90	60	550	37	74	627	72	72	361.3
Pigeon	3	2	18	1	2	12	3	3	2.4
Total	-	-	26612	-	-	27501	-	-	13393

Source: Field survey, 2014

4.1.21 Other assets possession

It reveals from the table that the assets such as trees, rickshaw or van, by-cycle, mobile phone were possessed by 71%, 15%, 50%, 69% of borrowing HH in the IMf category, respectively. Besides this, 28% of the HH had a savings of Tk. 1877 in the Banks and 47% of the HH had a cash balance of Tk. 882 in the IMf category as against a savings amounted Tk. 3900 in the banks of 16% respondent, a cash balance of Tk. 1740 in the hands of 44% respondent in the CMf category. Both cash and bank deposit of the respondent in the NP category was lesser than other two groups.

Table 24: Asset wise household distribution according to different category

Other assets	IMf			CMf			NP		
	HH		Avg.	HH		Avg.	HH		Avg.
	No.	%	Asset (Tk)/HH	No.	%	Asset (Tk)/HH	No.	%	Asset (Tk)/HH
Trees	107	71	6621	32	64	6344	77	77	4027
Rickshaw/Van	23	15	897	7	14	870	10	10	575
By-cycle	76	51	2540	21	42	1188	12	12	797
Value of land	102	68	165893	37	74	219720	85	85	117320
Mobile phone	103	69	1951	34	68	1818	76	76	1498
Cash in hand	70	47	882	22	44	1740	53	53	561
Deposited in Bank	42	28	1877	8	16	3900	6	6	841
Total	-	-	180661	-	-	235580	-	-	125619

Source: Field survey, 2014

4.1.22 Health service received by the HH according to different category

The respondent HH were asked about the health services from where they received treatment. It is evident from the Table 25 that the frequency of taking treatment from private clinic increased slightly and that of the village doctor decreased from 3.33 to 2.74 times after joining the IMf program. The respondent of the NP category (89%) received health service from village doctors describing the poor financial ability of them. Taking treatment from

private clinic increased from 0.82 to 0.92 times in the case of CMf borrower. Taking treatment from village doctor decreased from 2.32 to 1.99 times in the case of CMf borrower.

Table 25: Visiting doctors for health services according to different category

Visiting doctor	IMf				CMf				NP	
	Before		After		Before		After		%	Times
	%	Times	%	Times	%	Times	%	Times		
Govt. hospital	53.33	1.11	54	1.21	24	0.84	18	0.94	33	1.48
Private clinic	18.66	0.58	29.33	0.79	30	0.82	40	0.92	9	0.32
Village doctor	72.66	3.33	66	2.74	68	2.38	58	1.96	89	4.25
Kabiraj	13.33	0.31	8.66	0.22	14	0.34	6	0.1	10	0.38
Homeopathic	25.33	0.97	22.66	0.87	24	0.7	22	0.62	54	1.07

Source: Field survey, 2014

4.1.23 Hygiene and sanitation

The respondent borrowers were asked about the knowledge and practice of health and hygiene in their daily life. Water borne disease and other contaminated disease are highly correlated with hand wash (after toilet use and before taking meal). The percentage of HH washing hand with soap after toilet increased from 56% to 93% (after joining IMf) and percentage of HH washing hands with ash decreased from 37% (before IMf) to 7% (after joining IMf) and also there found no HH using water with mud to wash their hands after toilet use. In the Figures (4), it also revealed that after joining the CMf program 84% of the HH used soap, 12% of the HH used ash and 4% of the HH used water with mud to wash their hands. In the case of before taking meal it reveals that the percentage of HH washing hands increased from 55% to 89% after joining the IMf program (Figure 7) and percentage of HH washing hands (before taking meal) increased from 50% to 70% for CMf program (Figure 8). On the contrary, the households who still out of the microfinance program, only 38% of the HH washed hands with soap, 8% with ash and the highest portion of the HH (54%) still use only water to wash their hands after toilet (Figure 6). This might be the lack of awareness due to unavailability of advocacy services on health and hygiene that received IMf borrower.

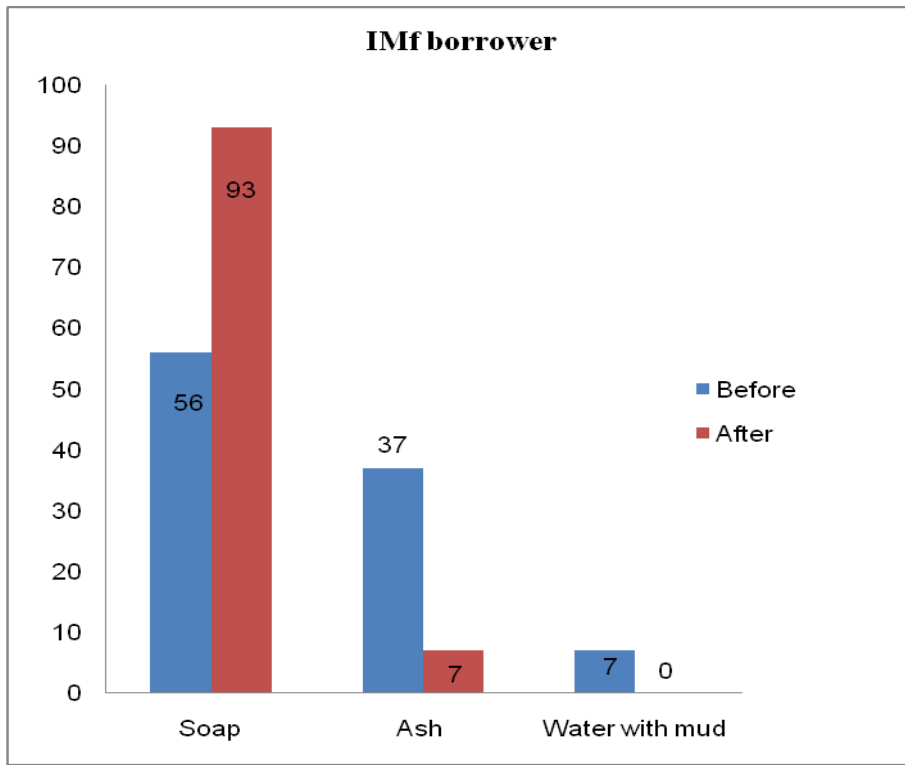


Figure 4: Hand wash after toilet for IMf borrowers

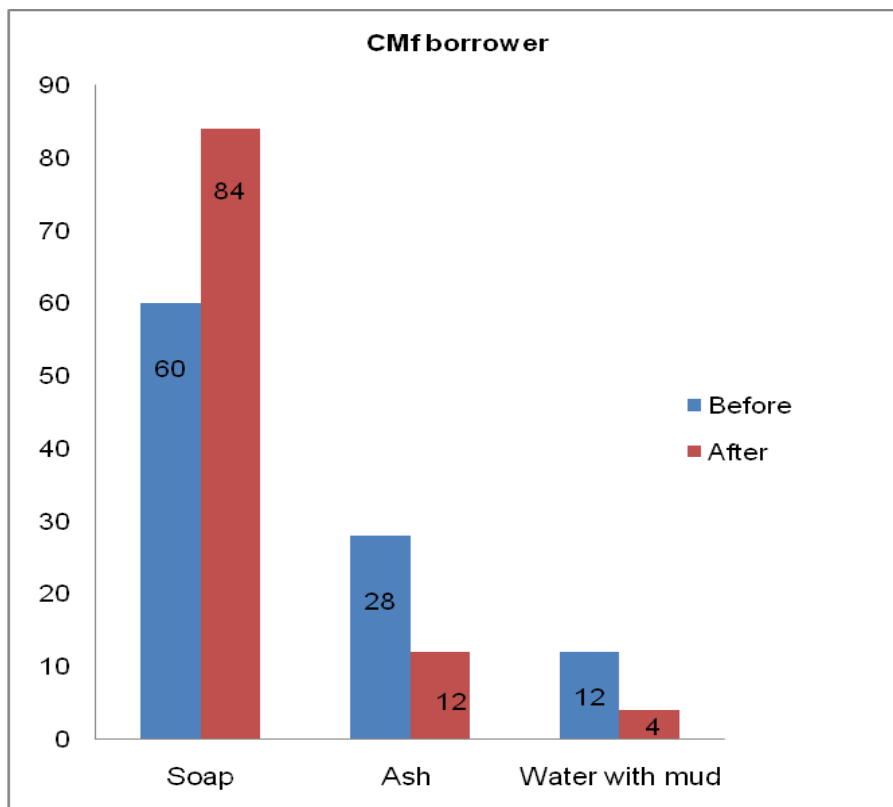


Figure 5: Hand wash after toilet for CMf borrowers

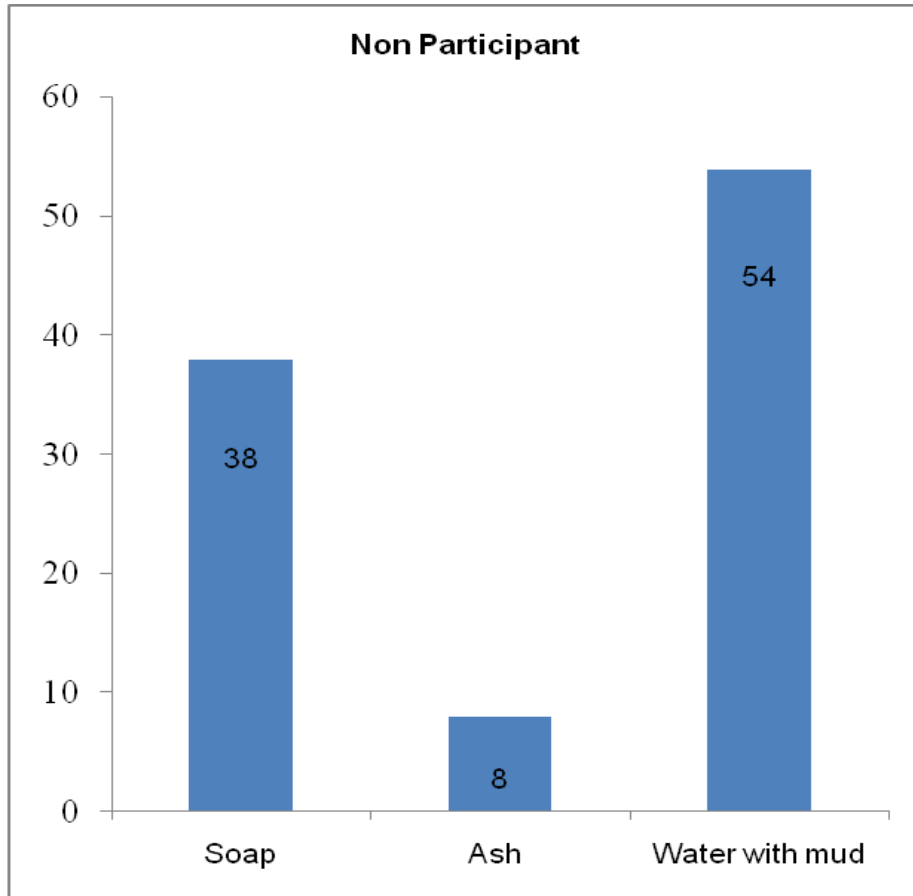


Figure 6: Hand wash after toilet for NP

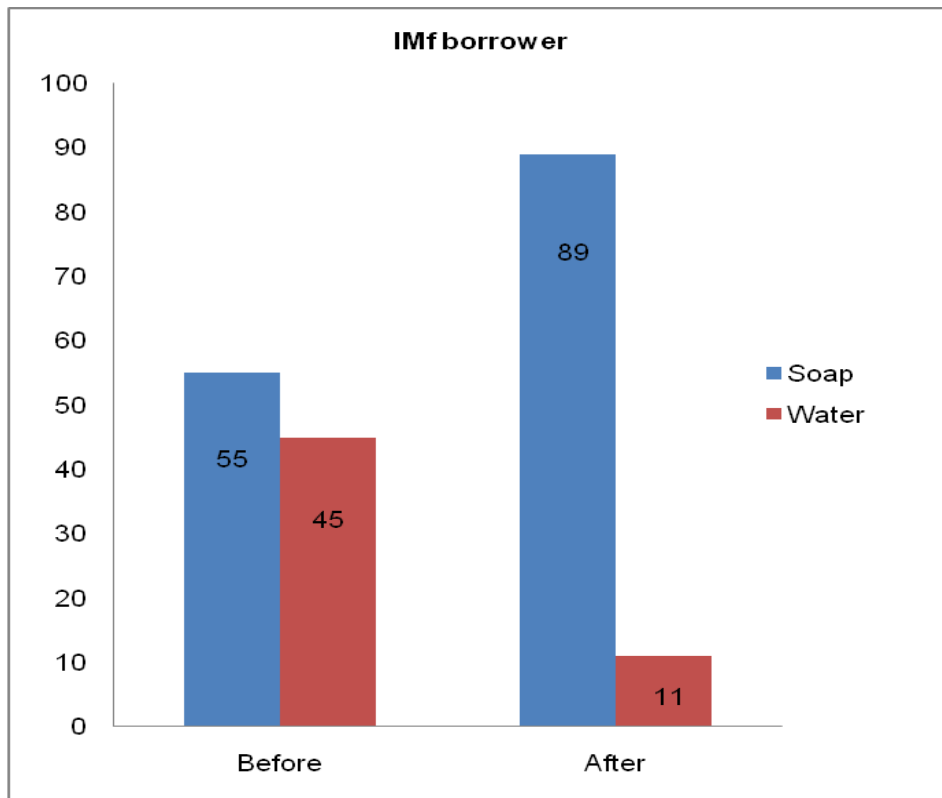


Figure 7: Hand wash before taking meal for IMf borrower

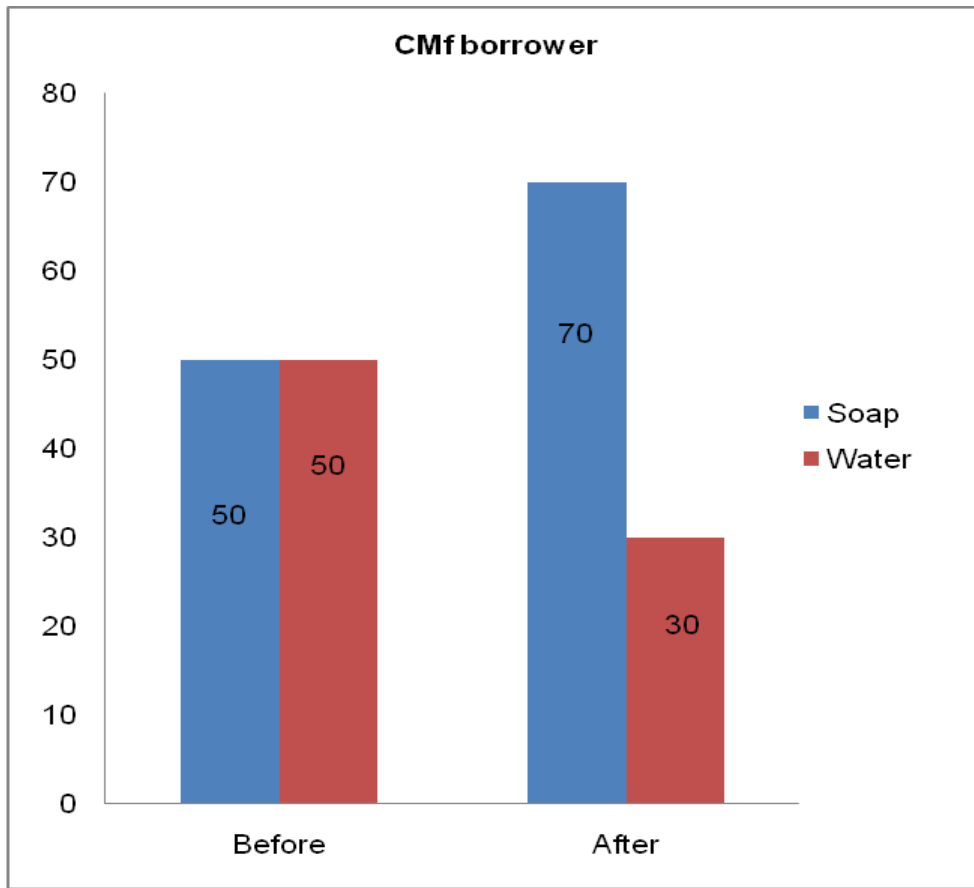


Figure 8: Hand wash before taking meal for CMf borrower

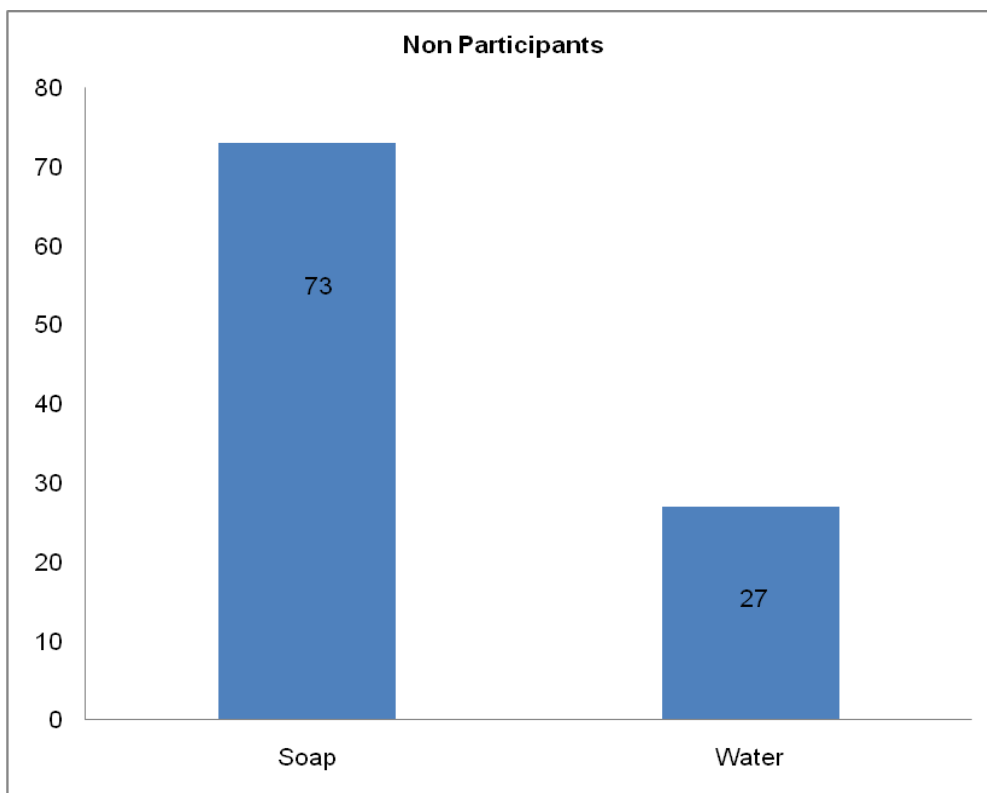


Figure 9: Hand wash before taking meal for NP

4.1.24 Housing condition

The condition of housing was investigated and the findings showed that 91% of the room was katcha, 7% was semi-pucca and only 2% was pucca under IMf category borrower. Under the CMf category, pucca room was 10%, semi pucca room was 2% and katcha room was 88%. In the case of NP category -none of the household was found having pucca room in the study areas (Table 26).

Table 26: Housing condition of the sample respondents

Borrower category	Room (%)			Floor			Roof			Wall		
	Katcha	Pucca	Semi-pucca	Katcha	Pucca	Semi-pucca	Tin	Straw	Talli	Earthen	Bricks	Tin
IMf	91	2	7	96	-	4	88	9	3	39	16	45
CMf	88	10	2	88	-	12	88	10	2	20	24	56
NP	99	0	1	99	-	1	88	10	2	36	4	60

Source: Field survey, 2014; Note: Same household has katcha, pucca and semi-pucca

4.1.25 Type of latrine used by the respondent households

The respondents were asked about the type of latrine they used and the findings showed that in the IMf category, 8% HH had no latrine and they used open space, 18% HH had sanitary latrine, 65% had ring slab and tin shed latrine and 9% had latrine made of sacks. In the CMf category- 16% HH had no latrine, 20% had sanitary latrine, 44% had ring slab and 20% had other type of latrine. Most of the HH in the NP category (81%) used ring slab and tin-shed latrine (Table 27).

Table 27: Types of latrine of survey households

Borrower category	Types of Latrine			
	Open	Sanitary	Ring slab with tin-shed room	Others
IMf	8	18	65	9
CMf	16	20	44	20
NP	10	3	81	6

Source: Field survey, 2014

4.1.26 School going children

It is evident from Table 28 that children of 78% of the Households in the IMf category go to schools followed by children of 77% in the IMf category and 64% of Household in the NP category. More than 60% of the respondents in the both IMf and CMf category replied that they were able now to bear the educational expenses of their children. The respondent HH was not only conscious about the education of the male child but more conscious about the education of female child. Education is an important device for social transformation. It is only education through which people could improve their individual and social life. Keeping this in mind the SHG educate their members to send their children to school.

Table 28: School going children

Borrower category	School going children		Male (total)		Female (total)		Capabilities to bear educational expenses of children without microcredit intervention (%)		
	HH		No	%	No	%	Able	Unable	Not sure
	Freq.	%							
IMf	115	76.66	88	51	84	49	65	17	18
CMf	39	78	30	48	32	52	62	28	10
NP	64	64	47	47	54	53	-	-	-

Source: Field survey, 2014

4.1.27 Impact of IMf programs

Among four treatment variables, the “program target” variable was chosen for determining the impact of IMf program, similar to Khandker et al., (2010). The program target variable was found statistically significant, suggesting representativeness of treatment variables (Table 29). However, the coefficient of the impact variable “program target” which is 0.154 for per capita income does not give actual impact of IMf programs; it has to be adjusted by dividing by the proportion of target households in program villages (Khandaker et al. 2010). Of the households in program villages, 0.843 proportion belong to the target group. Therefore, the regression coefficient of “program target” is divided by this proportion value, giving 0.183, which is the true impact of IMf programs on the target population. Therefore, microcredit participants gained 18.3 percent income borrowing credit from IMf.

Similarly, the coefficient of the impact variable “program target” which is 0.135 for per capita expenditure does not give actual impact of IMf programs. Hence, after adjustment with target village proportion the coefficient value were 0.160, implies that the total expenditure of microcredit participants increased by 16 percent due to involvement in IMf programs (Table

29). Similarly, the IMf program participants increased their expenditure on food by 15.54 percent after adjustment of the proportion of the target villages (see Table 29). Per capita savings increased by 76.8 percent after adjustment with the target proportion of the program villages. It is noteworthy to state that higher percentage of savings were depicted due to inclusion of SHG savings for the IMf program participants which was absent for non-program participants.

Nevertheless, present study findings are more or less similar to extant literature. Zeller et al. (2001) reported a 37 percent increase in income for microcredit participants. Pitt and Khandker (1998) and Khandker (2005) found that microfinance participants' consumption increased by 18 percent and 10 percent, respectively. Another empirical study in the Philippines found microcredit increased income by 47 percent among program participants (Kondo, 2007). Li et al.'s (2011) empirical study in China reported microcredit participants' income increased by 5.3 percent and average consumption increased by about 3 percent. Rahman et. al. (2014) empirical study found that microcredit programs increased participants' income by an average of 4.07 percent annually. Similarly, total expenditures and savings-2 among microcredit participants increased by 6.45 and 3.13 percent, respectively. Encouragingly, the present study's findings suggest similar impacts of microcredit programs in Bangladesh but little higher in case of savings.

Table 29: Impacts of IMf programs on income, expenditure and savings

Variables	Per capita Income		Per capita expenditure		Per capita food expenditure		Per capita savings	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Program target	.154***	.049	.135***	.028	.131***	.026	.648***	.129
Age	.005*	.002	(.001)	.001	(.004)***	.001	.012**	.005
Education	(.008)	.006	(.008)***	.003	(.008)*	.003	.020	.015
Family size	(.235)	.019	(.159)***	.011	(.186)***	.010	(.126)**	.049
Total Cultivable land	.005***	.000	.001***	.000	.001***	.000	.001	.001
Distance	(.028)*	.016	.010	.009	.001	.008	(.098)***	.035
F Value	32.2***	-	41.27***	-	63.04***	-	5.60***	-

Proportion of target households in program villages mean value= 0.843

Source: Field survey, 2014; Parentheses indicate a negative value; ***, **, and * represent the significant level at 1, 5 and 10 percent level.

4.1.28 Determinants of microcredit program participation

Determinants of participation in IMf programs were measured based on three selected indicators such as personal attributes, family affairs and external environment. It was

assumed that the mentioned three factors are main contributors toward involving in IMf programs. Among personal attributes- age and education were assumed as influencing factors for participation in IMf program. It was hypothesized that higher level of education may have induced rural women to take microcredit as means of self-employment. Similarly, family size, family headship, owned and cultivable land may have connection with taking loans from IMf. Meanwhile, the external factors such as access to credit i.e., distance between IMf office and the respondent villages may also have led to involve in microcredit program. With these assumptions present study adopted binary 'Probit' model to determine the influencing factors of program participation.

The log likelihood function and the proportions of samples correctly predicted for their likely status in terms of participation indicate a good fit of the equation (Table 30). The coefficient value of age and education level of program participants indicated that higher educated women were involved in microcredit program. Similarly, the coefficient value of family size was influenced positively in participation of IMf programs while household headship was negatively influenced. Those who live in a far away from IMf office are likely to be less involved in IMf program (Table 30). The result showed a positive association between own cultivable land and participation in IMf programs.

Table 30: Determinants of IMf program participation using Probit estimation (Dependent variable –Loan availed)

Variables	Probit	
	Coeff.	Std. Err.
Age	.017***	.005
Education	.022	.013
Household head	(.219)**	.137
Family size	.071*	.041
Distance from IMf office	(.018)**	.009
Own cultivable land	.004	.003
Total cultivable land	(.002)*	.001
Chi ²	27.15***	
Included observations		1022
Log likelihood function		-530.14

Source: Field survey, 2014; ***, **, and * represent the significant level at 1, 5 and 10 percent level.

Following Table presents the marginal effects after probit estimation. It is evident that age, and family size was statistically significant at 1 and below 10 percent level. Education and owned cultivable land although positively influenced in participation of IMf programs but statistically not significant. On the other hand, distance between IMf office and program villages and total cultivable land were statistically significant at 5 and 10 percent level but negatively associated.

Table 31: Marginal effect after Probit model estimation

Variables	Probit	
	dy/dx	Std. Err.
Age	.005***	.001
Education	.006	.004
Household head	(.068)	.045
Family size	.021*	.012
Distance from IMf office	(.005)**	.002
Own cultivable land	.001	.001
Total cultivable land	(.001)*	.000
Included observations		1022

Source: Field survey, 2014; ***, **, and * represent the significant level at 1, 5 and 10 percent level.

4.1.29 Impact on women's empowerment

The role of women in decision-making was related directly with the magnitude of their active participation in microcredit programs. DMI and women's empowerment are related positively (Rahman, et al. 2008). Table 31 shows fifteen activities in which seven were statistically significant implied that women got more authority in decision making process after joining the IMf program. It is noteworthy to mention that DMI values had changed positively after participation in microcredit programs (Table 32).

DMI value for taking loan, purchasing daily necessities, taking care of children, sending children to school, marriage of a child, visiting neighbors' houses, and participating in social activities depicted more than one regarded women's dominancy in that particular aspects (Table 32). Encouragingly, DMI value was higher for different decision making matters after participation in microcredit programs, suggesting a contribution to women's empowerment or involvement in decision-making processes.

Table 32: Decision Making Index before and after participation in microcredit program

Activities	IMf			CMf		
	Before	After	Sig. (2-tailed)	Before	After	Sig. (2-tailed)
To take loan	0.973	1.127***	.000	0.92	1.00	.351
Utilization of loan	0.812	0.927***	.000	0.80	0.84	.159
Buying of input for enterprise	0.738	0.787***	.001	0.56	0.60	.322
Selling products	0.693	0.780	.088	0.50	0.54	.159
Using business profit	0.860	0.913***	.006	0.76	0.72	.159
Purchasing daily necessities	0.819	0.833	.088	0.68	0.76	.103
Taking care of child	1.453	1.420	.595	1.50	1.48	.322
Sending children to school	1.329	1.336	.096	1.50	1.48	.322
Child marriage	1.021	1.036	.656	1.06	1.02	.322
Buying household appliances	0.946	0.980	.158	1.00	0.98	.709
Buying durable assets	0.821	0.862	.096	0.86	0.88	.322
Re-invest the profit	0.950	1.021**	.033	0.84	0.90	.182
Visiting neighbor houses	1.279	1.311**	.012	1.26	1.30	.322
Attending training program	1.130	1.387	.158	1.26	1.30	.322
Participating social activities	1.085	1.097***	.000	0.96	1.02	.083
All average	0.994	1.054	-	0.964	0.988	-

Source: Field survey, 2014; Note: *** and ** significant at 1% and 5% level respectively

4.1.30 Changes occurred due to join the IMf and CMf program

The respondents were asked about the indicators on which they felt the changes had been occurred. The variables of changes had been assessed by taking the average of responses received from the respondent on several variables like- increased awareness, decreased dependency, improved health care, increased family income, increased savings, adoption of family planning increased food consumption and so on (Table 33). The respondents were

asked to rate them based on three-point likert scale i.e. high, medium and low changes perceived due to participation in IGAs. The Likert value and rank are presented in the Table 33. The likert value obtained in the case of increased family income was 2.31 followed by 2.29 for increased awareness, 2.26 for increased savings, 2.23 for improved health care and 1.51 for decreased dependency 1.51. These changes proved that the household after they had received loan from IRB, the borrowers were able to improve their livelihood.

Table 33: Changes occurred due to join the IGAs

Activities	IMf			CMf		
	Likert value	Rank	%	Likert value	Rank	%
Increased family income	2.31	1	89.33	1.28	3	78
Increased awareness	2.29	2	96.66	1.58	1	88
Increased savings	2.26	3	92.66	1.26	4	76
Improved health care	2.23	4	89.33	1.12	6	72
Decreased dependency	1.51	5	74.66	1.38	2	74
Adoption of family planning	1.37	6	66.66	1.16	5	66
Increased food consumption	1.21	7	73.33	1.02	7	60
Increased number of livestock	1.16	8	68	0.78	11	52
Increased consumption level	1.16	9	72.66	0.96	9	58
Increased child education	1.01	10	62.66	0.94	10	60
Improved toilet/sanitation facilities	0.93	11	47.33	0.96	9	52
Improved housing condition	0.98	12	65.33	0.98	8	62
Improvedment of petty business	0.77	13	44.66	0.54	13	40
Increased household amenities	0.53	14	42.66	0.56	12	48
Increased land and property	0.49	15	28.66	0.4	14	26
Increased household furniture	0.45	16	32.66	0.56	12	48
Increased number of houses or rooms	0.38	17	22.66	0.28	15	32

Activities	IMf			CMf		
	Likert value	Rank	%	Likert value	Rank	%
Transports (bicycle/motorcycle)	0.20	18	13.33	0.22	16	14
Increased ornaments	0.09	19	7.33	0.16	17	4
Added luxurious goods (TV/refrigerators etc)	0.09	19	6.66	0	18	-

Source: Field survey, 2014

4.1.31 Knowledge and perception of Non Participants towards IMf

The non participants' respondents were asked about the knowledge and perception on IMf activities. 98% of the respondent replied that they had heard about the IMf, 93% knew that IMf provides interest free loan. About 93 percent were interested to borrow money from IMf. About 86% expect desired amount of money for their prospective enterprise or business. Ninety four percent believed that under IMf their livelihood will be improved. About 91% respondents expect other services like market information on price, advocacy and training.

Table 34: Knowledge and perception of non borrowers about IMf activities

Particulars	Ferq.	%
Heard about Islamic Microfinance	98	98
IMf provides Ouard-al- Hassna (interest free loan)	93	93
Interested to borrow from IMf who provides interest free loan	93	93
Expecting desired amount of money for your prospective enterprise/business	86	86
Under IMf system will improve your livelihood	94	94
Expecting other services (market information, advocacy) beside credit	91	91

Source: Field survey, 2014

4.1.32 Expectation of borrowers on future microfinance program

The respondents were asked to express their opinion on the prospect or future of the Islamic Microfinance program. All the respondents in the IMf category and 98% in the CMf category opined that Islamic microfinance program should promote in the whole society as there is no interest of credit in this system. The table shows that 99% respondent in the IMF category and 96% respondent in the CMf category replied that amount of credit should be determined based on the type of enterprise. The respondents in the IMf category (100%) and that in the CMf category (90%) replied that skill training should be provided. About 99% of the respondent in the IMf category and 90% of the respondent in the CMf category replied that they needed market related information that should be provided (Table 35).

Table 35: Expectation of borrowers on future microfinance program

Particulars	IMf		CMf	
	Freq.	%	Ferq.	%
Islamic Microfinance should promote in whole society	150	100	49	98
Interest system in microfinance should be removed	150	100	49	98
Loan amount should be determined based on type of enterprise	149	99	48	96
Regular supervision and monitoring required from SHG	150	100	42	84
Enterprise skill training should be provided	150	100	45	90
Market information should be provided	148	98.66	45	90

Source: Field survey, 2014

4.1.33 Constraints

The sample respondents were asked to mention the major constraints they faced in the new systems of micro credit operation in the study areas. The most common and acute constraints what the women borrowers emphasized, are presented in the Table 36. Islamic Relief provides credit to its borrowers through SHGs approach and this is new in this area. About 98% of the respondent mentioned that they had no suitable place for group meeting while 72% of the respondent replied that they lack sufficient fund for running the IGAs smoothly. About 98% of the respondent replied that did not get loaned money timely. The respondents who invested their money in agricultural enterprise have to face a greater risk

and uncertainty during the production period such as insect pest attack, livestock diseases, lack of medicine and vaccine for rearing livestock and poultry. About 87% of the respondent mentioned this as an acute problem. Most of the respondents (98%) those involved in agriculture based IGA opined that they could use optimal amount of input required for higher production due to high price of agro-input. All the borrowers (100%) replied that they did not get fair price of their product (case of milk, potato, rice and vegetable). About 89% of the borrowers mentioned that they did not get required extension and health service from the local government service provider (Table 36). About 61 percent of the borrowers

Table 36: Constraints faced by the borrowers

Particulars	Freq.	%
Lack of suitable place for group meeting	147	98
Insufficient fund	108	72
Risk & uncertainty in the enterprise during production	130	87
Higher input prices of enterprise/IGA	147	98
Deprivation of fair price	150	100
Lack of timely credit	147	98
Lack of social services	133	89
Poor extension services from govt. offices	133	89

Source: Field survey, 2014

5.1 Background of SHG

Self-Help Group (SHG) is a homogeneous group of micro entrepreneurs with affinity among themselves, voluntarily formed to save whatever amount they can conveniently save out of their earnings and mutually agree to contribute to a common group savings. Small loans are given to the members for meeting their productive and emergent credit needs at such-rate of interest, period of loan and other terms is the group may decide (Ghadoliya, 2004). The promoter or the NGO organizes SHGs with the objective of facilitating savings mobilization for the poor women/men among themselves. If the participating members need loan they can borrow from their group i.e. from their own savings funds. If the funds are not adequate, the SHG may try to borrow from banks or the NGO supplies the additional capital. All management responsibilities of savings and credit are expected to be taken care of by the leaders of the groups. But in real life often such educated leaders are not always available and in many cases NGO field officials perform this function. This type of SHG approach popular in India as the country is the initiator of this approach.

The SHG system in India was adopted by Non Financial Organizations (NFO's) and is used for financial intermediations both by commercial banks and by MFIs. The formation of SHG for savings and credit and their linkage to commercial banks was initiated in India by MYRADA in the mid 1980s (Fernandez, 1998). Besides India, there are some important users in Indonesia, parts of East Asia, Africa, Bangladesh and elsewhere.

Nevertheless, in Bangladesh, a handful of NGO-MFIs have tried and are still trying the so called SHG approach of developing financial service delivery system. There have been some efforts from several NGO-MFIs (for example, Ashrai, Caritas, Concern Worldwide) and donor-funded projects to develop alternative systems but none could stand as a viable alternative. In general, this approach started with much enthusiasm but failed to take off the ground to be considered as a serious alternative in Bangladesh (InM, 2009).

Like many other donor-funded project, Islamic Relief, Bangladesh has been trying to implement SHG approach as pilot in Mithpukur Upazilla of Rangpur district under the "PROVED" project. It is reported that early initiative to implement SHG approach could not succeed in Bangladesh due to management problems. Some of them are- poor loan recovery rate; inability to keep proper accounts by illiterate people; poor management skills of SHG leaders/managers; often leaders do not give adequate time to keep the system running; misappropriation of funds by leaders and or influential individuals; maintaining funds

in banks and dealing with banks and inability to safe keeping cash balance in the village. (InM, 2009). With due consideration of existing challenges of successful implementation of the SHG approach, the present study attempts to investigate the feasibility of such approach in Bangladesh under IRB's innovative approach. Accordingly, 13 FGDs were carried out among SHG members. In addition, eight KIIs were conducted among community organizers, branch managers, IRB regional office, local government leaders, mosque committee and Imams.

5.2 Microfinance mechanism of PROVED project through Self-Help Group

Islamic Relief, Bangladesh has been implementing microfinance program complying the *shariah* based principle through SHG approach. IRB emphasized SHG with a view to develop the capacity of the disadvantaged women and to organize them so that they can deal with socio- political, socio-economic issues that affect their life. The women mobilize in small groups for savings and credit for improving the economic conditions of the individual woman for the purpose of developing their living standard and livelihood. In the "PROVED" project, IRB first formed a group with the clients of disadvantaged women from same socio-economic condition is here referred to SHG. After forming the group consisting of the homogeneous people with lower socio-economic condition (having less than 50 decimal of land) then IRB provided a substantial amount of money as *Quard-al-Hassana* to the SHG that to be deposited in a local branch of RAKUB in a joint savings account (with the representative of IRB and president/secretary of SHG). The amount of fund through DFID provided by IRB to the SHG varies from group to group. It is a revolving type of fund given to a SHG as *Quard-al-Hassana*. The members of the SHG were provided loan from that fund without giving any interest that to be utilized in an IGA or enterprises (dairy, beef fattening, goat rearing, crop farming, petty business, etc) to increase their income, employment and savings thereby reduce their poverty. The investment activities of the women borrower is generally monitored by the IRB personnel whether the fund is utilized in income generating activities or not.

IRB not only provided money as loan but also provided variety of capacity building support included training, orientation, advocacy on health, hygiene, sanitation, advocacy on social matters and awareness and hands on support to help borrower enhance their capacity and keep organizational sustainability. The IRB arranged and made a link between SHG and all local level stakeholders, MFI and Local Government Service Providers (LGSPs). This is the uniqueness of IRB's microfinance mechanism.

5.3 Membership and borrowers' perception to SHG and IMf

The participants were asked about their attitude and perception to the SHG and IRB. Summary of their views can be expressed in such a way that they were very happy and felt proud as a member of SHGs. *Many neighbors who were sceptical about our early initiative to form the SHG are now interested to join with us. There was a rumor that those who would form SHG and working with IRB will be converted into another religion as the money came from Chiristan people's donation.*

The eligible criteria to be a member of SHG member are- i) local people particularly the women; ii) owned less than 50 decimal of land, ii) wage laborer; iv) widow, v) married women age below 50 years. As FGD participants reported, *"...suddenly few people came from IRB and asked to form a group namely SHG....."*. They encouraged us to save money for our own benefits. Many of the participants reported that they were unable to get loans directly from the banks and from MFIs in absence of tangible securities or collateral. NGO-MFIs justify the repaying capacity before lending to women, *"...as we are poor, have nothing, NGO-MFIs do not lend us..."*. Prior joining to the SHG, they depended largely on usurious money lender who provided loans at high interest rates. They had to repay these loans under great stress and through their nose. Their joining in the SHG under the PROVED project has solved all the problems since microfinance has been made available to them through SHGs. In addition, SHG brought out the hidden talents and leaders of the rural women. They also reported that IRB personnel monitored look after, provided different kinds of services to the respondent. They opined that if the IMf program of IRB continue then they could able to improve their lives and livelihood.

They foresee SHG as legal entity in such a position where there will have a big establishment like rice mill, transport business and processing factory from where they can earn more profit. This profit can be utilized for further expansion of the business as well as for the welfare of the society. They also want to provide credit through their SHG to the rural ultra poor without interest like a MFI based on Islamic principle. Repaying the compound interest is a burdensome for the rural poor women when they borrow from conventional MFIs. But in the IMf system they are solely exempted from paying interest, this is the absolute financial benefit of the rural poor. That's why they want the continuation of IMf program through SHG approach in future.

The findings revealed that on an average a SHG consists of about 29 members. Figure 10 shows the membership and dropped out status of SHG among 13 investigated SHGs. There were some evidence of dropped out, among them majority had migrated to other places followed by dead of members, unable to repay the loan and divorcee etc. (Figure 10).

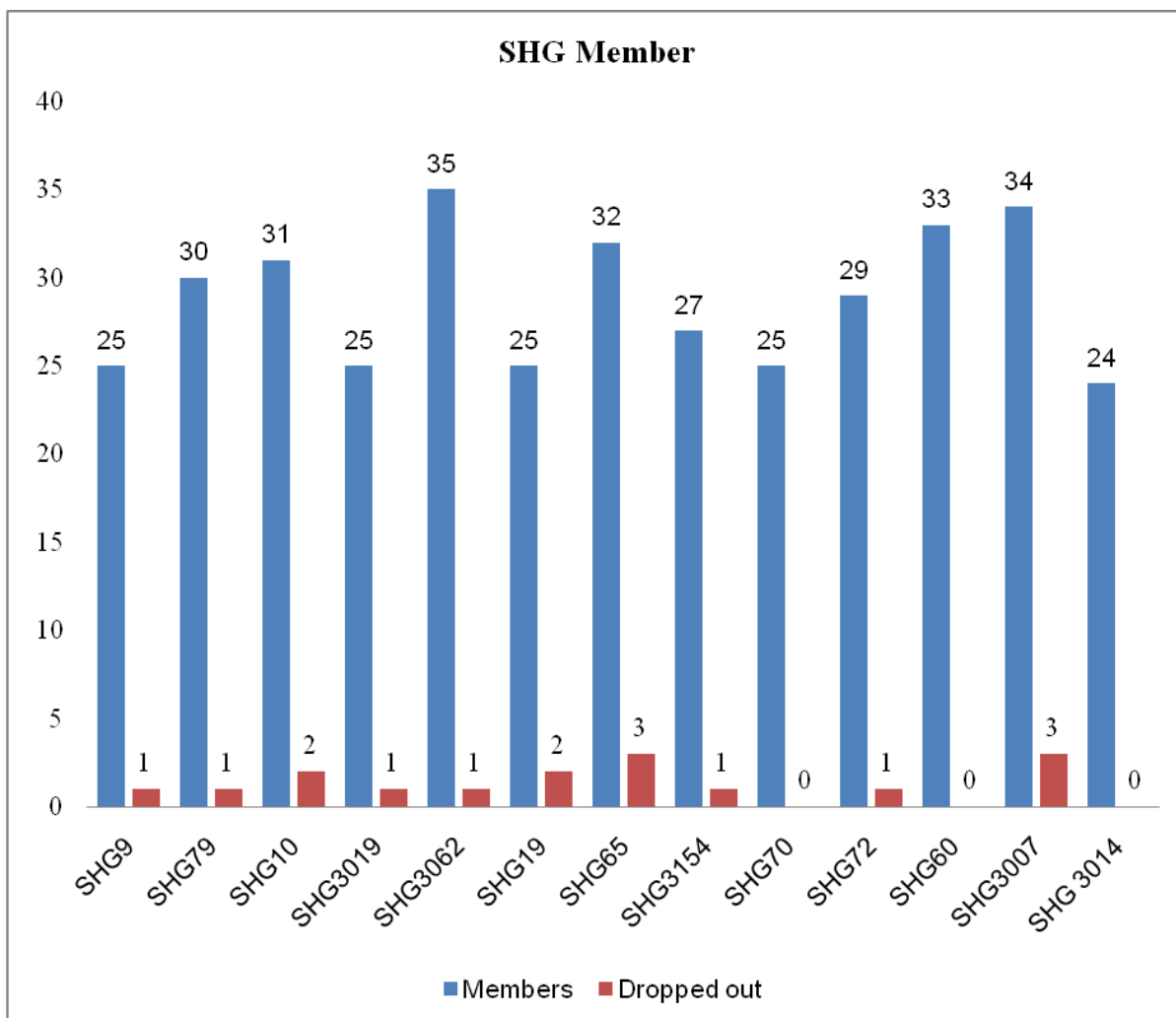


Figure 10: Members and dropped out from Self-Help Group

5.4 Sustainability of SHG

The term “sustainable” has many meanings ranging from continuing ability to find and retain donors, to ability to cover all costs including the cost of finance, the reduction in funds caused by inflation and even a return on the investors’ equity. The compulsory savings provision is the safeguard of the SHG to offset any financial crisis. Since every member has to pay at least Tk.20 (amount varies in different SHGs) as savings in every week thus creating a substantial amount of money in a SHG at the end of the year. Among the members, this savings may be further distributed or given as loan for their immediate needs. Members in a SHG work voluntarily for their upliftment, consequently the negligible amount of cost was required for meeting the operation and maintenance and administrative activities.

5.4.1 Management and organizational strength of SHG

There is an Executive Committee (EC) for every SHG consists of President, Secretary, and Cashier in each SHG. Elections are held in a democratic manner to select the executive committee member. The EC mostly formed with the consensus of the SHG members after having threadbare discussion. The participants also knew that they could change the EC members if they desired. Among investigated 13 SHGs only one group reported that they changed their EC members. The main duties and responsibilities of the executive committee were to conduct the weekly meeting, checking the register, ledger book, check the eligibility of loan application, repayment status, weekly and seasonal savings; monitor the lending enterprises and so on as reported during FGDs. All the executive committee members work voluntarily. They maintain register, keep records of all the documents both financial and managerial aspect. They also wrote all the decisions taken in the meeting and minutes of the meeting in the register book. By this time, some EC members have gained a year of experience and some have more than two years of experience, now they are confident enough to continue their activity in the SHGs. Decision was mainly taken in the weekly group meeting based on 2/3rd members' voting. *"we speak frankly in the weekly meeting, share our individual problems like a family members"*. The issues that mostly discussed in the group meeting were- awareness on health and hygiene, child marriage, divorce, dowry, HIV/AIDS, family planning, gender based violence, enterprise or business plan, lending, repayment, and savings etc. The higher presence of the weekly group meeting can be regarded as their commitment and responsibility to the SHG. The attendance of the members in SHG in weekly meeting is shown in Figure 11. The figure shows that 100 percent members were present in 39 number of meetings out of 46 meetings held in the last year and 7 meetings were attended by 90 % of the members (Figure 11).

Besides the EC members, few SHGs had recruited collectors who helped in collecting the weekly savings and installments. Usually, the collectors are the daughters or kith and kin of the SHG members who are educated and can be able to manage the ledger book. Sometimes the community organizers, branch manager also helped in checking the ledger book for any correction or omission of information. The collector is paid Tk. 300-500 per month for her assignment. This payment is made from the service charge collected during disbursement of credit. This service charge is fixed Tk. 300 for any amount of borrowing.

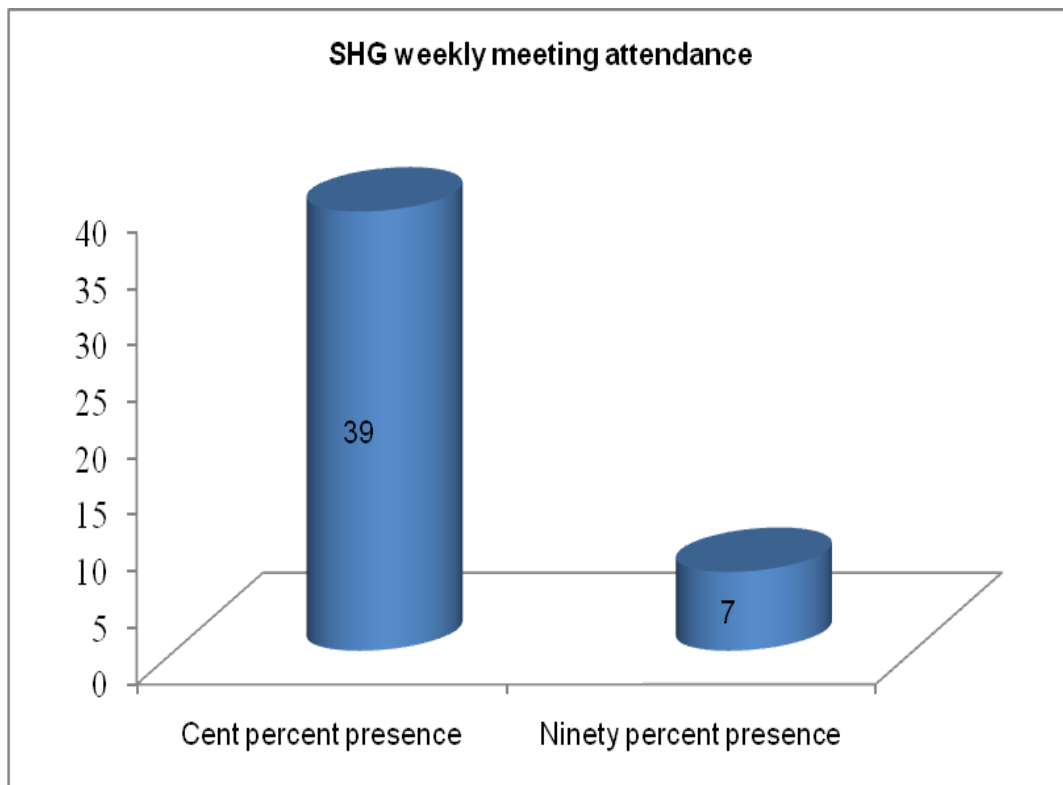


Figure 11: Attendance of weekly group meeting

5.4.2 Financial sustainability

Sustainability may be defined as earnings from microfinance services that cover operational and funding costs and take care of bad loans while allowing further expansion of services (Rahman and Luo, 2012). It may be further delineated as Operational Self-Sufficiency (OSS) and Financial Self-Sufficiency (FSS), where OSS refers to the ability of a SHG to generate enough revenue to cover operation and maintenance costs, and FSS refers to a SHG dependency (or lack of it) on donor grants for successful operations (Morduch, 1999). However, financial sustainability of the studied SHG is slightly different as they received revolving funds from IRB and their group savings, which is the only means towards achieving financial sustainability. IRB provided *Quard-al Hassana* to the SHG for loan to underprivileged particularly the women and may be considered as a milestone in allowing them to gradually attain success in respect to loan quality, management efficiency and independent operation. Regardless financial sustainability is a major concern for SHG as Pati (2008) reported a negative impact of subsidies on the financial sustainability of Self-Help Group (SHG) operations in the northwest region of India.

Noticeably, each and every SHG has received a sizeable amount of *Quard-al-Hassana* revolving funds from Islamic Relief Bangladesh. The average *Quard-al-Hassana* amount in

the SHG was accounted for Tk. 210462, ranging from Tk. 145000 to Tk. 426000. IRB determines the *Quard- al-Hassana* amount based on loan application they received and the SHG members in a group. These *Quard-al- Hassana* (interest free loans) funds were lended among the members for the creation of self-employment opportunity. From FGDs, it is apparent that the IRB grants contributed positively in achieving financial sustainability of the SHGs.

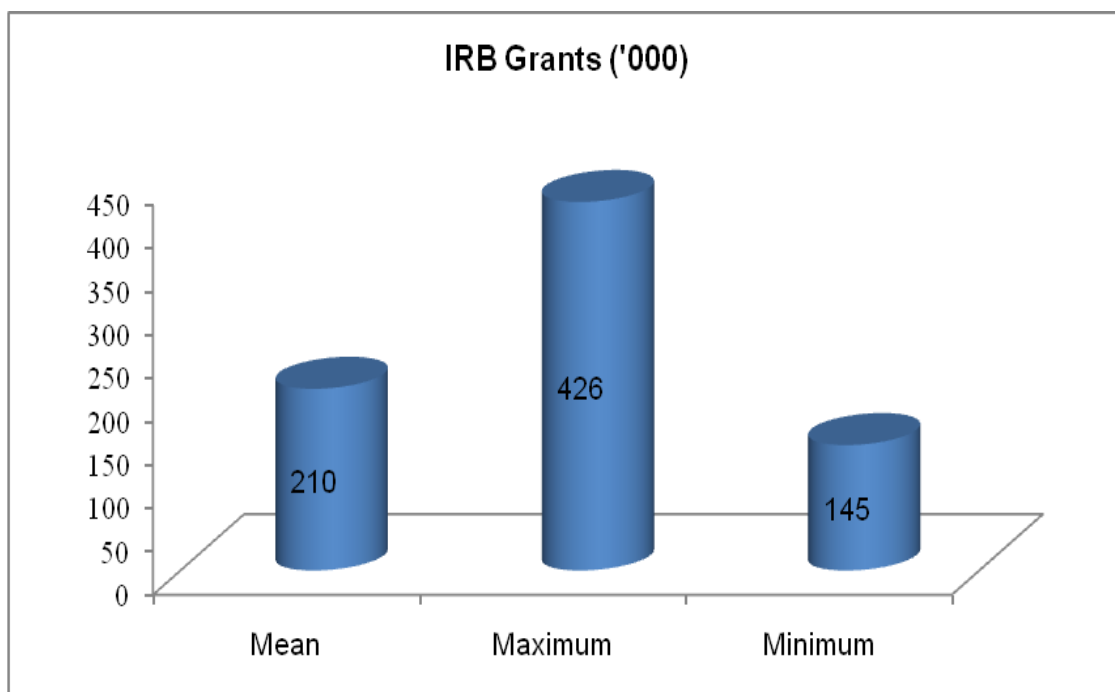


Figure 12: IRB grants for the SHGs

The studied SHGs were able to develop savings habit among the members. All the members reported savings with the group. Regularly weekly savings of Tk. 20 at least was compulsory to save in the SHGs. Besides weekly savings, participant reported that they did seasonal savings. Seasonal savings refers to a certain fixed amount of savings that deposited to the SHG in the time of harvest. Savings were collected at the time of weekly meeting and all the savings and lending information were written in the passbook. The weekly savings were deposited in nearby branch of GB (Grameen Bank) in a joint account of president and secretary of the respective SHG. Present savings of each SHG are shown in Figure 13. The average group savings of studied SHG was accounted for Tk.50783, the maximum savings was Tk. 77220 and the minimum was Tk. 6110. The reason behind lower savings for a SHG (SHG Code 3062) was that they distributed the savings among group members while their SHG was converted into the PROVED project. In addition, the SHG could save additional money in the name of service charge, which is collected from the borrowers at time of lending money. This amount was Tk. 300 for any amount of borrowing. Average balance

was estimated at Tk.2192 by deducting the O&M and administrative cost from the service charge that received from lending to the enterprise/business.

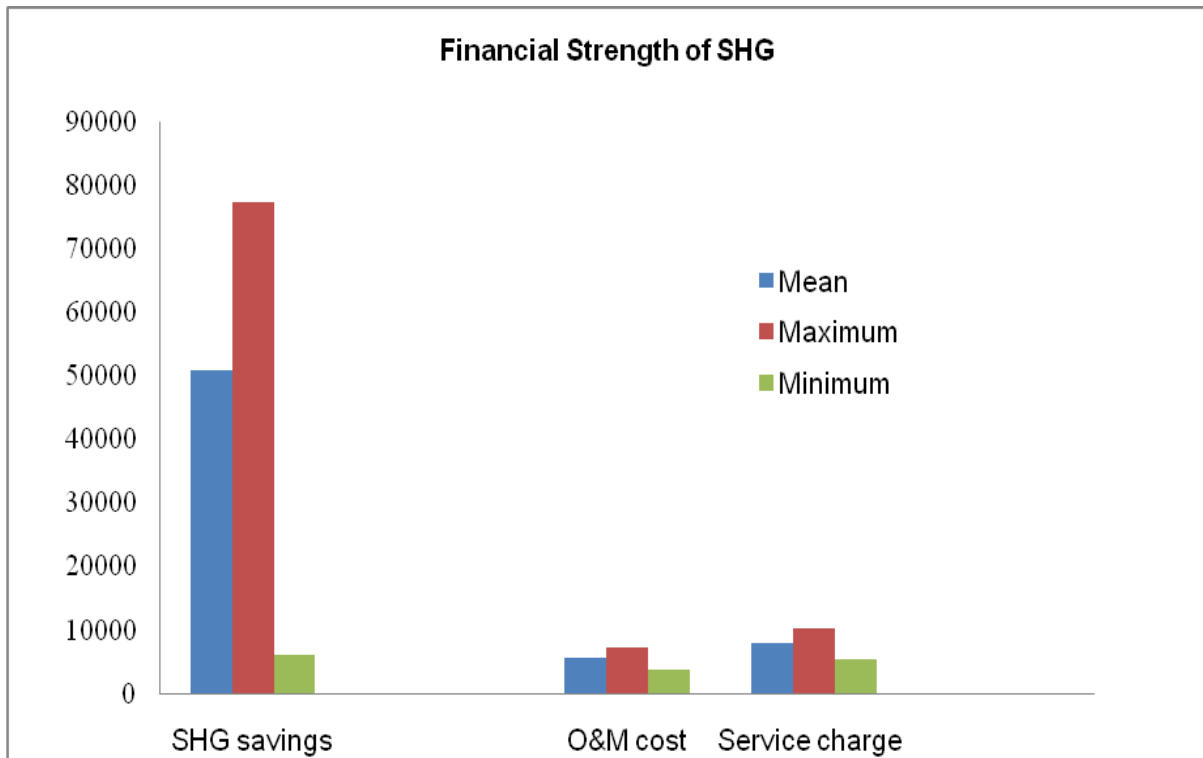


Figure 13: Financial strength of the SHGs

5.4.3 Simple estimation on Financial Strength of SHG

It is important to note that the annual savings of the SHG group and service charge should be equal or greater than the devaluated value of total investment and operation & maintenance costs for ensuring the sustainability of a SHG (for details see the Box).

A simple estimation on financial strength of SHG

The most challenge for a SHG is to attain the financial sustainability. The investigated SHG had received a sizable amount of revolving funds in the name of *Quard-al Hassana* (interest free loan), and the SHG disbursed the credit among the group members without any interest. Hence, the revolving funds will be the same in future due to absence of interest and the value of revolving funds will be lesser due to devaluation of money. Thus, to compensate the devaluated amount, SHG somehow should manage the money. Based on existing practices of the investigated SHGs, an estimated amount of weekly savings for an individual is proposed by adopting a simple equation, which can compensate the devaluated amount of investment-

$$\text{Weekly savings for an individual member} = \frac{TD + O\&M}{N * W + SC}$$

Where, TD= Devaluated value of total investment (Investment from IRB grants+ SHG savings)

O&M= Operation and maintenance cost of a SHG

N= Number of SHG members

W=No. of weeks in a year

SC=Service charge received for disbursing credit to its member

An average IRB grants was estimated Tk. 210462, after devaluation @10, the devaluated amount accounted for Tk. 21046.

An average SHG savings was estimated Tk. 50783, after devaluation @10, the devaluated amount accounted for Tk. 5078.

Average annual cost= Total devaluated value +O&M cost

Average annual cost= Tk. (21046+5078+5677)= Tk. 31801

Total annual earnings as savings= Weekly savings+ Service charge

Annual earnings as savings by the SHG= Tk. (50783+ 7869)= Tk. 58652

Capital gain/loss= (Total annual earnings as savings- Total annual cost)

Capital gain/loss= Tk.(58652-31801)= Tk.26851

From this simple calculation it can be regarded that the sample SHGs can sustain financially as it gains capital, which was accounted for Tk. 26851. Now the remaining question is- what would be the individual weekly savings for an individual for compensate the devaluation of money/capital. Hence, based on above equation an individual weekly savings must be = Tk. $(31801/52*29+7869)$ =Tk. $(31801/1508+7869)$ = Tk. $(31801/9377)$ = Tk. 3.39

If a SHG member can save at least Tk. 3.39 per week then the SHG can compensate the devaluated money. Presently, each SHG member has been depositing at least Tk. 20, thus financial sustainability of a SHG would not be a big problem for now and future.

5.4.4 Repayment performance

The repayment performance of the borrower for loans issued from the common fund was 100%. In the case of delay in payment dues by any member, the causes for such default are debated in the meeting and necessary postponement of installment if warranted is approved by all the group members.

5.5 Areas of lending

Lending status of studied SHGs is presented in Figure 14 based on enterprise/business. The lending IGAs were dairy farming, beef fattening, goat rearing, petty business, crops, van/rickshaw pulling. About fifty percent of the SHG members had borrowed credit for dairy farming, followed by petty business (23%), beef fattening (16%), crop farming (7%), rickshaw/van pulling (4%) and goat rearing (1%). It can be concluded that IRB provides microcredit through Islamic microfinance to the poor borrower on farm activities. About 75% of the credit was disbursed for agricultural activities (include dairy farming, beef fattening, crop farming and goat rearing) and 25 % was disbursed for off farm activities (Figure 14).

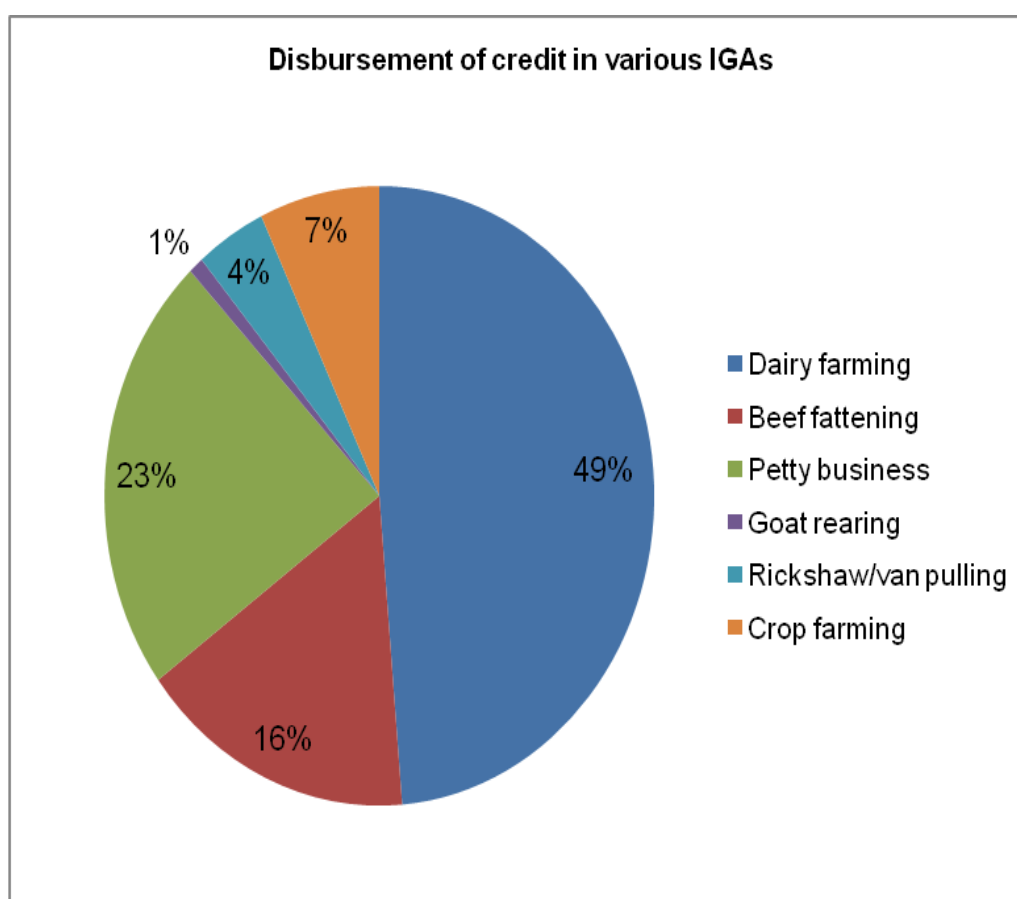


Figure 14: Enterprise/business category

5.6 Impact of SHG

5.6.1 Increased income and savings

The members of the SHG were encouraged to set up their income generating activities. Dairy cow rearing (49%) and beef fattening enterprise (16%) were found to be the major economic activities undertaken by the members. Islamic Relief arranged training on different IGAs (operation, technical aspect of management) for the member of every SHG. The income of the borrowing members increased significantly. In terms of savings, savings is compulsory for the members and as a result the average amount of savings per SHG stood at Tk.50783 within one year. Due to increased income, the members of the SHGs replied that they have been able to spend more for the educating of their children.

The respondents who in meeting their urgent need, took loan from other MFIs, they had to repay higher rate of interest that fell them in stress condition. But after become the member of SHG the same borrowers are getting loan without interest, enjoying other services from the IRB and made better economic condition.

5.6.2 Empowerment of women

The participation of women in SHGs made a significant impact on their empowerment both in social and economic aspects. Most of the women were able to increase their income level manifold of their family. Many of the women reported that they were participating in many decision making matters of their family which earlier they were not allowed to do. All the members were getting support from their husbands and family that were not available before they joined the group. It has been an accepted premise that women were not given enough opportunities to involve themselves in the decision making process of the family as well as in the society.

The respondents in the SHGs realized their self worth, communication skills and interaction with the officials had improved vastly after they became members of the SHGs. Also they felt that they could now protest against social evils and could fight for rights, for better access to amenities. Consequently, the respondents had felt that their status in the family and society had improved considerably after becoming members of SHGs.

The IRB through SHG provides adequate scope for the rural household, especially women, to help in developing self worth, awareness of health and sanitation and social behavior through a series of training and group meetings that have brought clearly the social impact of the SHG on the member respondent.

5.6.3 Success story of IMf borrower-A case study

Success story



Dowlatun Nessa

For several years, Dowlatun Nessa a single mother in the village Mamuder Para struggled to feed her family on just Tk. 50 a day lesser than US\$ 1, and saving money was impossible. In 2011, her husband became paralysed due to disease. She went to a conventional Microfinance Institute and given an application for a loan. But the MFI refused her to give the loan because she had no collateral. MFI people told her “your husband is paralyzed, how you would repay the loan”. After rejecting from loan application, she came back to home and ...she quoted as saying “I prayed to Allah for help in this hard situation”. At that time suddenly some persons came from IRB to her village-Mamuder Para and advised the poor rural women to be organized in a group where they would help financially. IRB personnel gave them advocacy on different issues. Dowlatun Nessa came forward and she willingly convinced some women in her locality and formed a group with some distressed women. Dowlatun Nessa determined that she would improve her life, meet the minimum savings requirement and soon took a loan to purchase dairy cow. Sales from the milk she raised her income to Tk.100 a day presently. Another loan helped her to take her husband to hospital for treatment. Now years later, both loans have been repaid and her husband after treatment became well. She purchased a wheel chair for her husband and now passing her family life with happiness. She is now not only the president of a SHG but also playing vital role in motivating rural women towards self-employed. She became a successful micro-entrepreneur and a model for the others.

While researcher was taking her interview, she expressed her gratefulness to the IRB which provided initial credit and technical assistance.

5.6.4 Enhanced leadership quality and conflict mitigation

After becoming the member of SHG, the respondent felt that they have gained leadership quality that demonstrated in different activities in the societies. The respondent now has built a strong confidence because of their ability to contribute to not only their family but also to their society in many ways. They are now well regarded by the local leaders in their locality. They replied that presently UP Members, *Chairman pay them (SHGs member) due honor*. They have been able to know how to conduct a meeting, how to talk in a meeting, how a decision is taken thus the respondent possessed the leadership quality.

The rural women had to face many adversities like food insecurity, serious illness, death of family members, conflict within the family and the scarcity of capital. In many conflicting issues, group activities were very helpful cope with the adversities. After becoming SHG members, the participants were able to interact and communicate with others confidently and they were also able to face and solve their financial and social problems independently. The respondents have attributed all these positive aspects in their social behavior mainly because of economic strength conferred on them by the availability of microcredit from IRB through SHG. Again through receiving training on social issues, they have been able to show their potential in many social and family affairs and able to solve the problem of SHG members and the neighbors.

5.5.5 Social relationship and non communal environment

Participants reported that they were able to generate a greater sense of solidarity, closeness and take to shoulder responsibilities within the group. In fact, this is clearly a result of the frequent meetings organized by the SHGs. Members reported that, regular meetings fostered a strong friendship and co-operation among different families of the locality cutting across religion, caste and political affiliation. More importantly, there are many SHGs consist of Muslim and Hindu families together. IRB serves many poor Hindu women borrower in the study areas irrespective of religion, caste and color. Among investigated 13 SHGs, there were three SHGs found mixed with Muslim and Hindu members (Figure 15). In these three SHGs, total members were 94 in which 43 (46%) were Hindu. Under the Islamic microfinance program, IRB established very congenial atmosphere in the community and set an example of non communal society. Members are also involved in community activities like helping other members in their difficulties. For example, some groups have taken initiative for bearing the cost of marriage of the daughter of a poor neighbor, provided financial support for the treatment of the fellow members even paid some amount to bury the deceased of the poor. It is also significant to note that women who never used to come out of their home a few years back now coming and working together with the members in their SHGs. This trend is against the fact that, when the program was launched, women were

forbidden by their husbands or relatives from joining the groups. Many of the members in the SHG reported that because of the association with groups they were able to break the shackles of seclusion.

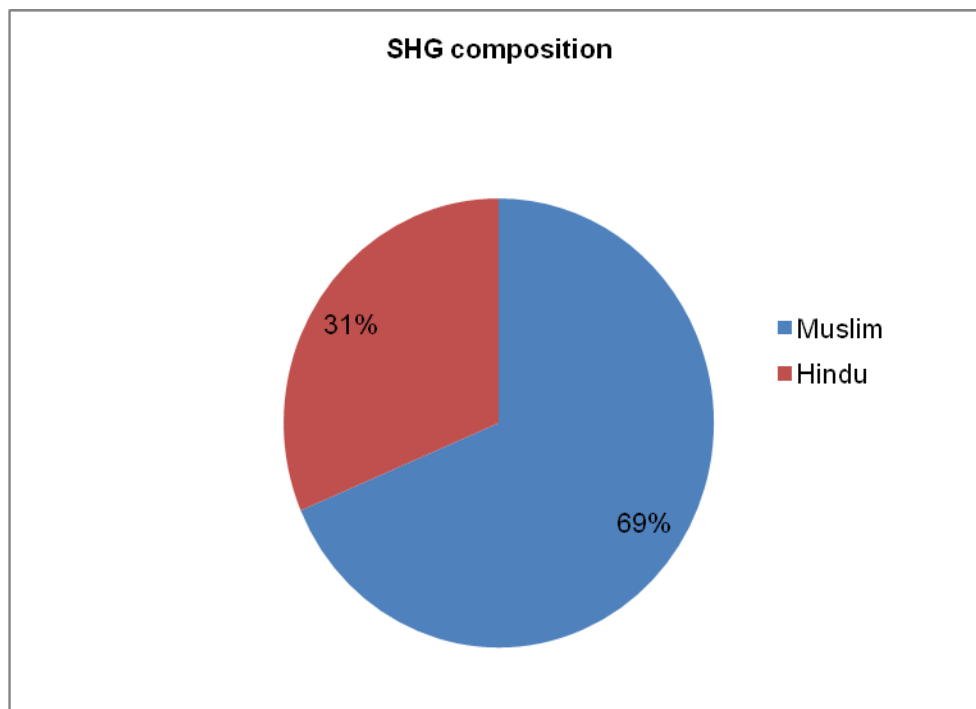


Figure 15: Participation of members in SHG according to religion



Figure 16: A picture of SHG on non communal principle in the IMf program

5.7 Summary of KII findings

Key Informant Interviews (KIIs) were carried out among local and community leader (school teacher, Mosque imam, UP member), IRB personnel (branch manager, monitoring assistant, community organizers etc.) in a convenient atmosphere. Based on the successful KIIs, some major findings are presented below-

- Local or community leaders were not much aware about the IRB activities in promoting IMf program through SHG approach. They noticed the IRB activities in their locality but thought it was similar to CMf program that works among rural women. They are also unknown about the SHG approach of PROVED project although few of them were known about previous program of IRB such as IICO, FISCAL etc. However, local and community leaders had shown their keen interest to extend their hands for further expansion of IMf activities in their locality.
- The responses received from branch manager, monitoring assistant and community organizers reflected that they felt proud in working with rural poor women and appreciated the initiative taken by the IRB in promoting IMf program through PROVED project. They paid visit regularly to the SHG on the day of weekly meeting. They really care about each and every individual of IMf program participants. They monitor and supervise the IGAs and check the ledger book. Senior IRB personnel also very cooperative and friendly as they expressed during KIIs. The community organizers report to the monitoring assistant and branch manager about the activities in the weekly branch meeting. Afterwards, the branch manager reports to the IRB regional office. One branch manager who had experience in working with CMf also reported that working with IRB is more comfortable and prestigious.

5.8 Constrains and prospects of SHG lead IMf program

Following Table presents the SWOT analysis of SHG lead IMf program. It can be summarized from SWOT analysis that SHG members had been able to gain considerable strength in respect to human capital (leadership, enterprise skill, less contaminated disease etc.), social capital (greater social involvement, connectivity with formal banks and NGO-MFIs, good relation within group members and the surrounding), financial capital (group savings, IRB grants).

There is an ample opportunity of the SHG for expansion of their horizon, increase income and savings, self-employment generation, reducing vulnerability, awareness building on health, education, dowry, early marriage, scope of negotiation for fair price for input and output, reducing gender inequality, empowerment of women, reducing social inequality and helping others.

On the other hand, there was observed some weakness of SHG including lack of physical capital (office room, sitting arrangement for conducting the weekly meeting, own cultivable land), absence of SHG license, less formal education, lack of access to market and not enough efficient to maintain the ledger book. In addition, some threats were identified that can affect smooth operation of SHG lead IMf program such as non-cooperation among group members, break down the SHG, withdrawing financial and technical assistance from IRB and government negative interference.

Table 37: SWOT analysis for SHG lead IMf program

Strength	Opportunity
<ul style="list-style-type: none"> • Homogeneity among SHG members • Reasonable amount of SHG savings • Democracy practiced in the SHG • Transparency and honesty • Regular weekly meeting • Commitment to the group • Earnings from savings • IRB’s financial and technical support • Formal executive committee • Proper documentation and records of SHG activities • Strong monitoring • Enterprise based training • Connectivity with local bank or MFIs • Greater social involvement • Leadership 	<ul style="list-style-type: none"> • Opportunity of expansion • Increase income and savings • Self-employment generation • Awareness building on health, education, dowry, early marriage etc. • Scope of negotiation • Reducing gender inequality • Women empowerment • Reducing social inequality • Helping others
Weakness	Threat
<ul style="list-style-type: none"> • Lack of office room for conducting meeting and the sitting arrangement • Absence of SHG license • Less education • Lack of knowledge on ledger book maintenance • Lack of access to market • Shortages of fund 	<ul style="list-style-type: none"> • Non-cooperation among group members • Break down the SHG • Withdrawn of financial and technical assistance from IRB • Lack of policy support from government

Islamic Relief, Bangladesh provides microfinance services to the poor with three distinctive characteristics-interest free loan, Self-Help Group approach and advocacy that can perform well compared to the conventional ones that have been proved in the “PROVED” project. The findings of the present study showed a remarkable feature that IRB followed non communal principle in providing microfinance services to the rural poor women. Islamic microfinance program serves not only the poor Muslim women but also serves the poor Hindu women. Under the IMf program, IRB established very congenial atmosphere in the community and set an example of non communal society. It can be concluded that Islamic Relief, Bangladesh through their interest free instrument combined with friendly and intensive operation has been able to mobilize savings, generate employment, income and improve livelihood of the clients. IRB has been also able to generate very cordial relationship between the staff and the rural micro-entrepreneurs (here women) at the grass root level.

The findings of the study revealed some positive changes in the livelihood of the borrower households. The economic impact is visible in terms of savings, increased credit accessibility, contribution to household income and expenditure, acquisition of household assets and empowerment of rural poor women. One of the important findings of the study by adopting DID method showed that microcredit participants gained 18.3% increase in income through borrowing credit from Islamic Microfinance. Similarly, total expenditure, food expenditure and savings of microcredit participants increased by 16, 15.54 and 76.8 percent due to involvement in IMf programs, respectively. The cost of borrowing credit was four times lower in the IMf program than that in the CMf program. In fact, IMf program offers credit to the borrower for the IGAs based on agriculture (75%) as against CMf program offers loan to the borrowers for petty business (70%). The Benefit-Cost Ratio (BCR) from the investment of IMf borrower accounted for 1.56 and that from the investment of CMf borrower accounted for 1.12 implying that IMf borrower earned more profit from their enterprise than that of the CMf borrower.

The impact is also pronounced on the social front in terms of increased role in household, decision making, improved status, self- confidence, enhanced leadership quality, early marriage and ability to deal with social activities through community involvement. The training of the members of SHG by the IRB has built their awareness on health, hygiene and sanitation. As a consequence, the incidence of common water borne diseases decreased in

the household of the SHG members. One of the major challenges identified by the respondents was that the SHG did not have any legal status. Some constraints regarding technical aspect in IGAs were identified as unavailability of vaccines for livestock, prevalence of disease of the animals, disease and insect pest attack in the crop fields, paucity of credit, high input price, lack of fair price of their products, and limited technical services from the concerned departments. Income of the borrowers could be increased substantially if the said problems could be solved on priority basis.

It can be concluded that IMf through SHG approach can serve as an alternative instrument of financial intermediation for the women folk. Indeed the microfinance services complying Islamic principle and rules offered by the IRB have helped improve livelihood of the women borrowers in the study areas. The “PROVED” project implemented by IRB has been a unique and classic example of IMf program to the rural poor women following the Islamic *Shariah* based principle in alleviating the poverty.

Recommendation

Some policy recommendations can be drawn based on the findings of the present study:

1. Borrower should be provided more and effective IGA based technical skill trainings by the respective departments so that they can efficiently manage and operate their enterprise for maximum benefits. Linkage between local government service provider and women borrower should be strengthened for better access to the services.
2. While forming the SHG, proper care should be taken in selecting the members who are actually needy but due to lack of adequate collateral are not reached by the MFIs so that the real poor can be benefited from the IMf program.
3. Since most of the borrowers were illiterate, so government combined with different NGO-MFIs should come forward with non-formal education program.
4. Government should improve the marketing facilities for the rural poor who are engaged in agricultural activities like- crop production, milk production, beef fattening. In addition to this, market linkage and market information should be made available for ensuring fair price of input and output.
5. Considering the existing performance of SHGs in “PROVED” project area, more SHG should be formed. The SHG should be given license from the concerned department of the government so that they can run smoothly as a legal entity.
6. SHG members should have a group investment for generating income that can serve the group interest and sustaining the SHG. For ensuring the sustainability of SHG, a common substantial amount of fund should be raised through their own savings as

well as collecting fund from donor, development agencies and government social safety net fund.

7. Performance of SHG can be strengthened by providing management training, proper supervision, monitoring and exchange visit.
8. Successful micro-entrepreneur of SHG and the best performing SHG should be rewarded to encourage potential micro-entrepreneurs and the rural women towards participation in microfinance program.
9. IRB has been able to successfully downscale the microfinance services to the extreme poor households through SHG approach. Considering the potential of IRB, government should capitalize the innovative approach of IRB and expand throughout the country towards poverty reduction.
10. Islamic Relief, Bangladesh should be given license from the Microcredit Regulatory Authority to continue their microfinance services based on Islamic *Shariah* towards achieving the government goal of poverty eradication.
11. Donor should allocate more funds to extend the “PROVED” project and to expand the similar program in the other areas of Bangladesh. Moreover, the donor and development agencies should continue and extend their financial and technical supports to the potential organizations like IRB that has been working for the development of human and social capital of the poor community.
12. Islamic Social Charitable Funds such as *Zakat* and *Waqf* should be channeled to the promoter of Islamic Microfinance through disbursing the funds to the poor people for establishing social justice and equity.
13. Government should take initiative to establish an apex Islamic Microfinance Institute with its independent organogram under a legal framework through a network of banks, NGO-MFIs and government department.
14. Islamic Microfinance program through SHG approach should be disseminated among the untapped poor women folk with the help of local, community and political leaders as well as concerned government officials.
15. The present research does not cover the whole area and confined with a limited number of sample so it suggests for further study of similar type in other areas of Bangladesh to represent the whole country.

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Appendix 1: *Shariah* compliant financing instrument for microfinance

Category	Instruments	Description	Application
Participatory-based	Musharakah	<p>A partnership contract between two parties who both contribute capital towards the financing of a project. Both parties share profits on a pre-agreed ratio, but losses are shared on the basis of equity participation. Either parties or just one of them may carry out management of the project. This is a very flexible partnership arrangement where the sharing of the profits and management can be negotiated and pre-agreed by all parties.</p>	This financing mode is suitable for working capital financing, fixed asset purchased, project financing etc.
	Mudharabah	<p>An agreement made between two parties: one which provides 100 percent of the capital for the project and another party known as a <i>mudharib</i>, who manages the project using his entrepreneurial skills. Profits are distributed according to a predetermined ratio. Any losses accruing are borne by the provider of capital. The provider of the capital has no control over the management of the project.</p>	This financing mode is suitable for working capital financing, fixed asset purchased, project financing etc.
Sale-based	Murabahah	<p>A contract sale between the bank and its client for the sale of goods at a price which includes a profit margin agreed by both parties. As a financing technique, it involves the purchase of goods by the bank as requested by the client. The goods are sold to the client with a mark-up. Repayment, usually in instalments is specified in the contract.</p>	This financing mode is suitable for working capital financing, fixed asset purchased, project financing etc.

Category	Instruments	Description	Application
	Bay` Bithaman 'Ajjil	This contract refers to the sale of goods on a deferred payment basis. Equipment or goods requested by the clients are bought by the bank which subsequently sells the goods to the client at an agreed price which includes the bank's markup (profit). The client may be allowed to settle the payment by instalments within a pre-agreed period, or in a lump sum. Similar to a murābahah contract, but with payment on a deferred basis.	This financing mode is suitable for working capital financing, fixed asset purchased, project financing etc.
	Bay` al-Salam	A contract of sale of goods where the price is paid in advance and the goods are delivered in the future.	This financing mode is suitable for agricultural financing which requires capital at certain critical stage (e.g. during plantation stage).
	Bay` al-Istisna'	A contract of acquisition of goods by specification or order, where the price is paid in advance, but the goods are manufactured and delivered at a later date.	This financing mode is suitable for financing assets which require capital at different stages of construction and tailor-made manufacturing.
3. Lease - based	Ijarah	A contract under which a bank purchases and leases out equipment required by its clients for a rental fee. The duration of the lease and rental fees are agreed in advance. Ownership of the equipment remains in the hands of the bank.	This instrument is suitable for financing fixed assets such as machinery, motor vehicles etc.
4. Voluntary Charitable Contract	Ar-Rahn	nonfungible good as insurance against a debt, where the nonfungible may be used to extract the value of the debt or part thereof. In some jurisdiction, a minimum custodian fee may be charged to	including working capital, personal consumption, fixed assets purchase etc. This mode of financing

Category	Instruments	Description	Application
(Tabarruh)		the borrower for safekeeping of pawned property.	requires customer to have valuable asset eligible for pawning such as gold or silver.
	Qard al-Hassan	An interest-free loan given mainly for welfare purposes. The borrower is only requires to pay back the amount borrowed. In some cases, a minimum administrative fee may also be charged to the borrower. However this service charge must be the actual administrative cost incurred in managing the loan and not a fixed percentage on the amount of loan.	This financing mode is suitable for all purposes including working capital, personal consumption, fixed assets purchase etc.
Hybrid	Musharakah Mutanaqisah	This instrument involves three different contracts, namely musharakah, sale and ijarah. Islamic banks jointly purchase and own an asset with client aiming at transferring the ownership to the client. The bank's share will gradually be redeemed by client by executing sales contract. The bank is also allowed to lease its portion of the asset to client for rental income.	This financing instrument is suitable for fixed asset financing.
	Ijarah Thumma al-bay`	This instrument involves two separate contracts namely leasing and sales contracts executed separately and in sequence. The bank normally purchases the asset and leases it to client. At the end of leasing period, the ownership is transferred to the client by executing sales contract which normally at a nominal price.	This financing instrument is suitable for fixed asset financing such as motor vehicles.

Source: Adopted from Dusuki, 2007

Appendix 2: Concepts, categories and codes

Concepts	Categories	Code Name	Type	Description
Perception about SHG and IRB	SHG	Formation	Deductive	Formation of Self Help Group (SHG)
		Eligibility	Deductive	Eligible criteria to become SHG member
		Members	Deductive	Number of SHG members
		Dropped out	Deductive	Left the SHG
	IRB	Quard- e- hassna	Deductive	Interest free loan
		Mudraba	Inductive	Profit loss sharing
		Musaraka	Inductive	Supply of goods
		ICAP	Inductive	Different projects of IRB
		Other services	Deductive	Rather than microcredit- advocacy, training
		Sustainability of SHG	Organizational strength	Executive committee
Longevity	Deductive			Duration since establishment of SHG
Democracy	Inductive			Decision taken in democratic way
Managerial strength	License		Inductive	SHG license status
	Weekly meeting		Deductive	SHG's weekly meeting
	Meeting presence		Inductive	Average presence in the meeting
	Conducting meeting		Deductive	Meeting conducting
	Finalizing decision		Deductive	Summarization of meeting decision
	Ledger book		Inductive	Ledger book management
	Installment collection		Deductive	Collection of weekly installment
	Savings collection		Deductive	Collection of weekly savings
	Account management		Inductive	Saving account management
	EC members change		Inductive	Can change the EC member of SHG

Concepts	Categories	Code Name	Type	Description
	Financial strength	SHG savings	Deductive	SHG group savings amount
		Weekly savings	Deductive	Weekly saving by the members
		Seasonal savings	Inductive	Members' saving at the time of harvesting
		Invested capital	Inductive	Credit disbursed from SHG savings and IRB grants
		O&M cost	Deductive	Amount needed to meet up the O&M cost
		Profit	Inductive	Difference betn service charge and O&M
		Earnings	Inductive	Service charge for borrowing credit
		Capital gain	Inductive	Difference between devaluation of money and profit balance
Leadership	Training	Enterprise Training	Deductive	Received training from IRB
		Advocacy training	Deductive	Received advocacy training
	Conflict resolving	SHG member	Deductive	Potential to resolve the conflict
		Village people	Deductive	Mitigation conflict
		Compensation	in-vivo	Paying compensation for damaging crops
	Negotiation	With local govt.	Inductive	Negotiation for receiving govt. grants
Impact	Income	Income	Deductive	Increased income
	Consumption	Consumption	Inductive	Increased consumption
	Savings	Savings	Deductive	Increased savings
	Social involvement	Invitation	Inductive	Received invitation SHG
	Empowerment	Family decision	Deductive	Involvement in family decision
		Enterprise decision	Deductive	Enterprise and business decision
		Borrowing money	Deductive	Decide to borrow money
Health and	Visits doctors	Deductive	Visit doctors for treatment	

Concepts	Categories	Code Name	Type	Description
	sanitation	Washing hands	Deductive	Washing hand before taking meal and after toilet
	Relationship	Family relations	Inductive	Husband wife relationship
Future Prospect	License	License	Inductive	License for SHG
	Like a MFI	Like MFI	Inductive	Like MFI
	Enough capital	Capital	Inductive	Capital for lending money
	Helping poor	Helping poor	Inductive	Helping poor

Appendix 3: Proportion of program target villages

```
. sum target if provill ==1
```

Variable	Obs	Mean	Std. Dev.	Min	Max
target	748	.8435829	.3634934	0	1

Appendix 4: Fixed effect regression model for income

```
. xtreg lnpcin proterget age edu tcl distance fami, fe i( villcode)
```

```
Fixed-effects (within) regression          Number of obs   =    1011
Group variable: villcode                  Number of groups =     15

R-sq:  within = 0.1636                    Obs per group:  min =     19
      between = 0.0099                      avg =           67.4
      overall  = 0.1141                      max =           173

                                           F(6,990)       =    32.26
corr(u_i, Xb) = -0.2660                    Prob > F        =    0.0000
```

lnpcin	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
proterget	.1537299	.0498513	3.08	0.002	.0559036	.2515563
age	.0048277	.0024801	1.95	0.052	-.000039	.0096945
edu	-.007874	.0063909	-1.23	0.218	-.0204151	.0046672
tcl	.0047318	.0006773	6.99	0.000	.0034026	.0060609
distance	-.0277502	.0162913	-1.70	0.089	-.0597196	.0042193
fami	-.2353663	.0198714	-11.84	0.000	-.2743612	-.1963715
_cons	10.51718	.2182452	48.19	0.000	10.08891	10.94546
sigma_u	.33529172					
sigma_e	.65539874					
rho	.20743019	(fraction of variance due to u_i)				

```
F test that all u_i=0:    F(14, 990) =    11.52          Prob > F = 0.0000
```


Appendix 5: Fixed effect regression model for expenditure

```
. xtreg lnpcexp proterget age edu tcl distance fami, fe i( villcode)
```

```
Fixed-effects (within) regression      Number of obs   =   1011
Group variable: villcode              Number of groups =    15

R-sq:  within = 0.2001                Obs per group:  min =    19
      between = 0.0211                  avg   =   67.4
      overall  = 0.1567                  max   =   173

F(6,990) = 41.27
corr(u_i, Xb) = -0.1635                Prob > F = 0.0000
```

lnpcexp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
proterget	.1347192	.0280687	4.80	0.000	.0796381	.1898002
age	-.0013324	.0013964	-0.95	0.340	-.0040727	.0014078
edu	-.0087106	.0035984	-2.42	0.016	-.0157719	-.0016493
tcl	.0015551	.0003814	4.08	0.000	.0008067	.0023035
distance	.0104318	.0091728	1.14	0.256	-.0075686	.0284322
fami	-.1596596	.0111886	-14.27	0.000	-.1816156	-.1377036
_cons	7.707805	.1228827	62.72	0.000	7.466665	7.948946
sigma_u	.18239684					
sigma_e	.36902146					
rho	.19633815	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(14, 990) = 4.69      Prob > F = 0.0000
```

Annex 6: Fixed effect regression model for expenditure on food

```
Fixed-effects (within) regression      Number of obs   =   1011
Group variable: villcode              Number of groups =    15

R-sq:  within = 0.2764                Obs per group:  min =    19
      between = 0.0594                  avg   =   67.4
      overall  = 0.2560                  max   =   173

F(6,990) = 63.04
corr(u_i, Xb) = -0.0565                Prob > F = 0.0000
```

lnpcfood	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
proterget	.1311634	.0261612	5.01	0.000	.0798256	.1825012
age	-.0036491	.0013015	-2.80	0.005	-.0062031	-.001095
edu	-.0082991	.0033538	-2.47	0.014	-.0148805	-.0017176
fami	-.1864569	.0104282	-17.88	0.000	-.2069208	-.165993
tcl	.0011965	.0003554	3.37	0.001	.000499	.001894
distance	.0005046	.0085494	0.06	0.953	-.0162725	.0172817
_cons	7.559196	.1145318	66.00	0.000	7.334443	7.783949
sigma_u	.15047809					
sigma_e	.34394351					
rho	.16066076	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(14, 990) = 6.73      Prob > F = 0.0000
```

Appendix 7: Fixed effect regression model for savings

```
. xtreg lnmosav proterget age edu tcl distance fami, fe i( villcode)
```

```
Fixed-effects (within) regression      Number of obs   =      493
Group variable: villcode              Number of groups =      15

R-sq:  within = 0.0664                Obs per group:  min =      5
      between = 0.0894                    avg =     32.9
      overall  = 0.0019                    max =     97

corr(u_i, Xb) = -0.7541                F(6,472)        =      5.60
                                          Prob > F         =     0.0000
```

lnmosav	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
proterget	.6486953	.1295939	5.01	0.000	.394043	.9033475
age	.0121952	.0055298	2.21	0.028	.0013292	.0230613
edu	.0201543	.0158452	1.27	0.204	-.0109815	.0512901
tcl	.0014812	.0015886	0.93	0.352	-.0016403	.0046027
distance	-.0977594	.0358593	-2.73	0.007	-.1682232	-.0272957
fami	-.1262087	.0494761	-2.55	0.011	-.2234293	-.0289881
_cons	6.955207	.4713923	14.75	0.000	6.02892	7.881494
sigma_u	.9608861					
sigma_e	1.1192787					
rho	.42429466	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(14, 472) =      5.71      Prob > F = 0.0000
```

Appendix 8: Results of Probit model

```
. probit target age edu tcl fami distance hh ownculland
```

```
Iteration 0:  log likelihood = -543.71599
Iteration 1:  log likelihood = -530.2209
Iteration 2:  log likelihood = -530.14333
Iteration 3:  log likelihood = -530.14332
```

```
Probit regression      Number of obs   =     1022
LR chi2(7)             =      27.15
Prob > chi2            =     0.0003
Pseudo R2              =     0.0250

Log likelihood = -530.14332
```

target	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	.0176424	.0053405	3.30	0.001	.0071752	.0281096
edu	.0220801	.0139479	1.58	0.113	-.0052572	.0494175
tcl	-.0026747	.0016491	-1.62	0.105	-.0059069	.0005575
fami	.0707801	.0413807	1.71	0.087	-.0103246	.1518848
distance	-.0182149	.009048	-2.01	0.044	-.0359486	-.0004812
hh	-.2193455	.1376923	-1.59	0.111	-.4892174	.0505265
ownculland	.0038952	.0036003	1.08	0.279	-.0031611	.0109516
_cons	.0576851	.2823469	0.20	0.838	-.4957047	.611075

Appendix 9: Marginal effects after Probit model

. mfx

Marginal effects after probit
y = Pr(target) (predict)
= .78232619

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
age	.0051919	.00156	3.32	0.001	.002125	.008259		34.6546
edu	.0064979	.0041	1.59	0.113	-.001533	.014529		3.76614
tcl	-.0007871	.00048	-1.62	0.104	-.001737	.000162		31.9604
fami	.0208298	.01217	1.71	0.087	-.003014	.044673		4.42661
distance	-.0053604	.00266	-2.02	0.044	-.010567	-.000154		11.728
hh*	-.0685842	.04542	-1.51	0.131	-.157606	.020437		.119374
owncul-d	.0011463	.00106	1.08	0.279	-.00093	.003222		10.2221

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Appendix 10: Summary finding of the FGDs

Question or issues	SHG			
	Mamuder para code 09	Mamuder Para Code 79	Formuder Para Women Association Code 10	Surjer Hasi women association – Code 3019
Name of SHG				
Date of FGD conducted	27.1.14	27.1.14	27.1.14	29.1.14
Date of SHG formation	25/7/2011	21/7/11	June, 2011	15/8/12
How the SHG was formed?	Suddenly few people came from IR and asked to form a group; They encouraged us to save money for our own benefits. Other NGOs do not allow us to borrow from them because we have nothing.	Suddenly few people came from IR and asked to form a group; They produced a Map of the poor people in our village.	IR personnel came and request to form a group; who has less then 5 decimal of land.	For creation of self-employment with the guidance of IRB.
Eligible criteria	Less than 20 decimal of land; based on Map of IR	<50 decimal; widow; wage laborer	<50 decimal of land;	Local people, poor able to do small business
Members	25 (one member died ; SHG helped in buried the dead body)	30 (1 dropped out due to migration to Dhaka)	31 (dropped out 2; one divorced and another migrated to Dhaka)	25 (Dropped out because they can't pay the installments)
Weekly savings	Started with Tk. 10 now Tk. 20; Present Savings. 52552 ; Deposited to GB; Do seasonal savings also	Started with Tk. 10 and Tk. 20 (14-5-12); Present Savings. 65200; Deposited to GB	Started with Tk. 10 and last two years Tk. 20; Present savings. 61810; Deposited to GB; do seasonal savings also	Rages from Tk 20-Tk 50; No problem as individual has separate pass book, Present savings- 26750; Deposited to GB
Weekly Meeting	Regularly- based on attendance; On Monday	Regularly- based on attendance; On Thursday	Willingly join the meeting;	Regularly on Wednesday morning;
Discussing issues in weekly meeting	Child marriage; HIV AIDS, Hygiene; dowry	Child marriage; Sanitation and Hygiene; dowry, awareness	Social improvement; health, family planning, health and sanitation, etc.	Health and sanitation, child marriage, gender violence, business plan, repayment,
Decision in the group meeting	Based on majority's opinion	We speak frankly in the meeting; Share the individual problem; Prepare monthly plan	Democratically finalize the decision	Through discussion
Formation of executive committee	Throughout discussion among the members;	Through discussion among members;	Based on group decision	Democratic way
EC Members	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier
Responsibilities of EC members	Register book maintain and checking; Check the eligibility of loan application ; repayment status, seasonal savings; and present	Register book maintain and checking; Check the eligibility of loan application ; repayment status, and present savings;	Register book maintain and checking; Check the eligibility of loan application ; repayment status, seasonal savings and present savings;	Register book maintain and checking; Check the eligibility of loan application ; repayment status, and present savings; monitor the individual member

Question or issues	SHG			
Name of SHG	Mamuder para code 09	Mamuder Para Code 79	Formuder Para Women Association Code 10	Surjer Hasi women association – Code 3019
	savings; Monitor the lending enterprises			investment and discuss in the meeting
Violation of By-law by the EC members	Never happened, but if happened we can change the EC members	We have full confidence on them	We can change the EC member	We can change the EC member
Maintaining the ledger book	Secretary and Cashier	Cashier	Secretary	President
Who collects installment	Secretary and cashier	Cashier	Secretary	President
Operation and Maintenance cost	Tk.4800 (Tk400*12)	Tk. 6000 (Tk. 500*12)	Tk. 7200 (Tk. 600*12)	Tk. 4800 (Tk 400*12)
Received money as service charge	Tk.6900 (23*300)	Tk.7500 (25*300)=	Tk. 9300 (31*300)	Tk 8100 (27*300)
Received money from IRB	Tk.163000	Tk.167000	Tk.219000	Tk. 185000
How distributed the IRB's money	Based on demand of the members	Who capable to repay the loan; Range 5000-20000; Higher amount for business	Those are sick, through discussion	Based on business plan, where she invest the money- range (tk.7000-25000)
Borrowers category	Dairy cow rearing- 9 Beef fattening –2 Petty business-11 Van pulling-1 (Total 23)	Dairy cow rearing- 10 Beef fattening –5 Petty business-6 Van pulling-4 (Total 25)	Dairy cow rearing- 15 Beef fattening –2 Petty business-9 Van pulling-5 (total 31)	Dairy cow rearing- 10 Beef fattening –4 Agriculture -9 Petty business-2 (total 31)
Credit Demand	Present amount from IRB and own saving is enough	Present amount is enough	It is nice to have more funds	Present amount is enough
Additional services	Advocacy, Monitoring, Training	Advocacy, monitoring, Training; helped in resolving conflict	Advocacy on awareness building, hygiene, sanitation, dowry, child marriage, Training;	Only received training for cow rearing; additionally advocacy for child marriage, dowry, health and sanitation, hygiene etc
Impact	Reduced water borne diseases, Husband care more, Can decide about children's future, UP Chairman now give VGF card ; Others including Imam's wife interested to join the group; Other MFIs now asked us to borrow from them while in the past they didn't.	Increased awareness on dowry, child marriage; reduced gender based violence; UP Chairman and members give importance; capable to handle own problem Child education; participation in social programs; self reliance;	Increase income, women empowerment, education, efficient in raising animal, construction of houses, respect people because will do IR, invite social programs, We stopped one divorced one of our fellow member; and child marriage Help very needy people,	Build awareness, leadership, savings, increase income

Question or issues	SHG			
Name of SHG	Mamuder para code 09	Mamuder Para Code 79	Formuder Para Women Association Code 10	Surjer Hasi women association – Code 3019
Resolving the conflict	Listening both parties and help to mitigate the conflict;	Try to solve ourselves in not seek help from IRB staffs	Solved by ourselves	Still not happed if so we can solve by ourselves.
Social relationship	Has improved significantly but we can't visit our parents family due to business;	Has improved significantly, received invitation in the name of our SHG.	Improved greatly, got invitation	Improved significantly
What capacity of SHG attained	Economic solvency; capable to maintain the ledger book; received training etc; have own savings;	Leadership, unity, maintain the ledger book	Last 3 years we running the SHG without major difficulties, If IR can assist more that would be good;	
Future plan	Want to buy a bus for rent	More economic improvement; Child education	Like a MFI that will provides credit without interest rate;	Increase savings, office room,
Problems	We still want IRB should help us in checking the ledger book.	Not much	We want IR should helps us by providing advocacy services	Did not face much problem, if so we can manage ourselves.

Continued

Question or issues	SHG			
Name of SHG	Ramchandrapur Nobodip Women Association Code 3062	Tajur Para Women Association, Code-19	Hasoner Para Women Association Code-9	Vogobati Hindu Para Women Association Code 3154
Date of FGD conducted	29.1.14	30.1.14	30.1.14	30.1.14
When the SHG was formed	10-12 years before	About 3 years	May, 2011	May, 2011
How the SHG was formed	With the initiative of IRB personnel, in the past there was not women association,	Got motivation from IR about savings;	Motivated by the IRB members	Motivated by the IRB members
Eligible criteria	<50 decimal of land; poor but not very poor as they may unable to repay the loan; must be married;	<50 decimal of land; age below 50 years;	<50 decimal; poor; Income US\$ 20 weekly;	<50 decimal; and poor; local people
Members	35 (few left and rejoin), also left due to unable of repaying the loan	25 (2 dropped out- 1 died one left because of long distance)	32 (left 3)	27 (1 because she can't repay the loan)
Weekly savings	Started with Tk10 then Tk. 15 now Tk .20, Present savings Tk. 6110	Varies from Tk. 10 and Tk 20; Present savings Tk. 52321	Weekly savings Tk. 20; Present savings- 69035	Weekly savings Tk. 20 present savings-Tk.30900
Weekly Meeting	Regularly on Thursday; presence 90%	Regularly on Monday every week	Regularly on Tuesday	Regularly, most of the members attend the meeting
Discussed issues in weekly meeting	Credit, savings, child marriage; hygiene; dowry, health and sanitation	Women violence, dowry, health and sanitation	Loan, child marriage, dowry, enterprise	Loan, child marriage, dowry, individual problem, women's problem;

Decision in the group meeting	Based on 2/3 opinion	Based on majority's opinion	Based on opinion of SHG members	Based on 2/3 opinion
Formation of executive committee	Considering the opinion of all members		All together decided	Throughout discussion
Members	Three- President; Secretary, cashier	Throughout discussion	do	do
Responsibilities of EC members	Register book maintain and checking; check the eligibility of loan application ; repayment status, seasonal savings; and present savings;	Supervising loan, maintaining savings and IR loans,	Supervising loan, checking ledger book	Register book maintain and checking; Check the eligibility of loan application ; repayment status, seasonal savings; and present savings;
Violation of By-law by the EC members	Never happened	Not happened	Not happened if so we can change	Not happened
Maintaining the ledger book	President	President	Secretary	Cashier
Who collects installment	President	President	Collector	Cashier
Operation and Maintenance cost	Tk. 6000 (500*12); Plus Tk.50 for president transport	Tk. 4800 (400*12)	Tk.5400 (Tk.450*12)	Tk. 4800 (400*12)
Received money as service charge	Tk. 9300 (300*31)	Tk. 6600 (300*22)	Tk. 6600 (300*22)	Tk. 5400 (300*18)
Received money from IRB	Tk 225000	Tk. 183000	Tk. 16300	Tk. 24200
How distributed the IRB's money	Based on meeting decision ranges from. 6000-20000	Based on demand of the members, Tk .12000-Tk.20000	Based on members' demand	Based on members' demand
Borrower category	Dairy cow rearing- 13 Beef fattening –3 Goat rearing-2 Petty business-5 Crops- 8 (Total 31)	Dairy cow rearing- 11 Beef fattening –3 Petty business-6 Van pulling- 2 (Total 22)	Dairy cow rearing-6 Beef fattening –3 Petty business-12 Crop- 1 (Total 22)	Dairy cow rearing-11 Beef fattening –4 Petty business-3 Total 18)
Credit Demand	Present savings and IRB grants are enough	Good enough	Good enough	Good enough
Additional services	Advocacy on health and sanitation, training	Advocacy on awareness building, training	Advocacy on awareness building, training	Advocacy, training , health, sanitation
Impact	Leadership, improve social status, increased income, improvement of household	Leadership, influence on decision making; increased income,.	Leadership, influence on decision making; increased income,	Unity, mentality, confidence
Resolving the conflict	If someone's animal destroy the crops then we compensate by	By ourselves	Through consultation	By ourselves

	providing Urea fertilizer based on the damages;			
Involvement in social activities	Improved the social relations	Improved significantly	Improved substantially	Increased significantly
What capacity of SHG attained	Leadership, managing the ledger book, conducting meeting	Maintaining ledger book	Leadership, managing the ledger book, conducting meeting	Ledger maintaining , confidence
Future plan	Fishery farm	Want more improvement of this association ;building, office building	Increased income	Building, office, good furniture, want to seat in chair,
Problems	One external person is needed to maintain the ledger book	Seating arrangement for group meeting	Less education facilities	Monthly installment would be better

Continued

Question or issues	SHG				
	West Mamuder para Code 65	Gilajhuki rasta para women association Code 72	Changmari south para Women Association Code 60	Natun Jibon women association Code 3007	Kata Amm darga women association Code 3014
Date of FGD conducted	31.1.14	31.1.14	31.1.14	1.2.2014	1.2.14
When the SHG was formed	July 2011	August, 2011	June 2011	2003	July 2012
How the SHG was formed	Suddenly few people came from IR and asked to form a group; They produced a Map based on poor people	IR personnel came and requested us to form the group	Suddenly few people came from IR and asked to form a group; They produced a Map based on poor people	Suddenly few people came from IR and asked to form a group; They produced a Map based on poor people	Suddenly few people came from IR and asked to form a group; They produced a Map based on poor people
Eligible criteria	<50 decimal; widow; married, poor	<50 decimal; widow; married, poor	<50 decimal; widow; poor women	<50 decimal; widow; poor women	<50 decimal; widow; poor women
Members	25 (No dropped out)	29 (One migrated to Dhaka)	33 (No dropped out)	34 (dropped out 3, migrated to Dhaka did not pay back their money)	24 (No dropped out)
Weekly savings	Started with Tk. 10 after one year Tk 20; Present Savings. 76465;	Started with Tk. 10 then Tk 20; seasonal savings Tk. 100 Present savings. 66700;	Tk. 20 present savings-Tk.77220 Deposited to GB	Tk 20 and Tk. 50 Present savings-47863	Tk. 20 then Tk 25, Present savings-26987

	deposited to GB	Deposited to GB			
Weekly Meeting	Regularly- based on attendance; On Monday	Regularly on Monday	Regularly attendance 95%	Regularly on Monday	Regularly
Discussing issues in weekly meeting	Divorce, child marriage , hygiene and sanitation	Child marriage; Sanitation and Hygiene; dowry, awareness	Child marriage; Sanitation and Hygiene; dowry, awareness	Child marriage; Sanitation and Hygiene; dowry, awareness	Child marriage; Sanitation and Hygiene; dowry, awareness
Decision in the group meeting	We speak frankly in the meeting; share the individual problem; prepare monthly plan	Decide through discussion	Decide through discussion	Frankly speak	Decide through discussion
Formation of executive committee	Through discussion among members	Through discussion among members	Through discussion among members	Based on majority decision	Decide through discussion
Members	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier	Three- President; Secretary, Cashier
Responsibilities of EC members	Register book maintain and checking; Check the eligibility of loan application ; repayment status, and present savings;	Conducting meeting, checking the ledger book, Monitor the enterprises	Register book maintain and checking; Check the eligibility of borrowing loan We treat every members equally	Register book maintain and checking; Check the eligibility of borrowing loan	Register book maintain and checking; Check the eligibility of borrowing loan
Violation of Bi-law by the EC members	We have full confidence on them	We have full confidence on them	They are very good	No problem	We had changed once
Maintaining the ledger book	Secretary	Secretary	Secretary and president	Secretary and president	President
Who collects installment	Secretary	Collector	Secretary	Collector	Collector
Operation and Maintenance cost	Tk. 6000 (Tk. 500*12)	Tk. 7200 (Tk. 600*12)	Tk. 3600 (Tk.300*12)	Tk. 7200 (600*12)	Tk. 6000(500*12)
Received money as service charge	Tk.7500 (Tk. 25*300)	Tk. 7800 (Tk. 300*26)	Tk. 9900 (33*300)	Tk.10200 (34*300)	Tk. 7200 (300*24)=
Received money from IRB	Tk. 145000	Tk. 161000	Tk. 169000	Tk. 426000	Tk.288000
How distributed the IRB's money	Based on credit demand	Based on credit demand	Based on application	Based on credit demand	Based on application received
Borrowers category	Dairy cow rearing- 13 Beef fattening –4 Petty business-8 (Total 25)	Dairy cow rearing- 17 Beef fattening –4 Petty business-3 Van- 2 (Total 26)	Dairy cow rearing- 15 Beef fattening –6 Petty business-10 Crops- 2 (Total 33)	Dairy cow rearing- 20 Beef fattening –12 Crops- 2 (Total 34)	Dairy cow rearing- 15 Beef fattening –3 Petty business-3 Goat rearing-1 Crops- 2 (Total 33)
Credit Demand	Is enough	Need more funds	Present savings and IRB	Is enough	Present savings and IRB

			funds are enough		funds are enough
Additional services	Advocacy, monitoring, Training; helped in resolving conflict	Advocacy, monitoring, Training; helped in resolving conflict	Advocacy, monitoring, Training; Trees,	Advocacy, monitoring, Training;	Advocacy, monitoring, Training;
Impact	Increased awareness on dowry, child marriage; reduced gender based violence; capable to handle own problem; Child education; participation in social programs; self reliance;	Increased awareness on dowry, child marriage; Reduced gender based violence; reliance; decreased idealness	Increased awareness on dowry, child marriage; Reduced gender based violence; reliance;	Increased awareness on dowry, child marriage; Reduced gender based violence; reliance;	Increased awareness on dowry, child marriage; Reduced gender based violence; capable to handle own problem Child education; participation in social programs; self
Resolving the conflict	Try ourselves	Resolve ourselves	Solve by ourselves	Can solve our problem by own	Can solve our problem by own
Involvement in social activities	Has improved	Has improved	Has improved significantly, received invitation in the name of SHG	Has improved significantly, received invitation in the name of SHG	Has improved significantly, received invitation in the name of SHG
What capacity of SHG attained	Leadership, unity, maintain the ledger book	We learned by doing	Leadership, confidence, maintain the ledger book	Leadership, maintaining ledger book	Leadership, confidence, maintain the ledger book
Future plan	Building, child education	Tk. 10 lac, will not take loan from NGOs	Child education	Tk. 10 lac	
Problems	Seating arrangement for group meeting	License, seating arrangement	In rainy season face problem to conduct the meeting	Not much	License, continuous support from IRB