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INCLUSIVE FINANCING AND WOMEN’S EMPOWERMENT: AN EMPIRICAL EVIDENCE

Abstract

One of the major goals of the seventh five-year plan of Bangladesh is to achieve gender equality and women’s empowerment in all spheres of life. The Sustainable Development Goals (SDGs) on gender equality and women’s empowerment also have several specific targets which include, inter alia, that women should have full and effective participation at all levels of decision making in political, economic and public life. This paper analyzes the impact of inclusive financing through microcredit programmes in empowering rural women in Bangladesh. The paper uses survey data collected from 128 women of Gazipur district by using structured questionnaire during May-June 2019. The empirical result reveals that only 46 per cent of the respondent women have a reasonable level of empowerment and among them, 54 per cent are covered by microcredit programmes. The study also finds that factor like the use of inclusive financing by self is significantly associated with women empowerment. The paper also reveals that borrowers have significantly higher empowerment levels than non-borrowers. Moreover, it has been indicated that, among the demographic factors of the women, the total income of a respondent family is very important for women empowerment. For policy implications, it is therefore imperative to provide microcredit to rural women and to monitor them regularly to ensure the use of this money by self in productive sectors. This will make them more likely to have higher levels of empowerment.

Keywords: Inclusive Financing, Empowerment, Demographic Factors, Development, SDGs

1. Introduction

One of the major goals of the seventh five-year plan of Bangladesh is to achieve gender equality and women’s empowerment in all spheres of life.¹ The

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¹ Salahuddin M. Aminuzzaman, “Study on Women Development and Empowerment: Powers and Issues”, available at https://www.researchgate.net/publication/322655206_Study_on_Women_Development_and_

Sustainable Development Goals (SDGs) of the United Nations also chart gender equality as a distinct SDG (SDG-5). The SDG on gender equality and women's empowerment also has several specific targets which include, inter alia, that women should have full and effective participation at all levels of decision making in political, economic and public life.² Women's empowerment is also viewed as not only an SDG but also as a part of solutions to other SDGs,³ particularly those SDGs that are related to education, health, nutrition, employment and social protection.⁴

Malhotra et al. argue that women's empowerment is a widely discussed topic among the academics, practitioners and institutions.⁵ The first and most significant modern advocacy for women's empowerment could be traced to the work of John Stuart Mill in 1859 in which he emphasized women's empowerment and linked it with education, liberty and rights of women.⁶ However, scholars argue that it is the period of 1980s in which the rise of women's empowerment as a frontline development agenda in the 1990s has its revolutionary roots.⁷ Despite being familiar and widely used in numerous works of literature, an acceptable and complete definition of the term 'empowerment' remains problematic.⁸

Empowerment has been mostly defined as a 'process' by which women attain power not to control others but to have greater strategic and non-strategic choices regarding planning and control of their own lives.⁹ Education, employment and political participation are viewed as powerful contributors to women's empowerment.¹⁰ Women's empowerment and the degree of it have been defined in

Empowerment_Policies_and_Issues, accessed on 12 August 2018.

² Guido Schmidt-Traub, Eve De la Mothe Karoubi and Jessica Espey, *Indicators and a Monitoring Framework for the Sustainable Development Goals: Launching a Data Revolution for the SDGs*, Sustainable Development Solutions Network, 05 May 2015, available at <https://resources.unsdsn.org/indicators-and-a-monitoring-framework-for-sustainable-development-goals-launching-a-data-revolution-for-the-sdgs>, accessed on 10 April 2015.

³ Suneeta Dhar, "Gender and Sustainable Development Goals (SDGs)", *Indian Journal of Gender Studies*, Vol. 25, No. 1, 2018, pp. 47-78.

⁴ Eeva Eriksson and Policy Department C: Citizens' Rights and Constitutional Affairs, *Women's Empowerment and Its Links to Sustainable Development*, Brussels: European Parliament, 2016.

⁵ Anju Malhotra, Sidney R. Schuler and Carol Boender, "Measuring Women's Empowerment as a Variable in International Development", in *Background Paper Prepared for the World Bank Workshop on Poverty and Gender: New Perspectives*, Vol. 28, 2002.

⁶ Richard Horton, "Offline: Gender Equality—the Neglected SDG for health", *The Lancet*, Vol. 386, No. 10007, 2015, p. 1928.

⁷ Andrea Cornwall, "Women's Empowerment: What Works?", *Journal of International Development*, Vol. 28, No. 3, 2016, pp. 342-359.

⁸ Simeen Mahmud, Nirali M. Shah and Stan Becker, "Measurement of Women's Empowerment in Rural Bangladesh", *World Development*, Vol. 40, No.3, 2012, pp. 610-619.

⁹ Paola Ballon, "A Structural Equation Model of Female Empowerment", *The Journal of Development Studies*, Vol. 54, No. 8, 2018, pp. 1303-1320.

¹⁰ Naila Kabeer, "Gender Equality and Women's Empowerment: A Critical Analysis of the Third Millennium Development Goal 1", *Gender & Development*, Vol. 13, No. 1, 2005, pp. 13-24.

many other ways which include gender and gender relations¹¹ in society; women's competence for voice and action¹²; and women's control over tangible and intangible resources as well as over their own ideological foundations such as beliefs, values and attitudes.¹³

Women who live in rural parts of Bangladesh are severely restricted by the prevailing patriarchal system and religious decree.¹⁴ Their presence in the market is also tabooed and they are not supposed to deal with money or exercise property rights independently;¹⁵ all of which severely undermine the potential economic activities and the options resulting in more disempowerment of women in relation to men.¹⁶ Bangladesh has been among the least developed countries for a long time until recently, where women make up nearly half of its total population, while nearly 80 per cent of them live in rural areas.¹⁷

Empowering women is one of the key issues in the development process of all developing countries in the world.¹⁸ Traditionally, women in Bangladesh have been socially and frugally deprived compared to men.¹⁹ There exist disparities between men and women in Bangladesh with respect to education, health facilities, recruitment, earnings, property ownerships, security and involvement in political decisions.²⁰ All of these make women underprivileged and less empowered, limiting the ability of the country to realize its complete potential. It is evident that women have fewer knowledge, skills and opportunities than men in managing resources,

¹¹ Sunita Kishor and Kamla Gupta, "Women's Empowerment in India and Its States: Evidence from the NFHS", *Economic and Political Weekly*, 2004, pp. 694-712.

¹² Naila Kabeer, "Women's Empowerment, Development Interventions and the Management of Information Flows", *IDS Bulletin*, Vol. 41, No. 6, 2010, pp. 105-113.

¹³ Srilatha Batliwala, *Women's Empowerment in South Asia: Concepts and Practices*, Asian South Pacific Bureau of Adult Education, 1994.

¹⁴ Abeda Sultana, "Patriarchy and Women's Subordination: A Theoretical Analysis", *Arts Faculty Journal*, 2010, pp. 1-18.

¹⁵ Issa Khan, Md Faruk Abdullah, Noor Naemah Abdul Rahman, Mohd Roslan Bin Mohd Nor and Mohd Yakub Zulkifli Bin Mohd Yusoff, "The Right of Women in Property Sharing in Bangladesh: Can the Islamic Inheritance System Eliminate Discrimination?", *Springer Plus*, Vol. 5, No. 1, 2016.

¹⁶ Esha Sraboni, Agnes R. Quisumbing and Akhter U. Ahmed, "How Empowered are Bangladeshi Women in the Agricultural Setting? Empirical Evidence Using a New Index", *The Bangladesh Development Studies*, Vol. 37, No. 3, 2014, pp. 1-25.

¹⁷ Asma Akhter and Qumrun Naher Islam, "*Women and Men in Bangladesh – Facts and Figures 2018*", Dhaka: Bangladesh Bureau of Statistics (BBS), Swedish International Development Cooperation Agency (SIDA), Statistics Sweden and UN Women, 2019.

¹⁸ Marloes A. Huis, Nina Hansen, Sabine Otten and Robert Lensink, "A Three-Dimensional Model of Women's Empowerment: Implications in the Field of Microfinance and Future Directions", *Frontiers in Psychology*, Vol. 8, 2017.

¹⁹ Abeda Sultana, op. cit.

²⁰ Md. Asaduzzaman, Mohammad S. Kabir, R. N. Ali and Mirjana, "Gender Equality in Bangladesh", *Journal of Women's Entrepreneurship and Education*, Vol. 3, No. 4, 2015, pp. 54-64.

particularly, financial resources.²¹ Women empowerment is a prerequisite for not only eradicating poverty in the world but also for protecting basic human rights.²² Thus, bringing women in the mainstream workforce and the nation's economy is essential for attaining sustainable economic growth.²³

This research studies the impact of micro-finance, which is a strong tool for inclusive finance, on women empowerment in the district of Gazipur, Bangladesh. In Bangladesh, the population is a great force if it can be utilized properly. Women in Bangladesh constitute nearly half of the total population.²⁴ Nevertheless, women continue to occupy a very insignificant position in families and in the entire Bangladeshi social structure.²⁵ Inequity against women is common and a lot of women experience the ill effects of aggressive behaviour at home.²⁶ In this circumstance, women empowerment is essential for ensuring better gender equality.²⁷ Moreover, women's empowerment can also be instrumental in the battle against poverty.²⁸ Women joining the workforce in any form can contribute a huge amount to the national economy of the country and maintain sustainable livelihoods for families and communities around the world. Nevertheless, women workers generally face frequent cultural and social barriers, legal hindrances, absence of family support and other personal problems.²⁹

Traditionally, women in our country have been viewed as an object for a very long time³⁰ and they have often been marginalized. Occasionally, a woman is found to be financially independent.³¹ On the other hand, women are frequently

²¹ Ronald E. Goldsmith and Elizabeth B. Goldsmith, "The Effects of Investment Education on Gender Differences in Financial Knowledge", *Journal of Personal Finance*, Vol. 5, No. 2, 2006, pp. 55-69.

²² Endalcachew Bayeh, "The role of Empowering Women and Achieving Gender Equality to the Sustainable Development of Ethiopia", *Pacific Science Review B: Humanities and Social Sciences*, Vol. 2, No. 1, 2016, pp. 37-42.

²³ Esther Duflo, "Women Empowerment and Economic Development", *Journal of Economic Literature*, Vol. 50, No. 4, 2012, pp. 1051-79.

²⁴ Asma Akhter and Qumrun Naher Islam, op. cit.

²⁵ Farah Deeba Chowdhury, "Dowry, Women, and Law in Bangladesh", *International Journal of Law Policy and the Family*, Vol. 24, No. 2, 2010, pp. 198-221.

²⁶ Farhana Haque and Stephen C. Druce, "Gender Disparity in Bangladesh: The Study of Women's Vulnerable Situations in Patriarchal Society and The Rise of Gender Equality According to SDGS", *Integrative Journal of Conference Proceedings*, Vol. 1, No. 2, 2019, pp. 1-10.

²⁷ Endalcachew Bayeh, op. cit.

²⁸ Berta Esteve-Volart, "Gender Discrimination and Growth: Theory and Evidence from India", *DEDPS*, No. 42, 2004, available at http://eprints.lse.ac.uk/6641/1/Gender_Discrimination_and_Growth_Theory_and_Evidence_from_India.pdf, accessed on 10 September 2018.

²⁹ Luisa De Vita, Michela Mari and Sara Poggesi, "Women Entrepreneurs in and from Developing Countries: Evidences from the Literature", *European Management Journal*, Vol. 32, No. 3, 2014, pp. 451-460.

³⁰ Farah Deeba Chowdhury, "Theorising Patriarchy: the Bangladesh Context", *Asian Journal of Social Science*, Vol. 37, No. 4, 2009, pp. 599-622.

³¹ Md Shahidul Islam, Md Faysal Ahmed and Muhammad Shafiul Alam, "The Role of Microcredit Program on Women Empowerment: Empirical Evidence from Rural Bangladesh", *Developing Country Studies*, Vol. 4,

living on a severe threat in the public arena due to widespread violence against women.³² Sexual assault in the working place is a great concern. So, even though the participation of the women can help a family to be better off; still many people do not prefer to let their ladies go to the workplace to earn some money for the household.³³ But with the help of microcredit, women can be economically active through self-employment without going to work for someone else and far away from home. Thus, microfinance can be a very fruitful technique to eradicate poverty and increase women's participation in the economy.³⁴ It is also a viable method to remove poverty considering that women in most cases are more responsible for spending money in the family than men. Therefore, microfinance is a significant instrument for women empowerment in rural areas.³⁵

Empowerment is dependent on the capacities of an individual.³⁶ It depends on a variety of components, including individual qualities and social courses of actions. Empowerment is also associated with the process of internal change, inner ability and right to make decisions.³⁷ It consists of variation, choice and authority.³⁸ It is a process of change in which individuals or groups with little or no power have the authority to make choices that affect their lives. Power structures (e.g., who owns them, what their sources are and how they exercise them) directly influence the choices women can make in their lives.³⁹

From the feminist point of view, empowerment goes beyond the economic level and well-being of the planned gender benefits.⁴⁰ Empowerment can be found at the individual level, where there is an agency, increased independence, quality,

No. 5, 2014, pp. 90-97.

³² Jannatul Ferdous and Dwijen Mallick, "Norms, Practices, and Gendered Vulnerabilities in the Lower Teesta Basin, Bangladesh", *Environmental Development*, Vol. 31, 2019, pp. 88-96.

³³ Nazneen Jahan Chowdhury, "Women's Participation in Managerial Activities: A Study on Employed Women in Selected Enterprises of Bangladesh", *IIUC Studies*, 2014, pp. 39-64.

³⁴ Isahaque Ali, Muhammad Shariful Islam and Zulkarnain A. Hatta, "Microfinance Helps to Rural Women for Poverty Reduction in the District of Bogra, Bangladesh", *Sociology and Anthropology*, Vol. 3, No. 4, 2015, pp. 218-225.

³⁵ Sara Noreen, "Role of Microfinance in Empowerment of Female Population of Bahawalpur District", *International Conference on Economics and Finance Research*, Vol. 4, No. 20, 2011, pp. 65-71.

³⁶ Irene Corrêa Cavalieri and Helena Neves Almeida, "Power, Empowerment and Social Participation-the Building of a Conceptual Model", *European Journal of Social Science Education and Research*, Vol. 5, No. 1, 2018, pp. 174-185.

³⁷ Naila Kabeer, "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment", *Development and Change*, Vol. 30, No. 3, 1999, pp. 435-464.

³⁸ Tam O'Neil, Pilar Domingo and Craig Valters, "Progress on Women's Empowerment: From Technical Fixes to Political Action", *Development Progress Working Paper*, Vol. 6, 2014.

³⁹ Linda Mayoux, "Women's Empowerment through Sustainable Microfinance: Rethinking "Best Practice"", *Eldis Gender Guide*, 2006.

⁴⁰ Oxfam Canada, *A Feminist Approach To Women's Economic Empowerment: How Canada Can Lead on Addressing the Neglected Areas of WEE*, Ottawa: Oxfam Canada, 2019.

self-confidence and self-esteem. It can also be found at the collective level, which includes collective mobilization of women and where possible, men, for the purpose of questioning and changing gender-related subordination. Gender can play important roles in the determination of poverty and family hardships and analysis of development without a gender focus can be misleading.⁴¹

Microcredit is small loans for people who need money for self-employment projects that can generate income or for meeting urgent family needs such as health problems and education.⁴² Its purpose is to help improve the quality of life of people by providing them with a loan of a very small amount with a short payback period. The microcredit system provides very low-interest loans coupled with regular supervision to the low wage earner women pursuing unconventional money-generating options for improving their monetary and societal position. The programme aims at supporting women in rural areas in improving their current financial activity or to begin another business. It is assumed that these ventures will prompt inclusive financing as well as social and gender impartiality in the nation and will help to attain empowerment of women, in the same way, will also help to diminish poverty among women.⁴³

To the researchers' best knowledge there is an ongoing need to generate empirical evidence on microcredit and women's empowerment and this paper supplements the existing base of empirical evidence in this area. This study measures different dimensions of empowerment and its association with microcredit. In this context, the main intention is to explore different factors of empowering women and to evaluate the significance of micro-finance in improving the social status of the women as well as their family. The objectives of the present paper are to analyze levels of women empowerment in the rural area; determine the extent to which microcredit loans are effectively having an impact on the empowerment of women; differentiate the empowerment level of the borrower and non-borrower of the microcredit loan and analyze whether microcredit loan characteristics or demographic factors have an impact on women empowerment in the context of the SDG 5.

Given this context, the paper explores the impact of microcredit programmes on the empowerment of women. Empowerment of women is seen as very important by both government and non-governmental agencies in Bangladesh. Micro-finance also plays a crucial role particularly in the rural economy of Bangladesh.

⁴¹ Amartya Sen, *Gender and Co-Operative Conflict*, Helsinki: Wider, 1987.

⁴² Zobayer Ahmed, Masud Pervez and Bodrul Huda Jayed, "A Comparative Study on the Role of Microcredit and Social Business in Sustainable Poverty Reduction", *International Journal of Development and Sustainability*, Vol. 7, No. 5, 2018, pp. 1749-1758.

⁴³ Dalia Debnath, Md Rahman, Debasish Chandra Acharjee, Waqas Umar Latif and Linping Wang, "Empowering Women through Microcredit in Bangladesh: An Empirical Study", *International Journal of Financial Studies*, Vol. 7, No. 3, 2019, p. 37.

Approximately 80 per cent of the villages in Bangladesh are now covered by micro-finance programmes of NGOs. Most of them have limited coverage except a few large programmes namely, those of BRAC, Grameen Bank, ASA and PROSHIKA. Around 95 per cent of microcredits are provided in rural areas by the NGOs.

As of December 2005, the total number of active members benefiting from micro-finance programmes of NGO stood at 26 million, among whom 88 per cent (23.3 million) were women. Furthermore, previous studies have shown that micro-finance is a proven development tool which is well capable of providing poor people (especially women) with sustainable financial services to support their livelihoods. Studies in Bangladesh found that access to microcredit has had a significant impact on gender equality, women's empowerment and economic well-being. According to a study conducted by Hoque and Yoshihito in 2009,⁴⁴ microcredit to some extent contributes to the generation of economic activities and participation in family decision making for rural women. However, the need for assessing the role of microcredit in empowering women in rural Bangladesh in recent times has not been exhausted. Hence, this study has considered whether the microcredit programme had any role in empowering women.

The rest of the paper is organized in the following sequence. Section two will justify the problem followed by a literature review and objectives of the research in the third section. The fourth section will cover the sampling, data, variables and empirical model of the study. The fifth section will outline the empirical results. Model estimates and discussion will be demonstrated in section six. Finally, section seven will incorporate conclusion and policy implications.

2. Literature Review

Ruhul Amin and Stan Becker⁴⁵ in 1998 analyzed the relationship between women's empowerment and microcredit programmes promoted by NGOs in rural Bangladesh by utilizing both quantitative and qualitative data and covered both loanees and non-loaneees. Mean age of loanees was 33 while that of the non-loaneees was 26. The study broke down empowerment into three components and separate indices were used for each of these components. The quantitative results demonstrate a positive association between NGO memberships and women's empowerment.

⁴⁴ Mahmuda Hoque and Yoshihito Itoharu, "Women Empowerment through Participation in Micro-Credit Programme: A Case Study from Bangladesh", *Journal of Social Sciences*, Vol. 5, No. 3, 2009, pp. 244-250.

⁴⁵ Ruhul Amin and Stan Becker, "NGO-promoted Microcredit Programs and Women's Empowerment in Rural Bangladesh: Quantitative and Qualitative Evidence", *The Journal of Developing Areas*, Vol. 32, No. 2, 1998, pp. 221-236.

Zaman⁴⁶ in 1999 examined the role of microcredit on reducing poverty and vulnerability using data from 1072 households of microcredit borrowers of BRAC, one of the largest NGOs in the world. This study concludes that being a borrower or member of microcredit programmes could mitigate vulnerability through various pathways and empowerment of women is one of these critical pathways.

The study also suggests that microcredit programmes could work best in enhancing empowerment of women particularly in the areas of asset management and knowledge sharing on social issues. How does microcredit affect women's empowerment? A large number of studies were conducted to answer this question and most of these studies were conducted in Bangladesh because this is the country where Grameen Bank first started microcredit schemes in the late 1970s. The main objective of this initiative is to provide credit to the poor without guarantee, to alleviate poverty and to unleash human creativity and the pursuit of the poor.⁴⁷

Mark M. Pitt, Shahidur R. Khandker and Jennifer Cartwright⁴⁸ in 2006 conducted a special survey of households in rural Bangladesh in 1998-99 to explore the impact of participation in group-based microcredit programmes with women's empowerment measured across the dimensions of household decision making, access to financial and economic resources, social networks, mobility and bargaining power. Results of this study indicate that the participation of rural women in microcredit programmes can contribute to strengthening their empowerment levels. The study also indicates that microcredit led empowerment of women occurs more in the areas of access to and control of assets, decision making in household affairs and social networking.

Suguna⁴⁹ in 2006 asserts that women's economic empowerment is closely associated with women's development and the latter is unattainable without the former. The researcher states that economic empowerment is the primary aspect of women's development. Microcredit can strongly contribute to leading women to economic empowerment, which is measured in terms of greater access to financial resources within and outside the family. Economic empowerment also reduces the vulnerability of women in the face of various crisis situations. The author also strongly recommends that women's participation in self-help groups can significantly facilitate the attainment of empowerment.

⁴⁶ Hassan Zaman, *Assessing the Impact of Micro-credit on Poverty and Vulnerability in Bangladesh*, Washington, DC: The World Bank, July 1999.

⁴⁷ David Hulme and Paul Mosley, *Finance against Poverty*, Vol. 1, No. 2, London: Routledge, 1996.

⁴⁸ Mark M. Pitt, Shahidur R. Khandker and Jennifer Cartwright, "Empowering women with micro finance: Evidence from Bangladesh", *Economic Development and Cultural Change*, Vol. 54, No. 4, 2006, pp. 791-831.

⁴⁹ B. Suguna, *Empowerment of Rural Women through Self-Help Groups*, New Delhi: Discovery Publishing House, 2006.

Gender sensitivity, along with the income sensitivity of borrowers was also examined with respect to the impact of microcredit programmes in Bangladesh.⁵⁰ The study selected borrowers of Grameen Bank and BRAC which cover almost the entire country and structured questionnaires were used to collect data. The results show a favourable sign of impact, but it also finds that the higher income borrowers are more benefitted by microcredit programmes. Interestingly, the microcredit programme staffs also consider high-income borrowers as more creditworthy.⁵¹

Tasqurun Nessa, Jamal Ali and Roslan Abdul-Hakim⁵² in 2012 used regression analysis with microcredit as a predictor of women's empowerment along with several dimensions that include ownership of property, political and social awareness, household decision making, economic decision making and freedom of movement. The study used a sample of 600 poor women in rural Bangladesh and the results show that each dimension and aggregate measures of empowerment can be significantly explained by the participation in microcredit programme.

Hossain, Islam and Majumder⁵³ in 2016 used logistics regression and multinomial regression analysis for assessing the association of microcredit with women's empowerment. In this study, single-level logistics regression confirmed the relationship between microcredit and empowerment while multinomial regression yielded negative results. The paper suggests further research investigating the association between these two variables by breaking down empowerment into different components.

Jesmin Akhter, Cheng Kun and Oisitanwosu Chukwunonso,⁵⁴ in 2018, studied borrowers and non-borrowers and showed a positive relationship between microcredit and empowerment particularly in the areas of self-esteem, business skills, confidence level, etc. Another study by Nahar, Haque, Yeasmin and Zaman,⁵⁵

⁵⁰ Sayma Rahman, Rafiqul Bhuyan Rafiq and Mohammad A. Momen, "Impact of microcredit Programs on Higher Income Borrowers: Evidence from Bangladesh", *International Business & Economics Research Journal (IBER)*, Vol. 8, No. 2, 2009.

⁵¹ Don Jr. Johnston and Jonathan Morduch, "The Unbanked: Evidence from Indonesia", *The World Bank Economic Review*, Vol. 22, No. 3, 2008, pp. 517-537.

⁵² Tasqurun Nessa, Jamal Ali and Roslan Abdul-Hakim, "The Impact of Microcredit Program on Women Empowerment: Evidence from Bangladesh", *OIDA International Journal of Sustainable Development*, Vol. 3, No. 9, 2012, pp. 11-20.

⁵³ D. Hossain, M. A. Islam and S. Majumder, "Influences of Micro-Credit Programmes on Women Empowerment in Bangladesh", *Journal of the Bangladesh Agricultural University*, Vol. 14, No. 1, 2016, pp. 93-100.

⁵⁴ Jesmin Akhter, Cheng Kun and Oisitanwosu Chukwunonso, "The Impact of Microcredit on Women's Empowerment- A Case Study", *International Journal of Business, Social and Scientific Research*, Vol. 6, No. 4, 2018, pp. 18-23.

⁵⁵ K. Nahar, S. Haque, F. Yeasmin and N. Zaman. "Impact of Microcredit on Women Empowerment in Ishwarganj Upazila of Mymensingh District in Bangladesh", *Progressive Agriculture*, Vol. 30, No. 1, 2019, pp. 86-94.

in 2019, examined empowerment on five dimensions: decision making role with respect to input and method of production, ownership of assets, independence in using income generated with microcredit, leadership role on economic and social networks and independence in using own time. The study finds that microcredit helps attain empowerment on all these dimensions but have recommended the use of many more studies in order to strengthen a conclusion.

Farha Nawaz⁵⁶ in 2019 published the results from an examination of the effects of policies and practices of microcredit on the empowerment of women in Bangladesh. This study argues that although microcredit can contribute to empowerment but not alone. In order to contribute to women's empowerment, microcredit needed to be paired with literacy, healthcare, social mobilization and legal support. This study also criticizes focus on women's economic empowerment through their ability to access financial resources only.

Almost all the previous studies have measured women empowerment over various dimensions and collected data mainly through a Likert scale. This study also attempted to measure empowerment over several dimensions, namely, economic decision, household decision, freedom about own movement, ownership of property and participation on social and political issues. However, instead of the Likert scale, this study employed the use of proportion (how many times out of ten times) of activities as a measure of empowerment. The idea behind this choice was the belief that measurement would be more accurate if respondents were asked to measure the number of times of their participation in empowerment related area out of ten times, instead of them being asked whether their participation had been high, medium or low.

3. Empirical Method

This study is based on primary data. Primary data were collected from the rural area of Kaliganj Upazilla in Gazipur district. A total of 128 rural women were surveyed for the study. Among them, 64 women were borrowers of microcredit loan and the rest 64 women were non-borrowers of microcredit loan. Snowball sampling technique was used to select respondents. After collecting all the data, the multiple linear regression model was developed to examine the hypotheses.

⁵⁶ Faraha Nawaz, *Microfinance and Women's Empowerment in Bangladesh: Unpacking the Untold Narratives*, Cham, Switzerland: Springer, 2019.

3.1 Variables Construction

The study considers aggregate women empowerment score as the dependent variable while considering age, level of education, employment status, total income and the natural logarithm of microcredit as the independent variables.

Most research conducted earlier in this field measured empowerment either as a single numerical score or as a binary variable while this paper measures degree of empowerment over a scale of 1 to 10. The current study calculated aggregate women empowerment score by averaging the scores of a respondent on five different dimensions of women empowerment, including a number of times out of 10 times family's economic decision taken by her, household decisions made by her, freedom in movements enjoyed by her, family property owned by her and social and political events participated by her. Out of the five independent variables, age, level of education, employment status and total income have been incorporated in the study as demographic factors and microcredit loan amount as microcredit factor.

Measures of all the variables and their individual expected impact on women empowerment have been illustrated in the following Table 1:

Table 1: Variables' definitions and their expected impacts

Variable	Notation	Measurement	Expected Impact
Aggregate Women Empowerment Score	AWEP	Average of a respondent's participation in the economic decision, household decision, freedom in movement, the share of family property and participation in social and political events (Score 1 to 10).	
Age	AGE	The current age of a respondent in years	+/-
Level of Education	LEDU	Primary education = 1, Secondary education = 2 and Higher secondary education = 3	+
Employment Status	EMPLYS	Unemployment = 0 and Employment = 1	+
Total Income	TI	Monthly income of the respondent's family	+
Amount of Micro-credit	LNMC	Natural Logarithm of a respondent's outstanding amount of microcredit	+

Table 2 demonstrates some descriptive statistics of the selected variables, which could be critical for the empirical study.

Table 2: Descriptive Statistics for Borrowers

Variable	Mean	Std. Dev.	Min	Max
AWEP	3.44	0.95	0.40	5.20
AGE	26.92	5.77	18.00	40.00
LEDU	1.64	0.57	1.00	3.00
EMPLYS	0.23	0.43	0.00	1.00
TI	5,000	1704	3,000	10,000
MC	19,500	5,122	12,000	35,000

From the above table, it is visible that the borrowers show an average AWEP of 3.44 out of 10 with a standard deviation of 0.95. Besides, AWEP demonstrates a maximum value of 5.20, meaning that some borrowers could exercise empowerment in about half of the relevant decision-making activities. The average age of the respondents is 26.92 with a standard deviation of 5.77, representing a young group of people. According to the average level of education, respondents typically pursue primary education while a small number of them have taken higher secondary education. Majority of the respondents are unemployed which is supported by the average EMLYS of 0.43. The above table shows average values of TI which is 5,409 with a standard deviation of 1,579, meaning that a typical respondent’s family monthly earns BDT 5,000. Finally, the average outstanding value of MC denotes BDT 19,500 with a standard deviation of BDT 5,122.

Table 3: Descriptive Statistics for Non-Borrowers

Variable	Mean	Std. Dev.	Min	Max
AWEP	2.21	0.70	0.60	3.60
AGE	25.54	4.84	15.00	35.00
LEDU	1.60	0.52	1.00	3.00
EMPLYS	0.17	0.38	0.00	1.00
TI	5,824	1331	3,500	9,000
MC	0.00	0.00	0.00	0.00

The above Table 3 demonstrates the same descriptive statistics for Non-borrowers. It can be seen that non-borrowers end up with an average AWEP of 2.21 which is lower than that of borrowers. The maximum value of AWEP for non-borrowers is 3.60 which is lower than an AWEP value of 5.20 for borrowers. The average age of non-borrowers is 25.54 which is close to that of borrowers, meaning that two groups of respondents are of similar age group. Average LEDU is 1.60 for

non-borrowers which again make them similar to the borrowers LEDU for which is 1.64. Like borrowers, non-borrowers are mostly unemployed, but among the non-borrowers, the unemployment rate is higher as supported by the average EMPLYs of 0.17. Total monthly income of a typical non-borrower's family is BDT 5,824 which is close to that of a typical borrower. However, the average value of MC is 0, corroborating the status of non-borrowers. Given the descriptive statistics of borrowers and non-borrowers, it is clearly seen that among these two groups of respondents, borrowers came up with AWEP higher than that of the non-borrowers; while both groups demonstrating almost similar demographic characteristics.

3.2 Model Specification

The study uses cross-section data collected from 128 rural women living in Kaliganj Upazilla under Gazipur district. The following multiple regression model is employed to know the impact of explanatory variables on aggregate women empowerment score:

$$AWEP_i = \beta_0 + \beta_1 AGE_i + \beta_2 LEDU_i + \beta_3 EMPLYs_i + \beta_4 TI_i + \beta_5 LNMC_i + e_i$$

Carter, Griffiths and Lim⁵⁷ in 2011 argue that OLS method provides unbiased estimates if the following rigid assumptions remain reasonable:

Firstly, $E(e) = 0$, meaning that each random error will be scattered in such a pattern resulting in a zero mean. Secondly, $Var(e) = \sigma^2$, indicating that each random error will have equal variance requiring homoscedasticity of the error terms. Thirdly, $Cov(e_i, e_j) = 0$, referring to the absence of correlation between error terms of two separate observations. Fourthly, $e \sim N(0, \sigma^2)$, depicting the normal distribution of error terms.

The following statistical tests have been conducted to confirm the validity of OLS assumptions. To detect multicollinearity among the independent variables, the researchers have presented Pearson-Product Moment Correlation matrix of the regressors along with TOL and VIF values in Table 4.

⁵⁷ R. C. Hill, William E. Griffiths and Guya C. Lim, *Principles of Econometrics*, (4th ed.), River Street, New Jersey: John Wiley & Sons, 2011, pp. 172-173.

Table 4: Pearson’s Product-Moment Correlation Matrix

Correlation Matrix						Collinearity Statistics	
	AGE	LEDU	EMPLYS	TI	LNMC	TOL	VIF
AGE	1					0.970	1.033
LEDU	-0.034	1				0.955	1.045
EM-PLYS	-0.055	0.208**	1			0.884	1.13
TI	-0.125	0.019	0.239**	1		0.866	1.15
LNMC	0.133	0.037	0.072	-0.246***	1	0.909	1.10
Average						0.916	1.09
Note: ** denotes significance at 5% level whereas *** indicates significance at 1% level							

From Table 4, it can be seen that all the pair-wise correlations are much lower than 0.80, representing the absence of serious multicollinearity.⁵⁸ Moreover, all the Variance Inflating Factors (VIF) have values which are much lower than 10 and the corresponding Tolerance (TOL) values are much higher than 0.10. VIF and TOL statistics confirm that multicollinearity problems would not be that much serious in this study.⁵⁹

It is customary to check whether cross-sectional data collected by a study encounters heteroscedasticity problem. However, the present study collected data from individuals of a specific geographic area about their empowerment and some demographic characteristics. As the respondents do not vary that much in terms of characteristics incorporated in the study, the data set collected from them are less likely to demonstrate heteroscedasticity problem. The researchers have conducted Breusch-Pagan test to detect the heteroscedasticity in the error terms.

Table 5: Results of the Breusch-Pagan Test of Heteroscedasticity

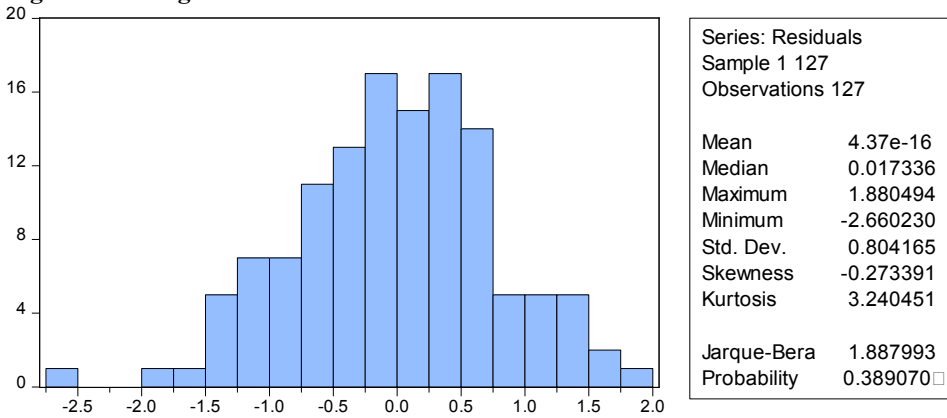
Null Hypothesis	Homoscedasticity present in the data
Test Statistics	χ^2 (Prob. > χ^2)
Results	0.87 (0.3512)

From the above Table 5, it can be seen that the results of the Breusch-Pagan test suggest acceptance of the null hypothesis, meaning that data are homoscedastic.

⁵⁸ M. S. Lewis-Beck, *Applied Regression: An Introduction*, Newbury Park, CA: Sage Publications Inc., 1980.
⁵⁹ Joseph F. Hair, Rolph E. Anderson, Ronald L. Tatham and William C. Black, *Multivariate Data Analysis*, (7th ed.), Upper Saddle River, New Jersey: Prentice Hall, 2010.

To get unbiased estimates of the regressors' coefficients, error terms must demonstrate a normal distribution. Therefore, the researchers have drawn histogram with the residual values and also presented some statistics associated with the normal distribution. From Figure 1, it can be seen that skewness is -0.27 which is very close to 0. In addition, the kurtosis is 3.24 near to 3, indicating the approximate normal distribution of the residuals. Normality of residuals is further confirmed by the acceptance of the null hypothesis of the Jarque-Bera test, which is a widely accepted test for normality.

Figure 1: Histogram of residuals with some statistics of normal distribution



4. Empirical Results

Two-samples t -test is conducted to know whether two groups of individuals have statistically significant different mean values.⁶⁰ The researchers have run this test to confirm different mean values of borrowers and non-borrowers across five different dimensions of women empowerment.

Table 6 summarizes the results of two- samples t -test.

⁶⁰ David M. Levine, Timothy C. Krehbiel, Mark L. Brenson and P. K. Biswanathan, *Business Statistics: A First Course*, (5th ed.), New Delhi: Dorling Kindersley (Pvt) Ltd., 2011.

Table 6: Two-Samples T-test across Individual Dimensions of Women Empowerment

Null Hypotheses	Borrowers and Non-borrowers have equal mean in Family’s Economic Decision	Borrowers and Non-borrowers have equal mean in Family’s Household Decision	Borrowers and Non-borrowers have equal mean in Freedom in Movement	Borrowers and Non-borrowers have equal mean in Family Property Ownership	Borrowers and Non-borrowers have equal mean in Participation of Political and Social Issues
Test Statistics	$T (Prob.>T)$	$T (Prob.>T)$	$T (Prob.>T)$	$T (Prob.>T)$	$T (Prob.>T)$
Results	4.19*** (0.000)	3*** (0.003)	2.59** (0.011)	1.43 (0.154)	6.35*** (0.000)

From the above Table 6, it can be observed that those null hypotheses of no difference between mean values of borrowers and non-borrowers across four separate dimensions of women empowerment are rejected, meaning that borrowers have different mean scores on women empowerment than that of non-borrowers. However, the mean score of family property ownership is not statistically different between borrowers and non-borrowers.

The researchers also ran two-samples *t*-test and ANOVA test for overall empowerment scores between borrowers and non-borrowers. All the test results have been summarized in the following Table 7.

Table 7: Two-Sample T-test and ANOVA Test for Overall Empowerment

Null Hypotheses	Borrowers and Non-borrowers have equal mean in Overall Empowerment	Borrowers and Non-borrowers have equal mean in Overall Empowerment
Test Statistics	$T (Prob.>T)$	$F (Prob.>F)$
Results	8.30*** (0.000)	68.52*** (0.000)

Both tests suggest that borrowers and non-borrowers have different means of overall empowerment, which is statistically significant.

The following Table 8 illustrates coefficient estimates of the explanatory variables using OLS estimator.

Table 8: Estimates of the Regression Coefficients

Dependent Variable: AWEP				$F(5, 121) = 15.95$ $Prob > F = 0.000$
Variables	Coef.	Std. Err.	t	$P > t $
AGE	0.02129	0.01385	1.54	0.127
LEDU	-0.22401	0.13650	-1.64	0.103
EMPLYS	-0.04501	0.19191	-0.23	0.815
TI	0.00008*	0.00005	1.68	0.096
LNMC	0.13003***	0.01550	8.39	0.000
_CONS	1.5553	0.53429	2.91	0.004
$R - squared :$ 0.3972 $Adj.R - squared :$ 0.3723				Root MSE = 0.8206
Note: *and *** denote significance at 10% and 1% level respectively				

Table 8 indicates the rejection of the null hypothesis under F -test, supporting the overall significance of the regression model. The results of the model estimate also demonstrate an R -square value of 39.72 per cent, suggesting that the explanatory variables could jointly interpret 39.72 per cent of the variability in AWEP. According to Hair et al.,⁶¹ the minimum R -square that can be found statistically significant with a power (probability) of .80, for a sample size of 100 and 5 independent variables, is 16 per cent or .16 at 0.01 significance level. As for this model R -square is .3972, it, therefore, can be said that this model is statistically significant with a power of 0.80.

From the above table, it can be observed that LNMC has a positive impact on AWEP and the association between these two variables is statistically significant, meaning that microcredit could enhance women empowerment. This association also matches our prior expectation that microcredit could positively influence women's participation in different decision making. The finding is in line with several previous studies conducted on women empowerment.⁶² One of the plausible reasons behind this positive association could be the opportunity that availing microcredit provides to rural women in getting engaged in earning

⁶¹ Joseph F. Hair, Rolph E. Anderson, Ronald L. Tatham and William C. Black, op. cit.

⁶² Hassan Zaman, op. cit.; K. Nahar, S. Haque, F. Yeasmin and N. Zaman, op. cit.; Mahmuda Hoque and Yoshihito Itohara, op. cit.; Sara Noreen, op. cit.

generating activities which in turn compel them to exercise decision making. Rural women could also reduce their dependencies on their husbands as they are able to earn money by investing the amounts they receive in the form of microcredit. This ability to earn money might result in more participation of rural women in different household decisions. The unique characteristic of low interest and small loan amounts make microcredit a convenient mode of financing the money-generating activities of rural women, thereby empowering them in making their family decisions.

There is a growing debate about whether microcredit actually contributes to a higher level of women empowerment. Although women receive loans from MFIs, they, especially the married women, do not typically have any control regarding the management of that loans. All the decisions on how to utilize the loans are typically taken by the husbands, which literally makes the women less empowered.⁶³ Out of the four demographic variables incorporated in the study, TI appears to be positively associated with AWEP, indicating that rural women in higher-income families could enjoy more empowerment than those in lower-income families. This finding is in line with that of a previous study, affirming the positive association of TI with AWEP.⁶⁴ One of the underlying reasons could be relatively higher access of women, in higher-income families, to education, media and different information sources.

The study does not find any statistically significant association of AGE, LEDU and EMPLOY with AWEP, meaning that empowerment is not significantly influenced by respondents' age, level of education and employment status. The previous study confirmed that AGE of a woman could be associated with higher levels of empowerment when she gets into a specific stage of her life-cycle such as mother-in-law.⁶⁵ Our study incorporated female respondents aged from 15 to 35, corroborating the evidence that they are not in the decision-making stage. Moreover, AGE itself could not impact women empowerment if not backed by the quality of education and other relevant factors such as access to information which could increase knowledge level. Respondents' level of education is expected to be positively associated with women empowerment only if the quality of education is ensured. A study

⁶³ Anne Marie Goetz and Rina Sen Gupta, "Who Takes the Credit? Gender, Power, and Control over Loan Use in Rural Credit Programs in Bangladesh", *World Development*, Vol 24, No. 1, 1996, pp. 45-63.

⁶⁴ Mosiur Rahman, Uzzal K. Karmaker and Abdur R. Mia, "Determinants of Women Empowerment at Domestic and Non-domestic Issues: Evidence from Chapai Nawabganj District in Bangladesh", *Dhulagiri Journal of Sociology and Anthropology*, Vol. 3, 2009, pp. 143-162.

⁶⁵ Muhammad Sayeedul Haque, Rexona Akter and Khaled Laoubi, "Effectiveness of Community Based Organization (CBO) Microcredit Programme of Concern Worldwide: A Case Study of Bangladesh", *African Journal of Business Management*, Vol. 5, No. 24, 2011, p. 10101.

conducted in 2002 indicates that women could learn more effectively different issues such as domestic violence and reproductive health, participating in the courtyard meetings arranged by NGOs rather than receiving formal education from different institutions.⁶⁶

Only a primary level of formal education is prerequisite for the aforementioned non-formal learnings, which ultimately could enhance their level of empowerment. However, the opposite view is confirmed by another study, indicating a positive association between LEDU and AWEF.⁶⁷ The study posits that formal education could improve the cognitive ability of women, thereby helping them access to more information relevant to their decision making. Rural women are not likely to access quality education, which could be a plausible reason for this study to get no positive and significant association between LEDU and AWEF.⁶⁸ When women are engaged in any paid job, they could significantly participate in the decision making of their families.⁶⁹ As most of the rural women are not engaged in full-time jobs and that is why employment status might not impact women empowerment as well.

5. Conclusion

This study examines the impact of microcredit programmes on women empowerment by collecting data from 128 women of Gazipur district. The findings suggest that microcredit has a positive impact on women empowerment. In addition, the study also reveals that borrowers have statistically significant empowerment level than that of non-borrowers. Specifically, microcredit borrowers enjoy considerably higher levels of empowerment with respect to participation in economic decision making and participation in social and political activities. All the demographic characteristics except total income were found insignificant in explaining women empowerment. This is an area which can be re-examined in

⁶⁶ Nelly P. Stromquist, *Education in a Globalized World: The Connectivity of Economic Power, Technology, and Knowledge*, Lanham, Maryland: Rowman & Littlefield, 2002.

⁶⁷ Naila Kabeer, "Gender Equality and Women's Empowerment: A Critical Analysis of the Third Millennium Development Goal 1", *Gender & Development*, Vol. 13, No. 1, 2005, pp. 13-24.

⁶⁸ Shanika Samarakoon and Rasyad A. Parinduri, "Does Education Empower Women? Evidence from Indonesia", *World Development*, Vol. 66, 2015, pp. 428-442; Sara Hlupekile Longwe, "Education for Women's Empowerment or Schooling for Women's Subordination?", *Gender & Development*, Vol. 6, No. 2, 1998, pp. 19-26.

⁶⁹ Naila Kabeer, op. cit.

future with a larger sample. The study did not find evidence that demographic characteristics play much important role in explaining women empowerment in the context of rural areas. However, based on the finding that microcredit loans and specifically, higher microcredit loan amounts are strongly associated with higher levels of empowerment, this paper strongly recommends considering microcredit for rural women as an effective tool for supporting and enhancing empowerment of women in rural areas.