




PERFORMANCE EVALUATION AND IMPACT OF GRAMEEN BANK ON SOCIAL DEVELOPMENT AND WOMEN EMPOWERMENT IN BANGLADESH



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ABSTRACT

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Bangladesh is one of the fastest growing economies in Asia. However, it is still a developing country which is trapped in the vicious cycle of poverty. Nobel Laureate Professor Muhammad Yunus introduced the concept of Grameen Bank which focuses on providing small loans to poor people especially women in the rural areas of Bangladesh. Due to the huge success of Grameen Bank more micro finance institutions are replicating this model and hence more poor people are relying on this kind of projects. Therefore, it is important to know how sustainable Grameen Bank is and its true impact on social development and women empowerment. We have tried to assess the performance of Grameen Bank through different variables such as number of members, total deposits, loan to deposit ratio, capital adequacy ratio, scholarship schemes, beggars' loan, house loan, micro enterprise loan, net income etc. For evaluating the performance of Grameen Bank 26 different trend equations and square of correlation coefficients have been tested with its different types of activities. The square of the correlation coefficient has also been calculated for all trend equations, out of which 21 shows r^2 is closer or more than 0.5 meaning well fitted trend lines. With the positive trend equations in most of the aspects this study proves that Grameen Bank has a better scope to grow in the future which will support the social and economic status of rural poor, particularly women.

Contribution/ Originality: This study is one of very few studies which have investigated to add value to the microfinance literature, women empowerment and social development from the perspective of Grameen Bank, Bangladesh by showing its overall impact and sustainability in Bangladesh.

1. INTRODUCTION

Rising levels of poverty is one of the main concerns for developing countries like Bangladesh. This is because it creates a poverty trap which in turn negatively impacts other socioeconomic factors. In 2018, Bangladesh met the criteria to graduate from least developed country to developing country. It is one of the fastest growing economies in Asia achieving 7.9% real GDP annual growth in 2018. However, Bangladesh consists of a vast population living

in rural areas where they encounter severe poverty due to unemployment, particularly caused by widespread illiteracy. Another challenge of such a population is gender inequality which tends to pull back the economy as a whole. Therefore, it is important to nurture the rural population to improve the overall economy. According to [Morduch \(1999\)](#) microfinance spread rapidly around the world as only few other measures promise to fight poverty so efficiently. [Shukran and Rahman \(2011\)](#) explained microcredit as a means of developing poor people standard of living by giving them small loans. [Cautero \(2019\)](#) claims proper utilization of micro finance can be used as a fundamental instrument for poverty alleviation. The success of microcredit in rural development and women empowerment came into limelight when Professor Muhammad Yunus & the Grameen Bank (GB) were jointly awarded with Nobel Peace Prize in 2006. Grameen Bank of Bangladesh is a non-profit organization which focuses on alleviating the poor. Grameen Bank mainly provides small loans to impoverished people without taking any collateral at a low interest rate. Grameen Bank also gives medium to large loans for its dynamic members. On the other hand, it also puts its step in the education sector by providing scholarship to the children of the members. The main objective of Grameen Bank is to bring a prime change in social and economic status of rural poor mainly women. [Yunus \(2004\)](#) believes that “credit is human right”. Grameen Bank provides loan to the poor to create self-employment and increase their livelihood status. In this paper we discuss the different activities of Grameen Bank as well as the role of the bank in social development and women empowerment in rural areas of Bangladesh. The paper also shows the financial scenario of Grameen Bank from 2006 to 2018 and analyses its trend and future prospects.

2. LITERATURE REVIEW

Women empowerment can be defined as a multidimensional concept. [Khan and Noreen \(2012\)](#) use a five-factor model of empowerment which includes child health, education, selection of spouse of children, purchase of basic goods, and decision of household savings. According to [Weber and Ahmad \(2014\)](#) empowerment can be seen from two different perspectives which are social and financial empowerment. [Pitt, Khandker, and Cartwright \(2003\)](#) found participation in microcredit programs helped women to have greater ability to obtain financial and economic resources, a major role in household decision making, family planning and higher freedom of mobility in Bangladesh. [Sanyal \(2009\)](#) found that microfinance had a positive impact on women’s capital and normative influence, easing women’s mutual empowerment. Similarly, [Hasan, Shetu, Chakraborty, and Khan \(2019\)](#) shows the impact of microfinance loans on women empowerment in Bangladesh by conducting a survey in the Tangail regions. It shows that microfinance programs have a positive impact on empowering rural women in Bangladesh. Women decision making right, ownership of assets and free mobility has increased significantly after getting involved with microfinance institutions. According to [Ahmed, Siwar, Idris, and Begum \(2011\)](#) Grameen Bank positively increase social and economic status of rural women and increase their standard of living. [Kabeer \(2001\)](#) who interviewed people from two districts in Bangladesh found that women who received micro finance loan had higher self-confidence and contributed more in the household income. The household survey done by [Khandker \(1996\)](#) shows Grameen Bank helps to alleviate poverty and empower women.

Professor Yunus in his speech to the Nobel Prize committee stated that “Eradicating poverty through an alternative approach to capitalism” is the reason behind the occurrence of microfinance. [Shahriar \(2012\)](#) found that compared to financially well-off families poorhouseholds benefit more from microfinance loans. Using panel data, [Khandker. \(2005\)](#) concludes that microfinance contributes to poverty reduction. According to [Waheed \(2009\)](#) the most prominent use of microcredit for borrowers is the increase in their asset and income which results in improved education, health and self-esteem. [Rosenberg \(2010\)](#) shows access to savings helps poor to get out of poverty and access to loan helps to smoothen the consumption process. According to [Rahman and Ahmad \(2010\)](#) household income, productivity of crops and livestock, expenditure, and employment had increased significantly due to money invested by microfinance institutions in Bangladesh. [Scott, Dolan, Johnstone–Louis, Sugden, and Wu \(2012\)](#) and

Jennings and Brush (2013) found that entrepreneurial activity of women can lead to improved family dynamics and standard of living. According to Mamun (2013) there is a positive impact of microcredit on social development. With schemes like beggars' program, village phones, housing for poor and children scholarship Grameen Bank has successfully impacted the lives of unprivileged people. To help social development and increase women empowerment, it is very crucial for microfinance institutions to maintain earnings stability. According to Robinson (2001) the approach adopted by the financial system aims at institutional self-reliance. She believes that for financial institutions to be sustainable they should seek financial independence and gain profit, by implementing interest rates that can provide sufficient margin. Mersland and Strøm (2010) shows the relationship between small loans and high operating costs however they believe the operating cost will reduce overtime with regular customer dealings. Different studies have been done showing diverse impacts of Grameen Bank on the society. This study will focus on an overall impact of microfinance loan on the society with performance evaluation of Grameen Bank.

3. OBJECTIVES OF THE STUDY

Academic researchers have evidence on how microfinance increases women empowerment and social development but have very limited evidence on how sustainable these micro finance institutions are. To our knowledge, no research looks at the above mentioned three factors at one platform. Therefore, this study takes an effort to add value to the microfinance literature from the perspective of Grameen Bank, Bangladesh by showing its overall impact and sustainability in Bangladesh. The specific objectives of the study are as follows:

- i. To apprise the principal activities of Grameen Bank.
- ii. To examine the role of Grameen Bank in women empowerment and social development.
- iii. To apprise the financial performance of Grameen Bank.

To achieve the above-mentioned objectives the following hypothesis has been formulated:

Hypothesis: In Bangladesh, microfinance by Grameen Bank has a positive impact on women's capital & normative influence, easing women's mutual empowerment, social & economic development as well as overall development of the country.

4. SCOPE AND METHODOLOGY OF THE STUDY

The present study has been carried out to evaluate the performance of Grameen Bank, Bangladesh. The analysis has been conducted mainly on data from secondary sources. The relevant data and information were collected from Annual Report of Grameen Bank. Relevant articles and literature have also been consulted. In this paper, we have analyzed thirteen years (2006-2018) data of Grameen Bank. We have tried to assess the performance of Grameen Bank through the measurements of variables such as number of branches, number of employees, total deposits, investments, loan to deposit ratio, total assets, net income etc. For evaluating the performance of Grameen Bank, data has been analyzed through the various statistical measures like growth percentage, trend equation, square of correlation coefficient etc.

The present paper is organized in the following manner. Section one gives an introduction of the study. Section two presents the literature survey. Section three details the objectives, section four details the scope & methodology of the study. Section five gives an overview of the Grameen Bank of Bangladesh. Performance of the Grameen Bank of Bangladesh has appraised in section six. Finally, section seven provides the conclusion and findings of the study.

4.1. Historical Overview of Grameen Bank

In 1976, Muhammad Yunus and his colleagues from Chittagong University, Bangladesh initiated an experiment in villages near the Chittagong University campus, one of which was Jobra village. The first Grameen Bank project began with 42 people who wanted to avoid loan with astronomically high interest rate. So, the first loan issued by Yunus was \$27 to these 42 people. Although the total amount of loan required by the rural poor were

very low still the banks were not willing to provide them as they thought that the poor people were not creditworthy. Thus, Yunus offered to be the guarantor and to his surprise the experiment was successful as all the borrows repaid the loan convincing him to proceed further and emerge a new industry named microcredit.

With his success story he went to traditional banks in Bangladesh to provide poor people with uncollateralized loans. However, the banks refused saying that it would result in bad debt and the earnings from the loans are too low to cover their cost. Professor Yunus took this as a challenge and created his own institution named Grameen Bank which derives from a Bengali word 'gram' meaning rural. In 1983, Grameen Bank emerged as a formal financial institution when government passed legislation for Grameen Bank to take deposits.

Now, Grameen Bank is not only serving the rural community but also flourishing financially with a profit of BDT 3.49 billion in 2018 shown in [Table 13](#) which will help the firm to increase its operation in future. Grameen Bank is working with 9,084,503 members out of which 96.7% are women shown in [Table 2](#).

In a developing country like Bangladesh, women are considered to do household work and are restricted to mobility. According to [Rouf \(2012\)](#) Grameen Bank helped its members to take actively part in the society. Grameen Bank has more than 96% women members shown in [Table 2](#) who are taking micro credit loan indicating Grameen Bank's constant effort in promoting women empowerment.

Vision of Grameen Bank is – “Banking for the poor” and the Mission is – “Providing comprehensive financial services, empowering the poor to realize their potential and break out of the vicious cycle of poverty”

4.2. Principal Activities of Grameen Bank

The main objective of Grameen Bank is to get poor people specially women out of poverty by making them independent. It also aims to reduce the exploitation of money lenders who charge high interest rate. Therefore, Grameen Bank provides collateral free loan with low interest rate unlike the traditional money lenders. According to [Rahman. \(1993\)](#) Grameen Bank focuses on the reversal of vicious cycle of “low income, low saving, low investment, low income” to “low income, credit, investment, more income, more credit, more investment, and more income”.

Grameen Bank mainly provides micro credit loan to its members. However, there are other programmes introduced by the Bank which benefit the rural people in different ways.

Struggling members(beggars) programme – Grameen Bank provides interest free loans to beggars. The Bank does not ask them to give up on begging but encourages them to take part in small business activities.

Village phone program- During 1997, with the help of Grameenphone, Grameen Bank took the initiative to keep the women of rural areas updated by providing them with phones. The members of this program were known as 'Village Phone Ladies'. This facilitated them to get information about market and other services. Additionally, they used it as commercial pay phone and sell the villagers airtime which became one of the prime income sources of these village phones ladies known as Flexi load programme.

House loan- House ownership is linked to higher self-esteem and social status. To boost this Grameen Bank provides simple tin roof house loans with a low interest rate.

Children Scholarship –Grameen Bank not only provides scholarship for school education but also for higher education to talented children of its members. In 2018, 59.7% scholarship was provided to female students encouraging women literacy shown in [Table 20](#).

Due to the popularity of Grameen Bank, other microfinance institutions are replicating the idea which is making people dependent on models like this. Therefore, it is crucial to know how this Bank is performing and if it will be able to hold its success in future.

5. PERFORMANCE OF GRAMEEN BANK

We have tried to assess the performance of Grameen Bank through different variables such as number of branches, number of members, total deposits, loan disbursement, loan to deposit ratio, capital adequacy ratio, scholarship schemes beggars' loan, house loan, micro enterprise loan, net income etc. For evaluating the performance of Grameen Bank in Bangladesh, data has been analyzed through the various statistical measures like growth percentage, trend equation, square of correlation coefficient etc.

5.1. Growth of Branches of Grameen Bank in Bangladesh

Table 1 shows the number of branches operated by Grameen Bank. From 2006 to 2014, the number has increased from previous year except in 2011 and 2013. However, from 2014 Grameen Bank appears to maintain a constant number of branches. The highest rate of growth of branch expansion i.e., 6.99% was in 2007. The trend equation ($Y = 11.379X - 20356$) shows a positive trend and r square of 0.3966 indicates that the goodness of fit of the equation is very low.

Table-1. Number of Branches.

Year	No. of Branches	Growth
2006	2319	-
2007	2481	6.99%
2008	2539	2.34%
2009	2562	0.91%
2010	2565	0.12%
2011	2565	0.00%
2012	2567	0.08%
2013	2567	0.00%
2014	2568	0.04%
2015	2568	0.00%
2016	2568	0.00%
2017	2568	0.00%
2018	2,568	0.00%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.2. Growth of Number of Members of Grameen Bank in Bangladesh

Table 2 shows the number of members in Grameen Bank. It mainly contains three segments – total number of members, female members and male members. Over the years it can be seen that the total number of members of Grameen Bank has increased with more than 96% of the members being female and only 3-4% were male. This shows that Grameen Bank is dominated by female members. Moreover, it clearly reflects that Grameen Bank provides all sorts of activities mostly to females and focuses on women empowerment. Looking at the growth pattern, we can observe that female members are increasing every year. However, some fluctuations can be seen in the number of male members. The positive trend equations shown in Table 22 of all the three segments shows a bright future for Grameen Bank as the number of members might increase. Additionally, the r squares given in Table 22 implies a well fitted trend equation.

5.3. Growth of Total Deposit of Grameen Bank in Bangladesh

Table 3 shows the total deposit by members and non-members of Grameen Bank. From the table it can be seen that the deposits were increasing every year from 2006 to 2018. During 2006 to 2010 and in 2018 the deposits were growing at a higher rate compared to 2011-2017. During the period 2011-2015, the growth rate remained steady between 12%-14%. However, it increased in 2018 by 28%. Total deposit shows a positive trend equation ($Y =$

17222X -34514). R square of 0.9792 shows that the deviation of deposits during these 13 years werelow indicating a well fitted trend equation.

Table-2. Number of Members.

Year	Total No. of Members	Growth% of Total Members	Female Members	Percentage of Female Members	Growth% of Female Members	Male Members	Percentage of Male Members	Growth% of Male Members
2006	6908704	-	6680555	96.7%	-	228149	3.3%	-
2007	7411229	7.27%	7177516	96.8%	7.44%	233713	3.2%	2.44%
2008	7670203	3.49%	7431086	96.9%	3.53%	239117	3.1%	2.31%
2009	7970616	3.92%	7714854	96.8%	3.82%	255762	3.2%	6.96%
2010	8340623	4.64%	8039408	96.4%	4.21%	301215	3.6%	17.77%
2011	8370998	0.36%	8046561	96.1%	0.09%	324437	3.9%	7.71%
2012	8373893	0.03%	8054534	96.2%	0.10%	319359	3.8%	-1.57%
2013	8543977	2.03%	8220330	96.2%	2.06%	323647	3.8%	1.34%
2014	8640225	1.13%	8316986	96.3%	1.18%	323239	3.7%	-0.13%
2015	8806779	1.93%	8499007	96.5%	2.19%	307772	3.5%	-4.79%
2016	8901610	1.08%	8593877	96.5%	1.12%	307733	3.5%	-0.01%
2017	8934874	0.37%	8635961	96.7%	0.49%	298913	3.3%	-2.87%
2018	9084503	1.67%	8781372	96.7%	1.68%	303131	3.3%	1.41%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Table-3. Total Deposit (BDT in Million)

Year	Deposits	Growth%
2006	44274.47	-
2007	51918.71	17%
2008	64177.25	24%
2009	82953.62	29%
2010	104478.43	26%
2011	116875.33	12%
2012	131107.52	12%
2013	148353.68	13%
2014	169793.01	14%
2015	189529.84	12%
2016	199497.11	5%
2017	208022.41	4%
2018	266064.36	28%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.4. Growth of Total Loan Disbursement by Grameen Bank in Bangladesh

The growth pattern of total loan given by Grameen Bank is shown in Table 4. Over the years it can be seen that the disbursement of loan has increased with a maximum of BDT 246910.3 in 2018. However, the highest level of growth of 28% was in 2009. Although total loan disbursement was increasing but the growth rate dropped from 2010. It then again started recovering from 2015 however the growth rate dropped slightly to 5% in 2018. The trend equation ($Y = 15739X - 31540$) is positive indicating a good future prospect. Considering the r square (0.9276) we can tell that the goodness of fit of the trend equation is very high.

5.5. Growth of Loan to deposit ratio of Grameen Bank in Bangladesh

Table 5 shows the loan to deposit ratio. From the table it can be observed that there was an erratic behavior over the years. As per Central Bank rules the loan to deposit ratio should be 85%. But from 2006 to 2012 and 2016 to 2018 the loan to deposit ratio is higher than the Central Bank's direction. A high loan to deposit ratio indicates a weak liquidity position. Loan to deposit ratio of Grameen Bank illustrates a negative trend equation ($Y = -0.0119X$

+ 25.017) which may improve the liquidity position in future. The fluctuations in loan to deposit ratio is indicated by low r square – 0.1586.

Table-4. Total Loan Disbursement (BDT in Million).

Year	Total Loan Disbursements	Growth%
2006	49732.95	-
2007	58902.10	18%
2008	62104.85	5%
2009	79408.40	28%
2010	96149.34	21%
2011	108539.43	13%
2012	118608.81	9%
2013	126026.30	6%
2014	133320.61	6%
2015	149227.34	12%
2016	187532.82	26%
2017	234714.73	25%
2018	246810.30	5%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Table-5. Loan to deposit ratio.

Year	Loan to Deposit	Growth
2006	1.123	-
2007	1.135	1%
2008	0.968	-15%
2009	0.957	-1%
2010	0.920	-4%
2011	0.929	1%
2012	0.905	-3%
2013	0.849	-6%
2014	0.785	-8%
2015	0.787	0%
2016	0.940	19%
2017	1.128	20%
2018	0.928	-18%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.6. Growth of Outstanding Loan given by Grameen Bank in Bangladesh

Table 6 shows the year end outstanding loan of Grameen Bank. Growth rate of outstanding loan can be compared with the growth percentage of loan disbursement Table 4. From 2006 to 2009 the outstanding loan escalated. After that there was a slight decline in the growth rate. It may be due to the decline in growth of total loan given during these years as shown in Table 4. However, from 2015 the growth rate again started accelerating. On the contrary, in 2018 the growth rate dropped sharply to 6%. Overall it is observed that in most of the year during 2006-2018 growth of disbursement are higher than growth of outstanding loan which indicates loan recovery rates have been improved. The positive trend equation ($Y = 9540.9X - 19114$) shows that outstanding loan is increasing with the increasing trend of loan disbursement. The r square of 0.9454 indicates that most of the data points fall on the fitted regression line.

Table-6. Outstanding Loan (BDT in Million).

Year	Outstanding Loan	Growth%
2006	32941.31	-
2007	36336.3	10%
2008	44396.63	22%
2009	54714.54	23%
2010	66434.45	21%
2011	75325.46	13%
2012	80321.46	7%
2013	84384.91	5%
2014	87495.34	4%
2015	96422.28	10%
2016	118243.58	23%
2017	144497.23	22%
2018	153598.2	6%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.7. Growth of Total Asset of Grameen Bank in Bangladesh

The growth pattern of total asset is shown in Table 7. The table reflects that over the years the total asset has increased. From 2006 to 2018 the total asset increased with the maximum growth rate of 24% in 2009. It shows that total asset was growing between 10%-13% from 2011 to 2015. Then it levelled off in 2016 and 2017 at 4%. However, in 2018 it again gained its pace and achieved a growth of 10%. The trend equation ($Y = 17626X - 35303$) shows a positive prospect in future. R square of 0.9952 explains all the variability of total asset fits well on the regression line.

Table-7. Total assets (BDT in Million).

Year	Total Assets	Growth%
2006	59383	-
2007	68953	16%
2008	82801	20%
2009	103005	24%
2010	125397	22%
2011	140441	12%
2012	158952	13%
2013	178937	13%
2014	200961	12%
2015	220885	10%
2016	229361	4%
2017	239619	4%
2018	263553	10%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.8. Growth of Return on Asset (ROA) of Grameen Bank in Bangladesh

Table 8 shows return on asset of Grameen Bank. The ROA fluctuated drastically over the 13 years. Specially, in 2008 where there was an upsurge by 916.25% and in 2016 an abnormal increase by 5411.28% from previous year. Both of the jumps were due to high net income during the years. In 2016 the high net income was also accompanied by lower total asset. The trend equation ($Y = -0.0004X + 0.8545$) predicts a negative growth in future. A low r square 0.0635 reflects the fluctuations in ROA indicating a not well fitted trend equation.

Table-8. Return on assets (%).

Year	Return on Asset (%)	Growth%
2006	2.3545%	-
2007	0.1550%	-93.41%
2008	1.5757%	916.25%
2009	0.3607%	-77.11%
2010	0.6039%	67.40%
2011	0.4867%	-19.40%
2012	0.9154%	88.07%
2013	0.7449%	-18.62%
2014	0.2170%	-70.87%
2015	0.0110%	-94.92%
2016	0.6073%	5411.28%
2017	0.9495%	56.35%
2018	1.3224%	39.27%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.9. Growth of Total Equity of Grameen Bank in Bangladesh

Table 9 shows the growth pattern of total equity. In 2007, the total equity fell by 4% from previous year. After 2007 the total equity of Grameen Bank increased over the years with the highest growth observed in 2018 of 22%. The positive trend equation ($Y = 858.46X - 1718$) and r square of 0.9029 indicates a good prospect with a goodness of fit.

Table-9. Total Equity (BDT in Million).

Year	Total Equity	Growth%
2006	6111	-
2007	5865.8	-4%
2008	6436.4	10%
2009	6743.4	5%
2010	7362.9	9%
2011	7872.2	7%
2012	8601.9	9%
2013	10399.8	21%
2014	10642.8	2%
2015	11227.2	5%
2016	12345.5	10%
2017	14288.5	16%
2018	17436	22%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.10. Growth of Capital Adequacy ratio of Grameen Bank in Bangladesh

Table 10 shows the capital adequacy ratio of Grameen Bank. Looking at the table we can see that from 2006 to 2011 there was a drop in the ratio with the lowest being 8.79 times. From 2012 the ratio gained its pace and reached its peak growth rate of 18.2% in 2014. However, there was a drop-in capital adequacy ratio in the consecutive year. Nevertheless, Grameen Bank achieved a positive growth in 2018. Capital adequacy ratio helps the bank to keep their depositors safe but looking at negative trend equation ($Y = -0.3399X + 694.06$) and r square of 0.5605 it appears that the bank needs to increase the reserve ratio to maintain a satisfactory capital adequacy ratio.

Table-10. Capital adequacy ratio.

Year	Capital Adequacy Ratio	Growth%
2006	14.38	-
2007	12.45	-13.42%
2008	12.08	-2.97%
2009	10.65	-11.84%
2010	9.3	-12.68%
2011	8.79	-5.48%
2012	8.94	1.71%
2013	9.01	0.78%
2014	10.65	18.20%
2015	8.96	-15.87%
2016	8.99	0.33%
2017	8.92	-0.78%
2018	9.43	5.72%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.11. Growth of Total Investment of Grameen Bank in Bangladesh

Table 11 shows the total investment of Grameen Bank. The table reveals a positive growth from 2007 to 2015 with the highest growth (30%) observed in 2009. The table reveals a decline in total investment in 2016 and 2017. However, Grameen Bank increased its investment by 14% from previous year. The positive trend equation ($Y = 6840X - 13698$) indicates a growing nature of total investment. R square of 0.8330 means that the total investments were not widely spread out over the years and fitted in well with the trend line.

Table-11. Total Investment (BDT in Million).

Year	Total Investment	Growth%
2006	20643	-
2007	25392	23%
2008	30051	18%
2009	39040	30%
2010	49065	26%
2011	54319	11%
2012	65986	21%
2013	79121	20%
2014	95843	21%
2015	106676	11%
2016	94359	-12%
2017	77426	-18%
2018	88344.5	14%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.12. Growth of Interest Income of Grameen Bank in Bangladesh

Table 12 shows the interest income from loans and advances. From the table, it can be seen that during 2006-2010 the interest income was increasing at a faster rate compared to 2011 - 2015. In 2016 the interest income increased drastically and maintained the growth till 2017 and dropped slightly in 2018. The table reflects a growing interest income every year showing a positive trend ($Y = 1873.1X - 3752$). Over the years there were less deviation in interest income which helped the bank to maintain a close relation with the regression line resulting in well fitted regression line with r square of 0.9454.

5.13. Growth of Net Income of Grameen Bank in Bangladesh

Table 13 shows the net income of Grameen bank. It can be observed from the table that over the 13 years there was a huge fluctuation in the net income with the highest positive growth of 5623% spotted in 2016 and negative

growth of -94% in 2015. However the growth rate seems to be stable during the years 2017-2018. From 2013 the Bank experienced a decline in net profit. The sharp fall in Grameen Bank (GB) profit was mainly due to increased provision requirement and operating cost. However, in 2016 Grameen bank rebounded and achieved a net profit with enormous growth of 5623%.

Table-12. Interest Income (BDT in Million).

Year	Interest Income	Growth%
2006	6272	-
2007	6771	8%
2008	7809	15%
2009	9781	25%
2010	12420	27%
2011	14239	15%
2012	15804	11%
2013	16634	5%
2014	17318	4%
2015	18341	6%
2016	21925	20%
2017	26835	22%
2018	30646.4	14%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

With a positive trend equation ($Y = 124.63X - 249602$) the future prospect of Grameen bank seems bright however the fluctuations on the net income over the period of 13 years is reflected in the r square (0.2610) indicating that the goodness of fit of the equation is very low.

Table-13. Net Income (BDT in Millions).

Year	Net Income	Growth%
2006	1398.15	-
2007	106.91	-92%
2008	1304.67	1120%
2009	371.57	-72%
2010	757.24	104%
2011	683.56	-10%
2012	1455	113%
2013	1332.9	-8%
2014	436.01	-67%
2015	24.34	-94%
2016	1392.92	5623%
2017	2275.29	63%
2018	3485.29	53%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.14. Overdue Loan of Grameen Bank in Bangladesh

Table 14 shows the overdue loan from 2006 to 2018. It can be observed from the table that from 2006 to 2009 the overdue loan has increased. During 2010 a drop in the overdue loan can be noticed indicating the repayment of overdue loans from previous year. From 2011 the overdue loan again started to increase till 2015. In 2016 there was a sudden drop in overdue loan which continued till 2017 and made Grameen Bank reach its lowest level of overdue loan of BDT 472.32 million. However, in 2018 the overdue loan increased slightly which can be due to increase in the total loan. If we consider as a percentage of total loan, we can see that the overdue loan is below 2% in all the years (2006-2018) and in recent time it dropped to only 0.309% which indicates the loan repayments were in time showcasing Grameen bank's a high success. The trend equation ($Y = -2.6034X + 6343.7$) shows a negative

trend indicating a decrease in overdue loan in the upcoming years. R square of 0.0005 is the result of high level of fluctuation and deviation from the trend equation.

Table-14. Overdue loans (BDT in Million).

Year	Overdue Loans (in Million BDT)	Total Loan	Percentage of total loan
2006	594.61	49732.95	1.196%
2007	1023.29	58902.1	1.737%
2008	1236.40	62104.85	1.991%
2009	1439.04	79408.4	1.812%
2010	632.53	96149.34	0.658%
2011	1018.73	108539.43	0.939%
2012	1623.98	118608.81	1.369%
2013	1495.96	126026.3	1.187%
2014	1550.11	133320.61	1.163%
2015	1874.49	149227.34	1.256%
2016	650.89	187532.82	0.347%
2017	472.32	234714.73	0.201%
2018	762.0	246810.30	0.309%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.15. Growth of Loan disbursement to the village ladies for phone of Grameen Bank in Bangladesh

Table 15 shows the number of village phone ladies and the amount of loan given to village phone ladies. From the table it can be seen that from 2006 to 2018 the number of village phone ladies increased with the maximum growth in 2012 of 73.91% from previous year. This increase in number shows how Grameen Bank is encouraging village ladies to start up their own small business. The amount of loan taken by the village phone ladies is also increasing over the years except in 2009, 2011 and 2012 where it remained unchanged. The positive trend equations show a bright future for Grameen Bank in encouraging the village ladies. R square shows a very little deviation from the trend line. shown in Table 22.

Table-15. Loan disbursement to the village ladies for phone.

Year	Number of Village Phone Ladies (in Million)	Growth %	Amount of loan taken by the Village Phone Ladies (in Billion BDT)	Growth %
2006	0.28	-	2.40	-
2007	0.29	3.57%	2.56	6.67%
2008	0.35	20.69%	2.57	0.39%
2009	0.36	2.86%	2.57	0.00%
2010	0.39	8.33%	2.68	4.28%
2011	0.46	17.95%	2.68	0.00%
2012	0.80	73.91%	2.68	0.00%
2013	1.28	60.00%	2.70	0.75%
2014	1.43	11.72%	2.71	0.37%
2015	1.63	13.99%	2.72	0.37%
2016	1.69	3.68%	2.73	0.37%
2017	1.80	6.51%	2.75	0.73%
2018	1.94	7.78%	2.76	0.36%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.16. Growth of Loans and Advances after Provision by Grameen Bank in Bangladesh

Table 16 shows the growth pattern of loans and advances after provision. From 2008 to 2010 the loans and advances after provision has increased with significant percentage and a similar pattern can be seen in 2016 and 2017 with the maximum growth in 2016 of 27.06%. On the other hand, from 2011 to 2015 the growth rate dropped

by a significant level reaching to a bottom of 3.92% in 2014. This fall was caused by a decrease in loan disbursement as detected in Table 4. In 2018 we can also observe a drop the in-growth rate (3.61%). The trend equation ($Y = 9779.2 X - 19592$) and r square of 0.9361 indicates a positive future growth with a goodness of fit.

Table-16. Loans and Advances after provision (BDT in Million).

Year	Loans and Advances after provision	Growth %
2006	32563	-
2007	35817	9.99%
2008	44923	25.42%
2009	54931	22.28%
2010	67465	22.82%
2011	74761	10.81%
2012	78940	5.59%
2013	83595	5.90%
2014	86873	3.92%
2015	95892	10.38%
2016	121839	27.06%
2017	149425	22.64%
2018	154825	3.61%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.17. Growth of House Loan Disbursement by Grameen Bank in Bangladesh

Growth pattern of house loan disbursement is shown in Table 17. House loans are basically given for tin roof houses to rural people. From 2006 to 2009 house loan has increased periodically but after that it started increasing at a decreasing rate. In 2016 there was a sudden jump in house loan growth of 2.79% which accelerated further and reached its peak in 2018 to 8.43%, making the highest house loan disbursement of BDT 10873 million. The positive trend equation ($Y = 138.6X - 269$) indicates a growth in house loan in future. R square of 0.7150 shows that there were less fluctuations during the years.

Table-17. House loan disbursement (BDT in Million).

Year	House Loan disbursement	Growth %
2006	8472.51	-
2007	8568.54	1.13%
2008	8720.65	1.78%
2009	8889.25	1.93%
2010	8978.03	1.00%
2011	9025.53	0.53%
2012	9052.44	0.30%
2013	9079.81	0.30%
2014	9102.56	0.25%
2015	9108.16	0.06%
2016	9362.08	2.79%
2017	10028.0	7.11%
2018	10873.0	8.43%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

5.18. Growth of Disbursement of All Types of Loans by Grameen Bank in Bangladesh

Table 18 shows the disbursement of all types of loans of Grameen Bank. From the table it is reflected that the total loan disbursement increased every year reaching its highest BDT 245965.5 million in 2018. If we separate the amount of loan given to female members compared to male members a significant difference can be seen. Throughout the period, more than 94% of the total loans were given to female members. This could be a result of higher female members shown in Table 2 indicating Grameen Bank's involvement in women empowerment.

Table-18. Disbursement of All Types of Loans (BDT in Million).

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Loan Amount	49867.3	50345.1	63033.9	79239.6	96060.8	108491.0	118578.1	126006.3	133296.7	149221.7	187534.5	234048.4	245965.5
Male (Total Amount of Loans)	2517.9	2538.6	3491.8	3518.1	3920.6	4237.0	4390.7	4408.0	4536.1	4841.4	5012.1	7814.1	8252.9
% of Loans	5.1	5.1	5.5	4.4	4.1	3.9	3.7	3.5	3.4	3.2	2.7	3.3	3.4
Growth %	-	0.8	37.5	0.8	11.4	8.1	3.6	0.4	2.9	6.7	3.5	55.9	5.6
Female (Total Amount of Loans)	47349.3	47806.3	59542.1	75721.5	92140.1	104254.0	114187.3	121598.3	128760.6	144380.2	182522.4	226234.3	237712.6
% of Loans	94.9	94.9	94.5	95.6	95.9	96.1	96.3	96.5	96.6	96.8	97.3	96.7	96.6
Growth %	-	1.0	24.5	27.2	21.7	13.1	9.5	6.5	5.9	12.1	26.4	23.9	5.1

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Due to the increase in total loan both the male and female loan disbursement reflected a positive growth over the years. The loan disbursement to female members experienced the lowest growth of 1% in 2007 however it picked up its pace and reached the highest growth rate of 27.2% in 2009. From 2009 to 2014 the female loan disbursement was increasing but at a decreasing rate. In 2015 and 2016 experienced an upsurge but the growth rate again seemed drop from 2017 and reached to 5.1% in 2018. The loan disbursement to male members grew significantly in 2008 to 37.5% from 0.8% in 2007 but in 2009 it again dropped to 0.8%. From 2010 the growth rate of total loan given to male remained between 0.4% to 11.4% till 2016. In 2017 the loan given to male members drastically increased by 55.9% from preceding year. However, the growth for male loan disbursement dropped to 5.6% in 2018. Overall the trend equations for all the segments show a positive growth prospect for future. R squares shows a well fitted trend equation shown in [Table 22](#).

5.19. Growth of Disbursement of Micro Enterprise Loan by Grameen Bank in Bangladesh

[Table 19](#) shows the disbursement of micro enterprise loans of Grameen Bank. The table reveals that the percentage of micro enterprise loan in total loan increased over the years with the highest of 49.7% in 2018. From 2006 to 2018 on average 28% of total loan was micro enterprise loan which shows Grameen Bank's effort in social development.

If we separate female from male in case of loan received for micro enterprise, we can see that over 95% of the loan was given to female and the rest was given to male members. In 2008 the growth was at its peak for female members with 63.8% after which the growth started to increase at a decreasing rate but again picked up its pace from 2014. However, there was a drop-in growth rate of disbursement of micro enterprise loan in 2018. From 2006-2018 the growth of micro enterprise loan to male members was increasing except in 2013 and 2014. The loan disbursed to male members saw a drastic growth of 105% in 2008 which fell to 2.8% in the following year. Overall the positive trend equations of all the segments show a bright future prospect. R square of total and female micro loan disbursement indicated a goodness of fit whereas the r square of male micro loan disbursement shows deviation from the trend equation. shown in [Table 22](#).

5.20. Percentage of Scholarship given to Male and Female Children of Grameen Bank Members in Bangladesh

[Table 20](#) shows the percentage of scholarship given to male and female children of Grameen Bank Members. The table reveals that more than 50% of the scholarship was given to female students which are increasing every year from 2006 to 2018 whereas the amount of scholarship given to male students is decreasing every year. This table also shows how Grameen Bank is encouraging women empowerment by increasing the amount of loan given to female students and also on the other hand helping the economy with social development.

5.21. Growth of Number of beggars and amount disbursed to the beggars by Grameen Bank in Bangladesh

[Table 21](#) shows the number of beggars and amount disbursed to them from 2006 to 2018. From 2006 to 2009 the number of beggar members increased but at a decreasing rate after which beggar members started to drop every year till 2017. On the contrary, in 2018 the number of beggar members increased slightly. On the other hand, the amount disbursed to these members was increasing over the years from 2006 to 2018 except in 2016.

Table-19. Disbursement of Micro Enterprise Loan (BDT in Million).

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Loan Amount	49867.3	50345.1	63033.9	79239.6	96060.8	108491.0	118578.1	126006.3	133296.7	149221.7	187534.5	234048.4	145043.2
Total Micro Loans	7449.2	6456.5	10672.7	16654.1	25553.7	29506.2	31476.1	32707.5	34354.2	40106.1	54442.8	72083.4	72141.3
% in Micro Loans in Total Loans	14.9	12.8	16.9	21.0	26.6	27.2	26.5	26.0	25.8	26.9	29.0	30.8	49.7
Male (Amount of Micro Loans)	268.9	236.5	485.1	498.5	767.4	953.5	992.6	988.9	986.8	1165.8	1444.1	2693.3	2701.9
% of Micro Loans	3.6	3.7	4.5	3.0	3.0	3.2	3.2	3.0	2.9	2.9	2.7	3.7	4.6
Growth %	-	-12.0	105	2.8	53.9	24.3	4.1	-0.4	-0.2	18.1	23.9	86.5	0.3
Female (Total Amount of Loans)	7180.3	6219.9	10187.6	16155.5	24786.3	28552.7	30483.4	31718.5	33367.3	38940.2	52998.8	69390.1	69439.4
% of Micro Loans	96.4	96.3	95.5	97.0	97.0	96.8	96.8	97.0	97.1	97.1	97.3	96.3	97.4
Growth %	-	-13.4	63.8	58.6	53.4	15.2	6.8	4.1	5.2	16.7	36.1	30.9	0.1

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Table-20. Percentage of scholarship given to male and female children of Grameen Bank members.

Year	Percentage of total scholarship given to female	Percentage of total scholarship given to male
2006	57.0%	43.0%
2007	57.3%	42.7%
2008	57.3%	42.7%
2009	57.5%	42.5%
2010	57.6%	42.4%
2011	57.8%	42.2%
2012	58.0%	42.0%
2013	58.4%	41.6%
2014	58.7%	41.3%
2015	58.9%	41.1%
2016	59.3%	40.7%
2017	59.6%	40.4%
2018	59.7%	40.3%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Table-21. Number of beggars and amount disbursed to the beggars.

Year	No. of Beggar Members	Growth%	Amount Disbursed (BDT in Million)	Growth%
2006	79847	-	79.42	-
2007	86017	7.73%	105.51	32.85%
2008	91452	6.32%	124.82	18.30%
2009	92296	0.92%	142.43	14.11%
2010	90776	-1.65%	154.99	8.82%
2011	87795	-3.28%	159.13	2.67%
2012	81498	-7.17%	165.37	3.92%
2013	80310	-1.46%	169.99	2.79%
2014	78719	-1.98%	173.68	2.17%
2015	77842	-1.11%	204.828	17.93%
2016	77582	-0.33%	177.85	-13.17%
2017	77327	-0.33%	179.33	0.83%
2018	77474	0.19%	180.64	0.73%

Source: Compiled from different issues of Annual Report (2006-2018), Grameen Bank.

Overall it can be said that although the members are decreasing the amount given to struggling (beggars) members are increasing indicating each member receiving more money. These loans are interest free therefore Grameen Bank is taking a huge initiative to encourage these people to work. Thus, it can be said that Grameen bank is actively taking part in promoting social development.

5.22. Particulars of Trend Equation and Square of Correlation Coefficient of Grameen Bank in Bangladesh

Table 22 shows a summary of particulars of trend equation and square of correlation coefficient of Grameen Bank. Out of 26 particulars and sub-particulars 22 trend equations are positive. Out of 4 negative trend equations one is overdue loan and another is loan to deposit ratio. Downward trend in both the aspects is beneficial for the Bank. Negative trend in overdue loan implies that the Bank will be recovering its receivables on time in the near future. Similarly, negative trend in loan to deposit ratio shows Grameen Bank will be taking in more deposits compared to lending and hence maintain its ratio within 85% as indicated by Bangladesh Central Bank. Coefficient of correlation has also been calculated for all trend equations out of which 21 shows r square closer or more than 0.5 meaning well fitted trend lines.

Table-22. Particulars of Trend Equation and Square of Correlation Coefficient of Grameen Bank.

Particulars	Sub -Particulars	Trend equation	Trend	Square of R
Number of Branches		$Y = 11.379X - 20356$	Positive	0.3966
Number of Members	Total No. of Members	$Y = 158678X - 310955$	Positive	0.9065
	Female Members	$Y = 151811X - 297430$	Positive	0.9134
	Male Members	$Y = 6866X - 13525$	Positive	0.5347
Total Deposit		$Y = 17222X - 34514$	Positive	0.9792
Total Loan		$Y = 15739X - 31540$	Positive	0.9276
Loan to deposit ratio		$Y = -0.0119X + 25.017$	Negative	0.1586
Outstanding Loan		$Y = 9540.9X - 19114$	Positive	0.9454
Total asset		$Y = 17626X - 35303$	Positive	0.9952
Return on Asset		$Y = -0.0004X + 0.8545$	Negative	0.0635
Total Equity		$Y = 858.46X - 1718$	Positive	0.9029
Capital Adequacy Ratio		$Y = -0.3399X + 694.06$	Negative	0.5605
Total Investment		$Y = 6840X - 13698$	Positive	0.8330
Interest Income		$Y = 1873.1X - 3752$	Positive	0.9454
Net Income		$Y = 124.63X - 249602$	Positive	0.2610
Overdue loans		$Y = -2.6034X + 6343.7$	Negative	0.0005
Loan disbursement to the village ladies for phone	Number of village phone ladies	$Y = 0.1625X - 326.03$	Positive	0.9225
	Amount of loan taken by village phone ladies	$Y = 0.0235X - 44.661$	Positive	0.8031
Loans and Advances after provision		$Y = 9779.2 X - 19592$	Positive	0.9361
House loan disbursement		$Y = 138.6X - 269$	Positive	0.7150
Disbursement of All Types of Loans	Total Loan Amount	$Y = 15907X - 31878$	Positive	0.9327
	Female (Total Amount of Loans)	$Y = 15510X - 31084$	Positive	0.9345
	Male (Total Amount of Loans)	$Y = 396.93X - 794$	Positive	0.8065
Disbursement of Micro Enterprise Loan	Total Micro Loan Amount	$Y = 5398.5X - 10828$	Positive	0.9203
	Female (Total Amount of Micro Loans)	$Y = 5216.1X - 10462$	Positive	0.9232
	Male (Total Amount of Micro Loans)	$Y = 182.93X - 365$	Positive	0.7996

6. FINDINGS AND CONCLUSION

After its establishment in 1976, Grameen Bank is going ahead successfully. What makes it unique is its provision of small loans to impoverished people especially women without taking any collateral and a very low interest rate. During the last thirteen years, its positive growth of branches, deposits, investment, assets, interest income, scholarship schemes, beggars' loan, house loan and micro enterprise loan indicates Grameen Bank's financial stability and success.

Bangladesh's economy is booming but the gender inequality still persists. Table 2 shows approximately 96% of the members of Grameen Bank are female which implies it is dominated by female members. This indicates the efforts of Grameen Bank in promoting gender equality. Moreover, from Table 18 and 19 it can be observed that more than 94% of total and micro enterprise loan were provided to women. Additionally, Grameen Bank introduced a special scheme "Village phone Ladies" which helps rural women to generate income and increase their social status. From Table 15 we can see that the number of village phone ladies and amount disbursed to them increased every year from 2006 to 2018. This increase in number shows how Grameen Bank is encouraging village ladies to start up their own small business. Therefore, this study shows that Grameen Bank focuses mainly on woman development with a positive future perspective.

Grameen Bank also encourages the rural poor in self-employment and positively impacts the social development of the country. The amount of loan under Grameen Bank's scheme for house loan (tin roof) and beggars' loan has risen over the last thirteen years. These loans allow the underprivileged rural people to uplift their standard of living. On the other hand, Grameen bank is enabling the poor to obtain education by providing their children with scholarship. Table 20 shows more than 57% of the total scholarship is enjoyed by female children. According to Duflo (2012) economic development and women empowerment are strongly related. Therefore, Grameen Bank's efforts in women empowerment will lead to overall country's development. Grameen Bank also focuses on micro enterprise loan to encourage rural people to start their own business. Thus, Grameen Bank is not only helping women empowerment but it is also involved in serving the country with poverty alleviation and social development.

To fight with social development and women empowerment it is very crucial for Grameen Bank to maintain a stable performance growth. From the sequence of our analysis, we can conclude that Grameen Bank with the positive trend equations in most of the aspects shows a sustainable growth in future. During 2006-2018 the loan deposits, disbursements, total equity, total asset, and interest income shows an upward trend indicating a progressive performance by the bank. Moreover, the overdue loan seems to follow a negative trend showing high level of recovery rate.

Conversely, there are three concerns. The loan to deposit rate ratio is higher compared to the Central Bank's direction. Additionally, the prevailing fluctuating pattern of capital adequacy ratio and return on asset ratio of Grameen Bank is quite alarming.

However, Grameen Bank can overcome capital adequacy ratio and return on asset ratio by widening its lending spread and using its retained earnings to build up capital. On the other hand, Grameen Bank can increase its deposits compared to disbursement to maintain Central Bank's direction of maintaining 85% loan to deposit ratio.

Overall, our analysis demonstrates the positive trends in performance with different activities undertaken by the banks. This study proves that Grameen Bank has a better scope to grow in the future which will support the social and economic status of rural poor, particularly women.

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