Chapter II
REVIEW OF LITERATURE:

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2.1 Introduction

The concept of sustainability refers to the ability of the institution to cover its costs from the revenue generated through its operations. Providing microfinance services is a costly business due to the transaction and information processing cost (Hermes and Lensink 878). With high cost of delivering services to the poor, achieving sustainability is a challenge for the MFIs (Herms and Lensink F1-F10). Hence, this section discusses about the sustainability and the factors (determinants) which are affecting the sustainability of the MFIs.

2.2 Review of literature: Financial Sustainability of MFIs

Most of the MFIs started their operations as non profit organization, focusing on serving the poor. Eventually, there was a paradigm shift; financial sustainability was given greater importance. United Nations Economic and Social Commission for Asia and The Pacific (UNESCAP) (13-16) stated that a sustainable MFI can provide financial services on a continuous basis and is able to meet the requirements of its members and attract lending organizations. Hence, the pressure on MFIs to achieve financial sustainability increased globally. Hermes and Lensink (878) reported that only one to two percent of the MFIs globally are financially sustainable, while majority of the MFIs are heavily dependent on donor subsidies. The MFIs in Asia are considered as the frontiers in sustainability, while in United States microfinance is still considered as charity and many MFIs are dependent on donor funds (Ek 16).

Concerns have been raised whether by shifting the goal to achieve financial sustainability, MFIs are moving away from their original aim of providing financial services to the poor. Hence, the MFIs are facing dual objectives of attaining financial

sustainability and to reach the poor (Marakkath 25). The question arises to what extent MFIs should focus on sustainability or outreach.

Brau and Woller (7-9) addressed two competing views i.e. *welfarist*[i] (poverty lending) approach and *institutionists*[ii] (financial system) approach. The poverty lending approach is required by the MFIs to provide credit to the poor at a subsidized interest rate. However, with poverty lending approach it is difficult for the MFIs to achieve financial sustainability. There is a tradeoff between outreach and sustainability. On the other hand, the proponents of financial service approach argued that large scale outreach to the poor on a long term basis cannot be achieved if MFIs are not financially sustainable.

The outreach objective can only be reached if the MFIs have enough funds to cover the operating cost, financial expenses and the loan demands (Kipesha and Zhang 138). Consultive Group to Assist Poor (3) reported that sustainability and profitability are the key to expansion, growth and outreach for the MFIs. In recent years, the debate settled in favor of financial system approach (Hermes and Lensink 878). It was also observed that donors, policy makers and funding organizations are shifting from subsidized MFIs to financially sustainable MFIs. This is one of the reasons why many NGO-MFIs are transforming to NBFCs. Schreiner (425) argued that ―unsustainable MFIs might help the poor now but they will not help the poor in future because the MFIs will be gone. Rhyne (7) opine that sustainability helps the MFIs to gain access to the funding which is required for serving the poor in the long run. It reduces the dependency of the institutions over the donor or subsidized funds in the long run and implies higher access of financial services for the poor (Ayayi and Sene 304). Kipesha and Zhang (137) stated that achieving sustainability is a push from both employees and managers who require the going concern of the institutions to safe guard their employments when institution receives no subsidy from donors. There are contrasting findings in the literature regarding whether financial sustainability and outreach complement each other or whether one adversely affects the other.

Zeller and Meyer (5) argued that there is a trade off between improving outreach and achieving financial sustainability. Cull, Demirgüç-Kunt, and Morduch (F107-133) studied the relationship between financial performance and outreach of 124 MFIs in 49 countries. The outreach of MFIs is usually considered in terms of depth (number of borrowers) and breadth (socio economic level). They found that institutions that are providing individual loans are performing better in terms of profitability. Providing individual loan lowers the operational cost of the MFI, but limits its outreach. Olivares-Polanco (67) also observed that the MFIs achieved financial sustainability at the expense of outreach to the poor. Higher outreach means higher transaction costs in order to get information about creditworthiness of clients and makes MFIs financially unsustainable (Kerete 11).

In contrast, Kipesha and Zhang (138) reported no conflict between financial sustainability and outreach. They reported positive association between sustainability and profitability with outreach of the poor. Recent study by Kipesha and Zhang (139) on 47 East African MFIs for the period of four years reported positive correlation between financial sustainability and outreach of MFIs. With increase in number of borrowers, MFIs enjoy economies of scale and reduce costs which help them to be financially sustainable. Thus, during 2000s there was a paradigm shift in microfinance to achieve sustainability by innovative methodologies such as client centered products and adopting new technologies (Hamada 2-8). In the context of the present study, a natural question is to investigate how well the MFIs in Assam, India, are balancing the outreach against sustainability. Till date no such study on the sustainability of the MFIs in Assam has been conducted.

2.3 Financial sustainability of microfinance institutions

The financial sustainability of an MFI is defined as its capacity to generate income from its operations to cover all its expenses and a margin to support its growth (Ayayi and Sene 304). Therefore, the MFIs regardless of their non profit or for profit status, are striving to cover their costs from the revenue generated through their lending activities. The investors and donors look forward to fund sustainable institutions.

There are several definitions of financial sustainability available in the literature. Ledgerwood (217) defined it as the ability of an MFI to generate revenue to meet its operating cost, its financial expense and costs incurred in growth. Kinde (2) defined financial sustainability as performing microfinance activities without external support (eg. subsidies). Combrugghe et al. (279) stated that to achieve financial sustainability MFIs require to have enough interest revenue on one hand and cost control on the other hand. According to Rai and Rai (2), an institution is said to achieve financial sustainability, when the return on equity, net of any subsidy received, equals or exceeds the cost of funds.

Leon (15) stated four fundamental pillars of financial sustainability of an organization- they are (i) strategic and financial planning, (ii) income diversification, (iii) sound administration and finance and (iv) own income generation. Achieving financial sustainability is a continuous process that has to become a part of organization‘s day to day processes. The above definitions focused on two important points, that an organization should be able to cover all its costs and it should not depend on subsidies for running its operations.

MFIs aim to achieve financial sustainability in two stages (Rai and Rai 1), viz.

1. Operational self sufficiency (OSS).
2. Financial self sufficiency (FSS).

The operational self sufficiency (OSS) is the percentage, which indicates whether enough revenue has been earned to cover MFI‘s total costs- operational expenses, financial expenses and the loan loss expenses (Arunachalam 1), regardless of whether it is subsidized or not (Meyer 5). Such an operationally sustainable MFI is able to achieve financial self-sufficiency (FSS) (Marakkath 22). Financial self sufficiency refers to generating income from its operations only to cover all its expenses and a margin to support its growth, without support from subsidies (Ayayi and Sene 304). The FSS ratio is affected by unreported or hidden subsidies with regard to operations (Arunachalam 4). FSS is a subsidy adjusted indicator often used by donor funded NGOs. FSS measures the extent to which an MFI‘s revenue is generated from interests, covers the MFI‘s adjusted costs (Rosenberg 4). It is difficult to get data on

subsidy enjoyed by certain MFIs. Hence, in this thesis, OSS of the MFIs is used as a proxy for their financial sustainability. OSS compares the sustainability of MFIs without discriminating between the usages of subsidies (Marakkath, Olivares-Polanco and Ramanan 449). The OSS ratio of an MFI is the ratio of operating income (i.e. interest, fees and other service income from loans and investments) to the total cost (i.e. summation of operating cost, financial expense and loan loss provisioning). A ratio above 100 percent denotes that MFI has enough operational income to cover its cost, i.e. it is operationally self-sustainable. See Microfinance Information Exchange (MIX) and Bogan et al., (2007).

2.4 Variables effecting financial sustainability

From various studies it is observed that there are wide number of factors which effected the financial sustainability of the MFIs. Some of the important determinants of financial sustainability are age of the institution, legal status, lending model, cost per borrower, product type, size of the MFI, number of borrowers, yield on portfolio, staff productivity, interest rates, administrative efficiency, loan officer productivity, staff salaries, high quality portfolio, operating efficiency, size of the capital assets of an MFI and the macroeconomic variables such as inflation and lending rate (Bogan 1057; Ayayi and Sene 310; Ganka 113-114; Hartarska and Nadolnyak 1211-1212; Iezza 54-55 and Kinde 2-4). In a few studies association between capital structure and sustainability of the institution was observed (Bogan 1056 and Iezza 72). In contrast, some researchers found that the age of the institution (Crombrugghe et al. 294), legal status, (Hartarska and Nadolnyak 1220) capital structure and staff productivity had no impact on the financial sustainability (Kinde 7). Few reported that financial sustainability depended on, adequate interest rate and efficient management (Ayayi and Sene 321 and Marakarath, Olivares-Polanco and Ramanan 460).

In summary, we see that sustainability of the MFIs is mainly affected by a wide range of factors which are diagrammatically represented in Figure 2.1.

Figure 2.1: Theoretical frame work (the references of the variables are given in Table 1)

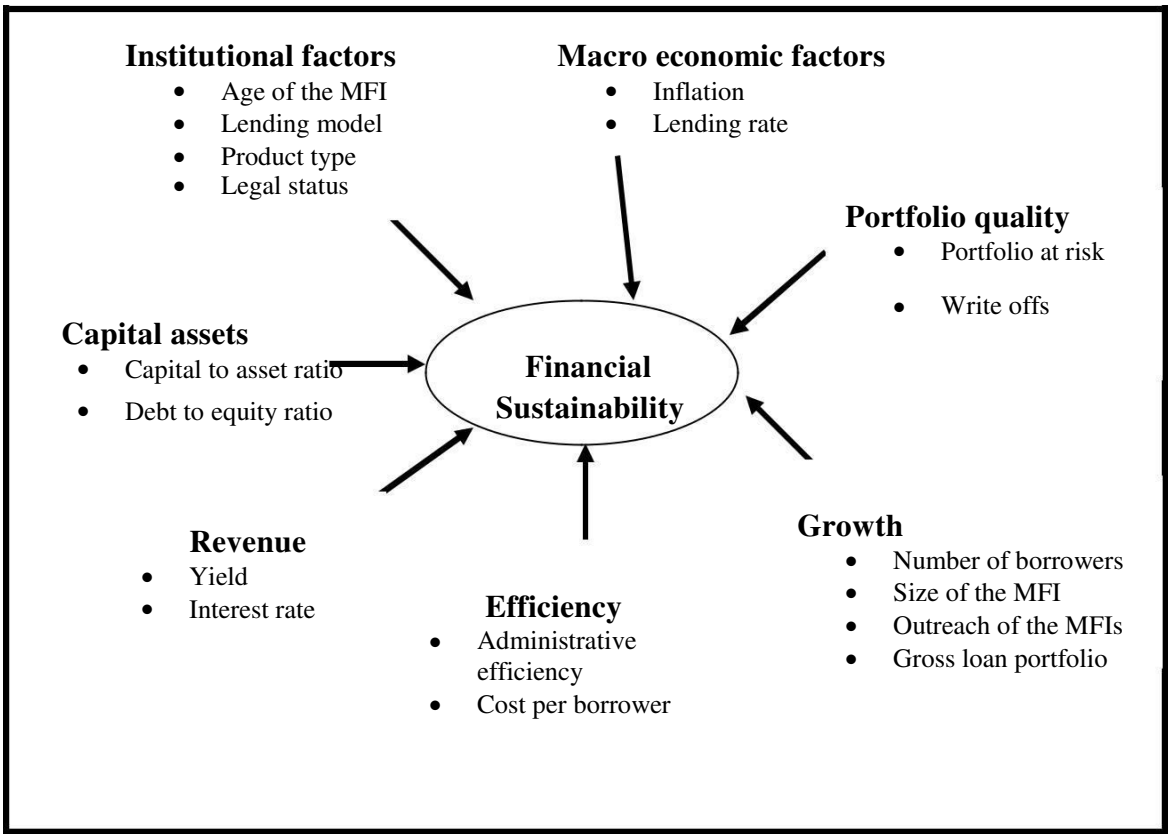

Table 2.1: References of variables in Figure 2.1

	Determinants of financial sustainability
Woller and Schriener (2001)	MFI interest rates, administrative efficiency, loan officer productivity, and staff salaries
Bogan et al. (2007)	Capital assets of an MFI and its capital structure, age of the institution
Crombrugghe et al.(2008)	Portfolio at risk, 60 days past due, Average loan per borrower in 1000 INR, Age, Share of women of borrowers
Ayayi and Sene (2010)	High quality portfolio, adequate interest rate and efficient management
Islam et al. (2010)	Interest rate, cost of funds, proportion of women borrowers

Ganka (2010)	Capital structure, interest rates charged, differences in lending type, cost per borrower, product type, MFI size, number of borrowers, yield on portfolio, level of portfolio at risk, staff productivity and operating efficiency
Hartarska and Nadolnyak (2010)	Legal status of the MFIs. number of active borrowers, ratio of saving to total assets, ratio of loans outstanding to total assets, age, sources of capital
Iezza (2010	Capital structure and other macroeconomic variables such as inflation and lending rate
Kinde (2012)	Breadth and depth of outreach, dependency ratio and cost per borrower
Rai and Rai (2012)	Number of active borrowers, yield, ratio of operating expense to loan portfolio, portfolio at risk greater than 30 days, women borrowers, debt to equity ratio.
Nadiya et al. (2012)	Financial margin to asset ratio, cost per borrower, number of women borrower, average loan size, gross loan portfolio, age, location, regulatory status, equity to asset ratio.

Relationship between the variables and MFI sustainability

Kneiding and Mas (1-2) and Kipesha (112) observed that the performance and efficiency indicators of an MFI improve with age. Whereas, Ayayi and Sene observed that the age of the institution has no impact on the financial sustainability of the MFIs. They examined the financial sustainability of MFIs relative to the legal status of the MFIs (2319). Marakkath, Olivares-Polanco and Ramanan found that MFIs which are regulated in nature are financially sustainable (452).

Number of active borrowers is used to measure the breadth of the outreach and gross loan portfolio represents the scale of MFI operation, which is the key point to achieve OSS (Crombrugghe et al. 279; Hartarska and Nadolnyak 1212; Kinde 3 and Marakkath, Olivares-Polanco and Ramanan 451). Crombrugghe et al. and Ayayi and Sene found that number of active borrowers and gross loan portfolio has significant impact on the OSS of the MFIs. Ganka found that higher the loan portfolio, higher the profitability which in turn ensured the financial sustainability of the MFIs (206-207).

The variable such as average loan balance per borrower is used to measure the depth of outreach (Cull et al. F115). Depth of outreach and financial sustainability are perceived as contradictory objectives in literature (Olivares-Polanco 49). In contrast,

Quayes found that increase in the depth of outreach increased the probability of achieving financial sustainability of the MFIs (3432). In addition, high delinquency makes financial sustainability impossible (Rosenberg 5). Crombrugghe et al. (278) and Marakkath, Olivares-Polanco and Ramanan (450) found that portfolio at risk (greater than 30 days) effects the financial sustainability of the MFIs.

The ratio of cost per borrower and operating expense to loan portfolio depicts the efficiency level of MFI operations and these are important to maintain OSS of MFIs (Crombrugghe et al. 279 and Marakkath, Olivares-Polanco and Ramanan 450). Quyam and Ahmad in their study reported direct relationship between efficiency and sustainability of the All Indian MFIs(24-26). Shankar concluded that by minimizing cost per borrower, cost efficiency can be achieved (1341). The average number of borrowers per staff is a measure of staff productivity or labor intensity. Crombrugghe et al. (289) and Ayayi and Sene (371) found positive relation between staff productivity and financial sustainability of MFIs. Crombrugghe et al. found that increase in the number of borrowers can reduce the cost of the MFIs (291).

The capital to asset ratio and debt to equity ratio depicts the capital structure of the MFI. Bogan (1057), and Iezza (53) observed that the size of the capital assets of an MFI and its capital structure are positively associated with the sustainability of the institution. Apart from this, yield on gross portfolio (nominal) positively effected the sustainability of the MFIs (Marakkath, Olivares-Polanco and Ramanan 458 and Ayayi and Sene 371).

For the analysis, Operational Self-Sufficiency (OSS) is used as the dependent variable. This is considered as the basic accounting measure of financial sustainability of the MFIs in microfinance literature (Marakkath, Olivares-Polanco and Ramanan 449). From the above discussions it is observed that the variables in Figure 2.1 can have significant effect on OSS of MFIs. In our study we investigate the impact of selected variables from each category (except macroeconomic factors) on OSS of MFIs in Assam during 2009-10 to 2013-14. The macroeconomic variables such as inflation

and lending rates are usually used to study how the economic conditions across different countries affect the sustainability of the MFIs in those countries. In this study we focus on the All Indian MFIsonly. For these MFIs the macro economic variables remain same within a financial year. Therefore it is difficult to study their effect on the OSS via multiple regressions based on data from a given financial year. Some other variables such as the lending model and product type are also excluded from the model. Complete data on these variables are not available (to the best of our knowledge). Hence, these variables are not included in the regression model.

2.5 Relationship between financial sustainability and Profitability

According to Ganka (38-40), sustainability in microfinance is usually linked to profitability, where the organisation‘s income exceeds its expenses. Previous studies (Cull, Demirgüç-Kunt and Morduch F111; Brau and Woller 1-26; Roy 11-12) considered profitability as a measure of MFI performance. Thus anything that effects the income or expense of the MFI has direct impact on the profitability of the MFIs. Profits are usually expressed as a function of lender‘s income and expenses. Profit is required for the growth of the organization and support long term growth.

Profit depends on the interest rate charged by the MFIs on loans. The interest rate must be sufficient to cover all administrative costs, plus the cost of capital (including inflation), loan losses, and a provision for increasing equity (Rosenberg et al. 8). This ensures viability and long term financial stability of the institutions. Ganka (41) reported that the total amount of interest income depends on the rate of interest charged, the amount of loan and the loan repayment rates. In other words, profit earning interest rate helps the MFIs to achieve financial sustainability.

Julien (12) confirms that the cost associated with servicing loans in MFIs decrease with increase in loan size. Hence the interest rates are set at higher level for loans of smaller size. The cost covering interest rates allow the MFIs to increase their outreach and earn sufficient profits to support their growth. Ayayi and Sene (304-308) confirm that very high interest rate drives away the clients. Cull, Demirgüç-Kunt and Morduch

(F119) report that if an MFI extends individual loans at high interest rates, it does not remain profitable in the long run as the demand for credit decreases.

Rosenberg et al. (1-28) conducted a study on 555 MFIs worldwide, to investigate whether the poor are being exploited by high interest rates charged by the MFIs. They reported that in recent years the MFI interest rates on microloans are reducing and there was no evidence of borrower exploitation with abusive interest rates. In addition, the authors suggest that the practice of cost covering interest rate is well accepted in the microfinance industry, but levying unreasonably high interest rate to attain sustainability is not an acceptable practice in the industry (Marakkath 28). However, cost covering interest rate without any profit is unreasonable (Rosenberg et al. 1).

Interest rate depends on the four key factors- the cost of funds, the MFI‘s operating expenses, loan losses, profits needed to expand their capital base and fund for expected future growth (Fernando 2; Rosenberg et al. 1). These four factors play a key role in determining the interest rate charged by any MFI on loans (Rosenberg et al. 20-21).

Hence, based on literature survey it is observed that the financial sustainability of the MFI depends on the profitability of the MFI. Further, profitability is a function of income and expenses of the MFIs. The income depends on the amount of interest earned and expenses of the MFI are caused by three key factors- the financial expense, the MFI‘s operating expenses, and loan losses expense.

Rosenberg et al., (3) suggested the following formula for computing profits for the MFIs.

$$\textit{Profits= Income - Expenses (financial expense +Loan loss expense + operating expense)} \quad \textbf{(2.3.1)}$$

Hence, the determinants of income and expenses are important for the MFIs. The expenses consist of the cost of funds, the MFI‘s operating expenses, and provision for loan losses.

2.6 Income of the MFIs

MFIs earn from the interest on loans, service charges, fees and from other income generating activities (Shankar 1332). Interest rate can be defined as the amount a borrower pays in addition to the principal of a loan to compensate the lender for the use of money. The interest rate must be sufficient to cover all administrative costs, plus the cost of capital (including inflation), loan losses, and a provision for increasing equity (Goodwin-Groen 1). This ensures the permanence and expansion of the microfinance services (Rosenberg, Gonzalez and Narain 1).

After the AP Crisis, the RBI (in 2011) declared that MFIs cannot charge an interest rate of more than 26 percent on microloans (NBFC Directions 2011). However, in February 2014 RBI has removed the 26 percent interest rate cap on loans provided by the MFIs and linked the interest rate with cost of fund and base rate of Indian commercial banks. According to the RBI guidelines (2014) MFIs will have the flexibility to charge interest rates as high as the sum of their cost of funds and the lower of: (1) 2.75 times the average ―base rate‖ of the five Indian commercial banks with the largest asset levels or (2) a 10-percent margin for MFIs with loan portfolios exceeding 1 billion INR (USD 16.1 million) or a 12-percent margin for all other registered MFIs.

The other source of income include the service charge charged to the clients for loan disbursement, returns on investment and savings, fees from skill development training program etc .The commission from the insurance company, collection of written off loans are also sources of income for the MFIs.

2.7 Expenses of the MFIs

The expenses consist of the financial expense, the MFI‘s operating expenses, and loan loss expense. These are explained in detail in the sequel.

(a) Financial expense mainly consists of borrowing cost for the MFI. It is a significant component of the overall expenses of a financial institution (SIDBI 34). Financial expense refers to the amount the MFI pays for the resources they use to lend to their borrowers (ACCION 2). These expenses include interest paid to depositors (if the institution accepts savings deposits), interest and fees paid to lenders (or donors)

and any other financial costs. Unlike banks, MFIs in India are not allowed to take deposits from their clients. They are, therefore, dependent on other financial institutions for funding (Khan 7).

According to a report by Gaul (1); Geedipalli et al. (15) and Hoque, Chishty and Halloway (416) MFIs have three primary sources of funds: debt, equity and deposits. Debt capital is usually obtained from commercial and central banks in the form of borrowings and is available in the form of long-term debt instruments, bonds and commercial paper. Sapundzhieva (1) found that in most of the regions debt represents one third of the funding sources of MFIs. They observed that NGOs and NBFCs heavily dependent on debt as a source of funding. Equity is another alternative source of capital for MFIs. Equity is available in the form of Donated equity, Retained earnings, Share capital and Reserves. It is observed that MFIs reinvest their retained earnings in their operations, in case they are profitable and have no further obligations to meet. Using share capital is now a common method to raise equity. This requires the employees and clients of the MFI to invest a small part in the MFI. This in turn provides the benefits of voting right and dividends. Deposits are one of the cheapest sources of fund. Internationally, retail deposits are another low-cost source of funding for MFIs, and very common in Philippines, Peru, Uganda, Pakistan and Kenya (Jayadev and Rao 30). However, mobilization of these funds is restricted in many countries like India. According to Ganka (50), a combination of cheap sources of capital will reduce the overall financial expenses and, therefore, increase profitability. However, this will depend on the legal and policy environment of the country where the MFI is operating.

In the Indian context, the two main sources of funding for MFIs are debt and equity. Equity is available in the form of donated equity, retained earnings, share capital and reserves. Majority of the equity (60 percent) is in the form of share capital, accumulated retained earning comprises of 20 percent and donations stands for less than one percent of the total fund for the MFIs (Gaul 2). The remainder of funding comes through debt. Debt is the main source of fund for all Indian MFIs, borrowed

from banks and apex financial institutions. This helps the commercial banks to meet the mandatory priority sector lending fixed by Reserve Bank of India (40 percent of their advances) (RBI 2013). In past few years the interest charged by various lending organizations is continuously increasing (IFMR 34). This has raised the cost for not-for profit organizations. The unavailability of grants and low cost funds is one of the important causes for the increasing funding cost. The interest rate charged by the financial institutions has direct impact on the interest rate charged by the MFIs to their clients. Recently State Bank of India has declared to charge only base rate to the MFIs, so the MFIs can pass the benefit to the clients.

In addition to the interest rate, the banks charge processing fees ranging from 0.1 to 1 percent of the loan amount (IFMR 36). Some banks demand 10 percent of loan amount as cash deposit, which effects the liquidity of the MFIs and increases financial cost of the MFIs. The financial cost is further increased by the documentation, audit fees, inspection fees, and service tax, etc. Hence, it is an important factor of the cost structure of the MFIs. For the present study the cost of fund is collected from the head offices of all the MFIs.

(b) Operating expense: Operating expense is incurred in day to day operations of the head and branch offices. For a microfinance institution the operating cost is incurred in delivering credit to the clients and monitoring of disbursed loans.

Sa-Dhan found that operating expense consists of personnel expense and administrative expense (3-4). Personnel expense includes staff salaries, bonus and benefits and the taxes borne by the MFIs. Administrative expense include all the non-financial expenses directly related to provision of financial services by the MFI including the costs of travel, staff training, depreciation, rent, utilities, advertisement and consulting fees (Sa-Dhan 4).

According to Shankar (1332), the operating expense is a function of the expense of identifying, client screening, loan processing, documentation, etc. Khan and Astha (2-3) reported that operating expenses represent the cost of information gathering

(including credit and risk assessments); security arrangements to protect cash, documents, and other data; recording systems for transaction processing and control; and queuing and decision-making. It is the cost incurred to establish and maintain financial relationships. González (1) reported that transaction cost/operating expense represent sixty two per cent on average of all costs. It is a major contributor to the cost of MFIs (Ranade et al. 7; Shankar 1332, and Sa-Dhan 4). Rosenberg et al. (21) in their study on more than 6000 MFIs for the period of 2004 to 2011 confirms that, operating expense is the largest determinant of interest rate levels.

Salaries or personnel expense represent the highest portion of the operating expenses of most MFIs (Barrès 30 and Sa-dhan 4). In addition, travel expenses also form a significant part of MFI operating expenses, due to provision of services at the borrowers‘ door step (RBI 10). The other expense associated with rent, office stationery and depreciation stands for 6.2 percent of the total cost. The factors of operating expense are discussed in detail in Chapter V.

Thus operating expense is incurred in various process involved in originating and servicing loans. The present study concentrates on personnel cost and administrative costs of the MFIs.

Globally, the operating expenses of MFIs fell substantially till 2007, but subsequently increased during 2008-2011. The operating efficiency improved significantly in Africa and East Asia and the Pacific (EAP). Whereas, in the Middle East and North Africa (MENA) operating expense increased from the previous year performance and in South Asia, Latin America and the Caribbean (LAC) and Eastern Europe and Central Asia (ECA) it remain unchanged. In India, the Operating Expense Ratio (median) of the MFIs has increased from 11.63 percent in 2009 to 13.27 percent in 2011. However, in the year 2012 there was a sharp decline in operating expense of the all Indian MFIs. A large number of factors seem to effect the operating expense of an MFI in India. For instance, the factors affecting the operating expense include number of active borrowers, lending methodology, average loan size, area of operation, the number of employees in the MFI branch and the remuneration of the field workers (see Sa-dhan, 1-51; Shankar, 1331-1342; Khan, 1-30; SIDBI, 1-106 and Khan and Ashta, 1-22). Crombrugghe et al. suggested that with the increase in number of

borrowers the operating expense can be reduced (292). Gonzalez found that smaller loans are more expensive to disburse than larger loans (37). In contrast, Crombrugghe et al. found that an MFI can be benefited from increasing loan size but only upto a certain point (around INR 5400 is the optimal loan size). Larger loan sizes reduce operational costs but increase credit risks. Hence, an optimal loan size can minimize the cost of operation for the MFIs. However, the optimal loan size again depends on other factors such as lending model. For instance, Crombrugghe et al. reported that Self-help groups issue smaller loans than the other delivery models and have lower costs per borrower and per rupee lent (279).

Further, kneiding and Mas reported that with increasing age MFIs are able to increase efficiency and reduce their costs (1). On the contrary, Gonzalez reported that the relationship between age and operating expense weakens over time. It is obvious as MFIs build their customer base in early years of existence, and earns greater efficiency. This trend is positive in subsequent years but at a slower rate (40). Shankar reported that the repayment frequency and portfolio quality also seems to have impact on the operating expenses of the MFIs (1341). The operating expense is also dependent on the geographical location of the branch offices and legal status of the MFI. Gonzalez (38); Shankar (1341) and SIDBI (31) in their study indicated that the location of the branch has positive impact on operating expense of the MFIs. Khan and Ashta (8) added that operational costs could be lower in urban areas with good infrastructure, whereas cost escalates in rural areas having poor infrastructure. Hence, considering the cost difference according to location of the MFI office is necessary.

(c) Loan loss expense: The loan portfolio is one of the largest assets held by the MFIs (Kumar and Paul 1). These loans are not backed by any collateral, so default is a risky situation for the MFIs. Hence, in order to mitigate the inherent risk of loan loss, MFIs make provision for the estimated loan loss that might occur. This provision is usually referred to as ―loan loss provision expense that reflects the loss in value of a loan, assuming that it will not be recovered in full (Rosenberg et al. 12). The provision for loan loss is usually based on two approaches- ageing based approach and blanket approach[iii]. Generally, two per cent of the loan outstanding is set aside as the normal

loan losses in micro-credit. The loan loss rate is directly reflected into the lending rate of interest (Khan 8).

Rosenberg et al., (18-20) reported that the level of average loan loss has declined from four percent in 2009 to a safer level (a bit above two percent) in 2011 all around the world (except India and Mexico).

In India, the Andhra Pradesh crisis has worsened the loan loss situation of MFIs (M-CRIL 36). Another issue of All Indian MFIshighlighted by Kumar and Rai (1-2) is the extent of variance among the MFIs in nomenclature, methodologies and quantum of provisioning. M-CRIL (38) reported that NBFCs maintained a loan loss reserve of 4.6 percent of their loan portfolio, whereas NGOs and companies registered under Section 25 maintained a loan loss reserve of 2 and 0.6 percent respectively. In order to maintain consistency and clarity for loan loss provision, RBI (2013) declared that the NBFC-MFIs has to maintain the aggregate loan provision at any point of time shall not be less than the maximum of the following two quantities, viz.

a) One percent of the outstanding loan portfolio.
b) Fifty percent of the aggregate loan installments which are overdue for more than ninety days and less than one hundred and eighty days and hundred percent of the aggregate loan installments which are overdue for 180 days or more.

Hence, from the above discussion, it is observed that for a MFI or a branch to be self sufficient, the revenue earned must be sufficient to cover all three costs (the cost of funds, the MFI‘s operating expenses and loan losses). This ensures viability and long term financial stability of the institutions.

2.8 Relationship between cost structure and financial sustainability of MFIs

The cost structure of an MFI includes the expenditure components. The cost structure reflects the financial self-sufficiency of the institutions, which is a necessary condition for institutional sustainability (Brau and Woller 6). The different cost components of MFIs and their impact on overall cost of MFIs seem to have attracted substantial

research. Islam, Porporato and Waweru (54-72) examined the cost structure of the MFIs in Bangladesh to understand whether MFI can achieve sustainability under newly introduced interest cap. They observed that the factors such as the level of administrative costs, financial expenses, sources of lending funds, nature of borrower and size of the loans are significantly related to financial sustainability of the institution. The study reported that the MFIs with lower administrative costs and those that rely on client‘s savings as the main source of lending are more likely to survive under the interest rate cap. However, it would be difficult to survive for the inefficient MFIs (71).

Hartarska, Caudill and Gropper (1-27) estimated a cost function for MFIs operating in Eastern Europe and Central Asia for the period of 1999-2004. Three cost functions based on different output were formulated. They observed that MFIs became more efficient over time and the MFIs involved in the provision of group loans and loans to women had lower costs. Later on Hartarska and Nadolnyak (1207-1222) studied whether the regulation has any impact on sustainability or outreach of MFIs. They used data from 114 MFIs in 62 countries. Surprisingly, they observed that legal status does not affect the sustainability or outreach of the MFIs in those countries. Ayayi and Sene (303-324) analyzed data of 217 MFIs of 101 countries for the period of nine years (1998 to 2006). They found that financial sustainability depends on high quality portfolio, adequate interest rate and efficient management. They reported that the client outreach, the age of MFIs and the percentage of women among the clientele do not significantly influence the MFIs’ attainment of financial sustainability. Rather, the quality of the credit portfolio resulting from good credit risk management is the determining factor in the financial sustainability of MFIs.

Ganka (2010) studied the factors effecting financial sustainability of 98 MFIs in Tanzania. They reported that microfinance capital structure, interest rates charged, differences in lending type, cost per borrower, product type, MFI size, number of borrowers, yield on portfolio, level of portfolio at risk, staff productivity and operating efficiency are important determinants of MFI sustainability. Iezza (1-76) studied the determinants of financial self sufficiency of 687 MFIs in 63 countries. Kinde (1-11)

studied the financial sustainability of 14 Ethiopian MFIs for the period of eight years. The study found that microfinance breadth and depth of outreach, dependency ratio and cost per borrower affect the financial sustainability of the MFIs. Surprisingly capital structure and staff productivity has no impact on the financial sustainability of the Ethiopian MFIs for the given period.

Quite a few studies examine only operating cost of financial institutions (Masuko and Marufu 1-53; Ranade et al. 1-16; Shankar 1331-1342). Shankar (1339) found field worker compensation and cost incurred in collection activities as a major contributor to the cost. Kneiding and Mas (1-4) attempted to study the relation between age of an individual MFI and efficiency. They observed that increase in loan size improves the cost structure as it reduces the operating cost. Hosseini et al. (243-256) measure the transaction costs of obtaining credit from Islamic banks.

Sa-Dhan (1-51) attempted to study the issues of operating expenses and the factors that affect those expenses. They observed a trade-off between the operational costs of financial services and the achievement of social development objectives of the MFIs. Kyereboah-Coleman (56-71) studied capital structure of microfinance institutions in Ghana, and examined its impact on MFI performance. Haque et al. (414-425) empirically examined the existing sources of funding for MFIs and explored how changes in capital structure of MFIs affect its long-term sustainability. Bogan (1045-1058), analyses the effect of capital structure on self-sufficiency and efficiency of MFIs (study includes MFIs of Africa, East Asia, Eastern Europe, Latin America, the Middle East, and South Asia). He observed that MFI‘s asset and capital structure are associated with the performance.

Quite a few studies were conducted on interest rate of the MFIs. Dr. Yunus in his book titled ―Creating a World Without Poverty, proposed a methodology to categorise the MFIs based on their interest rate premium (2007). However, Gonzalez reported that the methodology is inappropriate to categorize the MFIs based on their interest rate, rather it sorts out MFIs whose clients are easy to serve from those whose clients are harder to serve, as measured by the operating (i.e., administrative) cost per dollar lent (2). Rosenberg et al. studied the interest rates and the costs and profits that drive

interest rates for the MFIs reporting data on MIX over a period of 2004 to 2011. They observed a deceleration in the interest rate till 2007, after that it leveled off. This is due to increase in operating cost and cost of fund during 2008 to 2011(2b).

From literature survey it is found that most of the studies are focused on factors affecting the financial sustainability of MFIs in various countries other than India. Very few empirical studies on the sustainability of the All Indian MFIsseem to have been conducted such as Crombrugghe et al. (269-299), Marakkath, Olivares-Polanco and T Radha (448-462), Rai and Rai (1-10) and Dutta and Das (728-748).

2.8.1 Cost structure and financial sustainability of All Indian MFIs

Crombrugghe et al. (269-299) studied the determinants of self-sustainability of 42 All Indian MFIs. They investigated three aspects of sustainability viz. cost coverage by revenue, repayment of loans and cost control. Results indicated that the interest rate charged by the All Indian MFIsduring that period were not enough to cover their operational and financial costs. The result suggests that the cost of providing small loans can be met, without increasing the loan size. They suggested that the costs can be reduced by increasing the number of borrowers per field officer and adopting SHG model.

In 2011, Microfinance Information Exchange (MIX) conducted a very comprehensive study based on the data of 90 MFIs for the year 2010 to understand the impact of AP crisis on the MFIs. The report reflects a deceleration in the growth of MFIs in terms of borrowers and gross loan portfolio. Along with high portfolio at risk and write-offs, low revenue was common feature for the MFIs in 2010.

The State of the Sector report 2012 and 2013, discusses the slow and orderly recovery of microfinance industry from the crisis over the years. The reports attempt to highlight the initiatives taken by the government, RBI and other development institutions in rebuilding the microfinance sector.

M-CRIL (1-81) examined the impact of newly introduced margin cap by Reserve Bank of India on the sustainability of the MFIs. The report highlights the significant contribution of microfinance in the Indian financial system, in terms of its implication

on financial inclusion. After the crisis the cost efficiency of MFIs decreased, whereas there is a sharp increase in cost per borrower. Another empirical study by Marakkath et al. (448-462) confirmed that three factors namely revenue generation factor, cost efficiency factor and growth factors which affect positively the operational self sufficiency of the MFIs.

Rai and Rai (1-10) studied financial sustainability of 26 all Indian MFIs for a period of 2005-06 to 2009-10. They observed that sustainability of the all Indian MFIs is mainly effected by the number of active borrowers, capital to asset ratio, operating expense to loan portfolio and yield. A sustainability index was created for all Indian MFIs to quantify the level of financial sustainability. The weighted average of sustainability index of all Indian MFIs for the year 2010 was 75.

2.9 Cost of Microfinance borrowing: Borrowers' perspective

From the perspective of the MFI borrowers, the cost of credit comprises of transaction cost and financial cost (Rojas and Rojas 23-46 and Hossieni et al. 243-256). Given the importance of the cost of availing loan from MFIs, several researchers have studied the cost components of MFIs in India and other developing countries.

Substantial research work seems to have been done on MFI cost components and their impact on the total cost of MFIs in different countries. Works focused on the cost of borrowing from clients' perspective seems to be relatively less. There are a few studies on cost of borrowing of the MFIs in southern part of India, Brazil and Iran (Karduck and Seibel 17-21; Swami and Tulasimala 54-72; Facihini et al. 381-407; and Hosseini et al. 243-256).

However, far less seems to be known about the cost of borrowing of the clients of MFIs in the North East Region in India, particularly in Assam. One of the objectives of this thesis to fill up this gap. In Chapter VI, the cost of borrowing has been studied from the perspective of the clients of the MFIs in Assam, India.

The interest rate charged on loans is not the only cost of credit. There are other costs associated with loan while applying and obtaining credit from MFIs. These are known as transaction costs which are unavoidable and sometimes these costs are higher than the financial cost (Rojas and Rojas 23).

The total cost for the borrower comprises transaction cost and financial cost. Financial cost includes interest, fees, commissions, insurance fund contributions, savings requirements, etc. whereas transaction cost includes the various charges imposed by the lenders beyond payments as interest (Masuko and Marufu 12-14). It involves the cost of initial visit to MFI branch which includes the opportunity cost of one day wages, transportation cost of the visit; cost to procure the necessary documents, etc. Rojas and Rojas (31-32) and Hossieni et al. (293-294) summarized the total cost of obtaining credit as,

TCC= IC+TC,

where TCC represents the total credit cost, IC is the interest cost and TC is the transaction cost. From the empirical studies of Masuko and Marufu (12-13); Hosseini et al. (299-301) it was observed that loan size, distance of the borrower‘s residence from the financial centre, traveling cost and security cost comprises eighty percent of the total transaction cost. In addition, the lending methodology also has some impact on the total cost of the borrowers. In group lending system, borrowers are overburdened with compulsory savings and participations in meetings and weekly courses. Facihini (388) also empirically found that the transaction cost of individual borrower is lower than that of groups in rural areas of Brazil. The meeting schedules of the groups‘ affect the cost of the MFIs. Shankar (1339) reported that weekly collection increases the total direct cost of the MFIs. Whereas in case of SHGs, weekly meeting schedule against the monthly schedule increases the cost of the SHGs by 34 percent (Karduck and Seibel 2). It was also observed that members have to forgo earnings to attend the meetings. Considering the pertinence of various factors on the cost borne by the lenders and borrowers, the present study tries to highlight the total cost incurred by the clients to avail loan from the MFIs.

Facihini et al. reported that the total transaction cost corresponded to 2.22 percent of the loan amount (396). They also found that the cost for borrowers with lower loan amount is higher than that for borrowers with higher loan amount. Swami and Tulasimala identified the travel cost and incidental cost, documentation expenses; and the opportunity cost as the main component of borrowers' transaction cost (65-67). More than thirty five percent of the total transaction cost was incurred in visiting the MFI offices. Opportunity costs of SHG members include the value of time spent on meetings, financial matters outside of meetings and bank-related travel. It was observed that the opportunity cost is higher when the MFIs follow the frequent collection process. Fachini et al. (395) found that opportunity cost consists of forty percent of the total transaction cost for the borrowers whereas Karduck and Seibel (2) reported that opportunity cost for SHG members stands for 2.3 percent of loans outstanding. The recent study of Dehem and Hudon (6) compares the transaction cost of rural and urban clients of Karnataka and Tamilnadu. They reported that the transaction costs seem relatively low compared to the financial cost of the MFIs.

2.10 Research Gap

It is observed that in contrast to the number of studies on sustainability of microfinance institutions in India, there are only a few recent studies which reflect the microfinance scenario in Assam. For instance, Das (39-46) studied the role of SHG as a financial intermediary for enhancing women empowerment. Sharma (1-2) discussed about the risks faced by the SHGs in Assam. Bhanot et al. (465-484) empirically examined the factors responsible for financial exclusion in Assam. There a few studies conducted on informal microfinance institutions and their activities in Assam (see Sharma 1-2; Moulick 1-3 and Das, D. 2011). However, the number of papers on sustainability of the MFIs in Assam is seemed to be less. Roy (2011) studied the performance of the MFIs operating in Assam. As mentioned above not much seems to be known regarding the cost structure, sustainability or the cost of availing loan for the borrowers of the MFIs in Assam, especially under the new regulatory regime after the AP crisis. We have not come across any study on the cost structure of the MFIs in Assam.

The number of papers on the sustainability of the MFIs in Assam appears to be very limited. Roy (2011) studied the performance of MFIs operating in Assam. However his study is based on data upto 2010, which does not cover the post AP period under the new regulations. Also Roy's work does not provide much information regarding the cost structure of these MFIs or the borrowing cost of their clients.

Similarly, from microfinance clients' perspective, earlier studies consider only the clients' transaction cost and do not take into account the financial cost (i.e. expenditure incurred in the form of documentation charge, insurance fees, service tax and the total interest paid on the loan amount). Hence, the present study considers both the transaction cost and financial cost incurred by the clients of MFIs in Assam in different loan cycles.

In this thesis the cost structure, sustainability and borrowing cost are analyzed for the MFIs in Assam during the post AP crisis period. The goal is also to identify the variables which significantly impact the financial sustainability and borrowing cost for the clients of the MFIs operating in Assam. The present study aims to suggest appropriate model that captures the dependence of the financial sustainability and cost of availing loan of the MFIs in Assam on several important factors.

Notes:

[i] The welfarist emphasize on poverty lending as measured by depth of outreach.

[ii] Institutionists assert that the financial sustainability as measured by financial self sufficiency (profitability) should be given higher priority by all MFIs (Brau and Woller, 2004).

[iii] Adopted from Kumar and Rai (2009) (a). Blanket approach: MFIs create an a priori loan loss reserve which is a percentage of the loan portfolio outstanding at the end of the financial year. A general rule of thumb adopted by the MFIs in this regard is to maintain the reserve at 2-3% of the total loan portfolio outstanding. Some MFIs also take into consideration the historical loan loss.
(b) Ageing based approach: this is a more scientific method. MFIs track ageing of past due loans and assign weights for provisioning based on the age of the loans which are due. This methodology is recommended because it results in a provision that reflects the quality of the portfolio.

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