

**IMPACT ANALYSIS OF MICROFINANCE INTERVENTION ON
SOCIO-ECONOMIC IMPROVEMENTS OF HOUSEHOLDS IN DANGS
DISTRICT GUJARAT**

Ph.D. Synopsis

**Submitted To
The Maharaja Sayajirao University of Baroda**

**For The Degree of
Doctor of Philosophy in Economics**

***By*
Ms. Kashefa Peerzada**

***Under the Supervision of*
Prof. Umesh M. Naik
Department of Economics**

**Faculty of Arts
The Maharaja Sayajirao University of Baroda**



Reg. No.: FOA/1400

27th January 2018

TABLE OF CONTENTS		
Sr. No.	Description	Page No.
	Abstract	3
1.	Brief description on the state of the art of the research topic	5
2.	Statement of the problem 2.1 Review of Literature with definitions of terms used 2.2 The Research Gap	6-12
3.	Objective and Scope of work 3.1 Objectives of the study 3.2 Scope of the Study 3.3 Hypothesis of the Study	13-14
4.	Original Contribution by the thesis	14
5.	Methodology of Research, Results and Summary 5.1 Population of the study 5.2 Sample of the study 5.3 Tools to be used 5.4 Concept of variables in the study 5.5 Statistical techniques used 5.6 Data Analysis of the study 5.7 Ethical Considerations	15-23
6.	Achievements with respect to objectives	24
7.	Conclusions, Limitations and Recommendations of the study 7.1 Conclusions 7.2 Limitations 7.3 Recommendations of the study	24
8.	Chapterization Plan	25
9.	References	26-42
	Appendix Survey form Data Code list Concepts for Kuppuswamy Classifications	

Abstract

International Labour Organization (ILO) defined “*Microfinance is an economic development approach that involves providing financial services through institutions to low income clients*”. The banking policies, procedures and systems were not suitable and sufficient prior to 1980’s for poorer, which they used to borrow money from moneylenders i.e. through unorganized sources. NABARD has suggested alternative policies, procedures and systems for poorer and introduced microfinance in banking sector.

Microfinance is the provision of broad range of financial services provided to poor and low income clients to help them to raise their income and standard of living. The micro-financing is regarded as a tool for socio-economic up-liftmen in developing countries like India. As Per the National Microfinance Taskforce 1999 - “*provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi-urban or urban areas for enabling them to raise their income levels and improve living standards*”.

United Nations declared 2005 as “The International year of microfinance”. Microfinance has thus emerged as a feasible financial alternative for poor people with no access to credit from formal financial institutions. Microfinance is an innovative financial service that caters to the specific needs of the poor, as formal institutions need collateral requirements that exclude most of the poor from their scope. Microfinance is not only viewed as “banking for the poor,” but also as an instrument of development. Originally pioneered by the Grameen Bank around 1976 in Bangladesh by Dr. Muhammad Yunus the winner of the 2006 Nobel Peace prize who sought to make financial provisions to clients conventionally, microfinance have since flourished in low income economies.

In India, the microfinance movement has almost assumed the shape of an industry embracing thousands of NGOs/MFIs, community-based self-help groups and their federations, co-operatives in their varied forms, credit unions, public and private banks. During the last decade, the sector has witnessed a sharp growth with the emergence of several Micro Finance Institutions (MFIs) that are providing financial and non-financial support to the poor to lift them out of poverty. The MFI channel of credit delivery, coupled with the national level programme of SHG-Bank Linkage, today, reaches out to millions of poor across the country

The present research analyzes the socio-economic impact of microfinance intervention with an assumption that “*the poor stay poor, not because they are lazy but because they have no access to capital*” and to find such evidence among households and specially women from Dang district in Gujarat, India.

1. Brief description on the state of the art of the research topic

The Rangarajan committee (2008) proposed Microfinance Services Regulation Bill of India which defines microfinance services as *providing financial assistance to an individual or an eligible client, either directly or through a group of mechanism for small business, agriculture, allied activities, housing or any other prescribed purposes.*

Today Microfinance is taken as an effective tool for poverty reduction. The World Bank (2000) has also proposed a set of strategies for attacking poverty: promoting opportunity, facilitating empowerment, and enhancing security. Microfinance provides financial services which help to reduce poverty by both promoting opportunities and facilitating empowerment. Microfinance offers poor people access to basic financial services, such as loans, savings, money transfer services, and micro insurance. Basically, MFIs has instituted for microcredit as their sole financial product and every different type of microcredit schemes.

An agrarian economy like India still depends on rural finance because 70% of the population depends upon agriculture for their livelihood and 40% of our GDP is contributed by rural sector. The rural poor households are landless farmers, peasants, agricultural laborers who rely on daily wages as a means of livelihood and their earnings also having considerable fluctuations from month to month. Credit is required for such people to smooth consumption over time to cover their needs in period of low income by borrowing. In developing countries, formal resources (government banks, commercial banks etc.) and informal resources (money lenders, credit societies etc.) do not show much enthusiasm to provide facilities in rural and backward areas for the benefit of poor people. The rural poorer such as landless artisans, agricultural laborer and small livestock's holders have almost been excluded from these financial services either because they are not available (collected and procedural requirements rendered them inaccessible) or simply because they are not considered creditworthy.

The Grameen Bank is regarded as the prototype of microcredit. Grameen Bank credit is motivated by a social mission: its goal is overcoming poverty, empowering the poor, especially women, and supporting start-up self-employment businesses. The schemes involve non-collateralized, jointly liable, group-based lending with a frequent installment schedule. This group lending is just one element that makes microfinance different from conventional

banking. There are many other elements which makes microfinance work effectively, including progressive lending, repayment schedules with weekly installments, public repayment, and the targeting of women and hence lending that does not involve groups has increased.

The Dangs district in Gujarat is selected for the study as it is one of the most backward districts in India identified by Planning Commission. Gujarat State has witnessed a growth rate of 11.5% during five years till 2009 with the remarkable economic progress based on inclusive growth. This multiple growth opportunities made Government of Gujarat, on the Golden Jubilee Year celebration from 1st May 2010 to announced 'Mission Mangalam' - as an integrated poverty alleviation approach in a demand driven convergence mode. 'Mission Mangalam' aims to bring the critical mass of resources to address poverty by creating a single platform for stakeholders like Banks, Industry Partners, Micro Finance Institutes and Skill Imparting Institutions, etc. to deliver desired outcomes.

There is no significant study done for Dangs district until now for measuring the performance of the Microfinance services including not only micro credit but also its other important element of savings and micro insurance specifically to measure awareness and reach of microfinance to analyze its socio-economic improvements of the households in Dang. It is also relevant to examine whether the Microfinance interventions have really made a dent in improving socio-economic status of Dangi women. The study is also including finding a difference in the outcomes between male and female headed households. These observations lead for the proposed study with an attempt to examine the extent to which MF interventions (micro-credit, micro-savings and micro-insurance) have been successful in delivering their promise.

2. Statement of the Problem

Despite the apparent success and popularity of microfinance, no conclusive evidence yet exists that microfinance interventions program through formal sources have positive effects on socio-economic status in Dangs District of Gujarat. The attention in this sector has now received from policy makers and private corporate in recent years. The existing impact if any need to be re-investigated and to measure robustness of claims that microfinance successfully alleviates poverty and empowers beneficiaries (especially women). Hence, this study revisits

the evidence of microfinance services evaluations focusing on the technical challenges of conducting rigorous socio-economic effect for microfinance services.

2.1 Review of Literature with definitions of terms used

The following is summarized and brief account of literature review on the main concepts involved in the research *viz.* family structure, socio-economic status and the target study group, microfinance.

2.1.1. Family Structure

The *family* is a basic social unit includes parents and the children, considered as a group, whether dwelling together or not. The *Family structure* provides opportunities for interactions and development of identity, self-esteem, self-efficacy that influence on development of social competence. Some of the theoretical perspectives have dominated the study of family structure and family member's development (depends on gender). The family composition perspective emphasizes family structure, and the family process perspective emphasizes family processes.

Family constitution and socioeconomic status are associated also with life satisfaction in adulthood (Louis and Zhao, 2002). Higher family income is consistently associated with higher college attendance rates and spending on education (Han *et. al.* 2003). Family structure has more influence on economic well-being than social and psychological factors (Williams's *et. al.*2000).

Financial needs and vulnerabilities change as people move through the life-cycle—from dependence on family to independence and from school to work, marriage, family responsibilities, and retirement (Ledgerwood, Joanna *et. al.*, 2013). Financial exclusion is strongly influenced by age, with youth facing significant hurdles (Johnson and Arnold 2011). To be relevant, financial service providers must modify products, services, and delivery channels to accommodate differences in life-cycle and age. Providers can respond to differing needs by developing age-specific products, such as youth savings accounts or pension funds.

The gender issues in microfinance are more important since project interventions are targeting more towards women. Then it is necessary to act to support women to overcome the obstacles they face in these relationships which prevent them from using financial services to achieve what they wish for themselves (Johnson 2000). There are some countries and rules

often prevent women from owning assets or earning activities. The gender based obstacle may be financial, economic, social, cultural, and political or legal outlines the most prevalent.

2.1.2. Family Composition (Joint or Nuclear)

The family *structure* is conceptualized as the configuration of role, power and status, and relationships in the family. In India, the structure of family can be seen broadly as of three types. The *traditional family* is the one living jointly and inclusive of members from different generations. The *extended family* is one, where married sons and brothers live separately, but they continue to have *joint* property and share income. The *nuclear* type of family is the one, in which the group consists of a male, his wife and their children. In nuclear families, the concept is ‘me my wife and my children’ with no place for others. Kapadia KM (1966) has defined a *joint family* as;” they should dwell in the same house, take their meals and perform their worship together and enjoy property in common”. Common residence and joint preparation of food as well as eating together were the external symbols of homogeneity of the family. There is a gradual change in the family structure of urban India towards a nuclear pattern in which, it can be assumed, that the conjugal pair is the critical unit.

2.1.3. The Family Process Perspective (Education, Socio-Economic Status)

The family processes influence their well-being and these processes mediate the effects of family structure (Acock and Demo, 1994; Demo and Acock, 1988). The family processes are important for their relationship between every person in the family. Family structure, however, can have an impact on family processes. Different family structures are also likely to have different scores on various background variables and individual characteristics. The most important variation in resources across family structures is income.

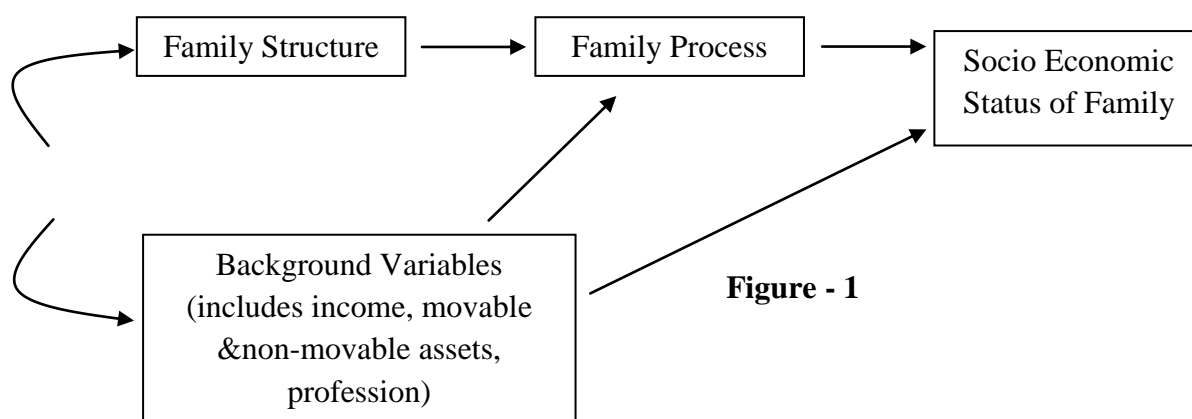


Figure - 1

A theoretical model (**Figure – 1**) could relate family structure and family process with other situational environment for the growth of income in family and socio-economic status.

Several studies had suggested total five factors for socioeconomic status aspects which include income, education, occupation, family and household and housing respectively. Socio Economic Status (SES) is established determinant which is known as Kuppuswamy's socioeconomic status tool originally proposed in 1976. The Kuppuswamy's socioeconomic status scale as mentioned in **Code List** (see **Appendix–II** and **Appendix - III**) used to determine the socioeconomic status of every participant in which data related their educations, assets owned, occupations and their monthly income etc.

2.1.4. Savings and Micro Savings

The term Savings (i.e. deposit) refers to money kept aside for the purpose of future use. Savings generally represent only one part of an individual's current income (assets) and unlike investments; they usually have a minimal exposure to risk. Microfinance branch of small deposit accounts recommended as an incentive to those with lower incomes for saving money which are like savings accounts, but designed for small deposits. There may be either low minimum deposits or no minimum deposits without service charge.

2.1.5. Insurance and Micro insurance

Insurance is a contract known as *policy*, in which an individual or entity receives financial protection or reimbursement against losses from an insurance company. The company pools clients' risks to make payments more affordable for the insured. Insurance policies are used to hedge against the risk of financial losses, both big and small, that may result from damage to the insured or her property, or from liability for damage or injury caused to a third party.

The micro insurance is the protection of low-income people (i.e. those living on Below Poverty line) against specific perils in exchange for regular premium proportionate to the likelihood and cost of the risks involved.

Micro-finance has emerged as new millennium tool for eradication of poverty in last decade. The proponents of micro-finance argue that it can resolve the problem of poverty by offering poor people micro-credit (small loans) and other financial services like micro-savings and micro-insurance. The micro-insurance is not properly defined as micro-credit because it refers to schemes designed, marketed and operated for poor. The insurance is comparatively more complex than savings and credits since it includes payment of premium and non-financial services with substantial amount of payment on claims. In every micro-insurance

scheme, mostly five parties are involved namely the insuree, the insurer, the care provider, the third-party administrator (TPA) and micro-finance provider (NGO / MFI). The workings of all these parties (Figure – 2) are interconnected and more specific TPA provides insurance management services and an integral part of providing micro insurance in India especially in rural areas.

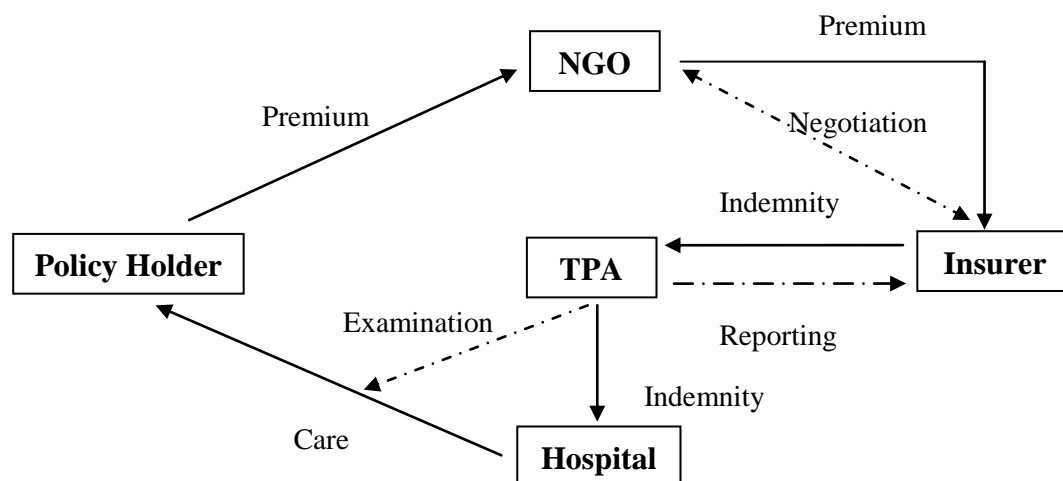


Figure – 2: Typical Microfinance Contract
(Source: Journal compilation @ 2010 Institute of Developing Economics)

2.1.6. Credit and Micro credit

In accounting, credit is the negative side of a balance sheet account and the positive side of a resulting item. A credit is an outstanding amount that is due to a creditor by a (debtor) borrower. In financial accounting system, this is recorded on the right side of the balance sheet (negative) as it is a decrease in assets. Crediting an account implies that there is a negative amount in that account. The individual or company that issues a credit is known as the creditor. Credit is normally given in exchange for a product or service given by the creditor to the debtor. Payment of the credit is expected in an agreed time.

"All progress is born of inquiry. Doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention" – quoted by Hudson Maxim (1853 -1927), the famous research chemist and inventor. This quotation of Maxim brings out the significance of research, increased amounts of which makes progress possible.

Microcredit is the extension of very small loans to borrowers who is not able to provide collateral. Microcredit is part of microfinance which provides wider range of financial services.

Reserve Bank of India (RBI) raised the micro credit collateral free loans limits for lending by microfinance institutions (MFIs). In its monetary policy, April 2015, the central bank raised the total indebtedness of a borrower to Rs.1 lakh, doubling it from the previous limit of Rs. 50,000. This excludes educational and medical expenses. It also clarified that MFIs can disburse loans to a borrower with a rural household annual income of Rs. 100,000 as compared with the earlier limit of Rs. 60,000 and in case of customers in the urban or semi-urban regions, the annual income limit has been raised to Rs. 160,000 from Rs. 120,000 earlier.

2.2 The Research Gap

Across the world today's micro financing have developed for over 200 years when the theorist Lysander Spooner was writing over the benefits from small credits to entrepreneurs and farmers as a way getting the people out of poverty. But it was at the end of World War II with the Marshall plan the concept had a big impact. The World Bank today estimates that more than 16 million people are served by some 7000 microfinance institutions all over the world i.e. about 500 million families benefited from this small credit making new business possible. At a Microcredit Summit gathering in Washington DC the goal was reaching 100 million of the world's poorest people by credits from the world leaders and major financial institutions.

Microfinance has been considered as a powerful instrument to fight poverty and create income opportunities for the low-income population, particularly in developing countries. There are several studies which show that microfinance can lead to an increase in income, more employment opportunities, better nutrition for families, greater high school attendance, empowerment of women, and subsequently alleviating the spiral of poverty (Borbora and Mahanta, 1995; Gaonkar, 2001; Mishra & Hossain, 2001; Dunn & Arbuckle, 2001; World Bank, 1999; Puhazhendhi and Satyasai, 2000; Manimekalai, 2001; Dunn & Arbuckle, 2001; Mishra et al, 2001; Hossain, 1988; Todd, 2001; Chen and Donald, 2001; Barnes, 2001; Pronyk PM, et al., 2006).

After economic liberalization in India since 1991, the new economic environment helped microfinance organization in their functioning according to the market demands. Some of the researches become essential to focus on several different areas such as depend on poorer assets requirement, lack of asset management, over-dependence on credit, dormant of saving account and insurance policy, lack of training, public importance and awareness about MFI, absence of women oriented work and empowerment etc.

2.2.1. The Research Questions

Gujarat is a vibrant state in India with sound macroeconomics facets. As per planning commission and census study 2011, the most backward district in the country is Dangs in Gujarat. What draws the researcher attention is on how one of the most developed states has the most backward district in the economy. To what extent does microfinance play role here. Hence, this study revisits the evidence of microfinance services comprehensively comprising its core elements Microcredit, Micro savings and Micro Insurance evaluations focusing on the technical challenges of conducting rigorous socio-economic impact analysis. There is no significant study in Dangs district comprehensively measuring the performance of the MF services specifically on the socio-economic impact at household level. Ultimately, the question can be asked that - Does Microfinance work?

- Whether microfinance interventions have really resulted in improving socio-economic status of Dang households and especially of women?
- Does microfinance have changed the quality of life of rural household at ground level?
- Does microfinance contribute in growth and income of the individual / family?
- What effect does it have on other systems or sources of finance e.g. formal or informal or both?
- Which other products and services of MFIs, Banks or Insurance organizations in rural areas are found more effective in meeting financial needs?
- Whether structural asymmetry of MFIs in different geographical areas to suites needs of microfinance beneficiaries?
- How innovative usages of technology can offer low cost speedy services by formal and informal resources to beneficiaries?

3. Objectives and Scope of Work

3.1 Objectives of the study

The questions arise are basis of this study and formation of objectives for this study.

3.1.1. Primary Objective

To measure and assess the impact of microfinance interventions on socio-economic improvement on living standards of the beneficiaries of Dangs district of Gujarat State.

3.1.2. Secondary Objectives

- i.** To delve into the respondents' preference for the formal and the informal sources of finance.
- ii.** To examine the source and utilization of credit by household
- iii.** To assess the contribution of microcredit in growth and income of the individual / family
- iv.** To study the benefits of savings on household.
- v.** To study the extent of use of micro insurance by the households.
- vi.** To know the perception of beneficiary on benefits from micro insurance.
- vii.** To assess problems faced by the household in availing microfinance services /
- viii.** To know problems faced by Banks in extending microfinance services.
- ix.** To find out the different components (factors) responsible for socio economic impact on beneficiaries by microfinance intervention in Dang Districts.
- x.** To asses improvement in socio-economic status of Dangi women due to microfinance.

3.2 Scope of the Study

The scope of this study is restricted to only Dang Districts of Gujarat where microfinance services provide through Formals Sources (such as Commercial Bank, Self Help Group, Co-operative banks etc.).

3.3 Hypothesis of the study

With reference to Primary Objective:

H₀= Microfinance intervention have not made socio-economic improvement in living standards of individual beneficiaries in the Dang districts of Gujarat State.

This is a complex hypothesis in context of different types of data which may require from householders to understand the socio-economic impact of any microfinance resources such as family type, residence area type, gender, socio economic status etc. Hence it is necessary to test some sub hypotheses independently using these parameters independently. For secondary objectives, exploratory study is conducted.

H₀= Microfinance intervention have not made socio-economic improvement in living standards of individual beneficiaries in the Dang districts of Gujarat State.

H.1₀ = Microfinance intervention have not made socio-economic improvement in living standards of family type participants.

H.2₀ = Microfinance intervention have not made socio-economic improvement in living standards influenced by gender of the participants.

H.3₀ = Microcredit services have not made socio-economic improvement in living standards of borrowers of the Dang District.

H.4₀ = There shall be no correlation between factors of economic impact and factors of social impact by microfinance intervention of formal sources.

H.5₀ = There shall be no Discriminant between variables of borrowers or non-borrowers of microfinance intervention of formal sources.

4. Original Contribution by the thesis

The entire work in this synopsis and as well thesis is the original work, researches with respect to the socio-economic impact of microfinance (formal sources) on their beneficiaries for which at present there is no systematic study conducted so far in Gujarat and that to in Dang District. The primary focus of the study is to evaluate effectiveness and efficiency of microfinance delivery model and services where it is possible suggest required modifications

to strengthen their outreach to poor with long term sustainability of the MFIs as vehicle of socio-economic transformation.

5. Research, Results and Summary

5.1 Population of the study

The Dangs district (which was in ancient times known as Danda-Karanya) is the only district of the Gujarat State with dense forest having 311 villages divided in 3 talukas (i.e. blocks) named Ahwa (100 villages), Waghai (106 villages) and Subir (105 villages). This is most backward district in India having district head quarter at Ahwa.

The population data as per Census 2011 published by Government of India for Gujarat state reveal that population of Gujarat has increased by 19.17% in the during 2001-2011 compared to 1991-2001 (20.66%).

Table –1 Population of Gujarat and Dang Districts (Census hand book 2011 in crores)										
Place	Description	Overall			Urban			Rural		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Gujarat	Population	6.04	3.15	2.89	2.57	1.37	1.20	3.47	1.78	1.69
	Literate	4.11	2.35	1.76	1.97	1.06	0.91	2.14	1.12	1.02
	SC	0.41	0.21	0.20						
	ST	0.89	0.45	0.44						
Dang Districts (2011)	Population	0.23	0.12	0.11	0.03	0.01	0.01	0.20	0.11	0.10
	Literate	0.14	0.08	0.06	0.02	0.01	0.01	0.12	0.07	0.05
	SC	0.02	0.01	0.01						
	ST	0.21	0.11	0.10						

The research being designed for this study is primarily qualitative and quantitative both. It is quantitative because it involved the data belongs to individual which are to be compared with another individual with respect to problem. This becomes the main frame for the research objectives and problems with the various key parameters for study. The qualitative data (in *Likert data* form) depends on different factors responsible for conclusive research.

5.2 Sample of Study

A sample as the name implies is smaller representation of a larger population, where the data of same phenomenon are collected (using Survey Form – **Appendix - I**). For present pilot study having a sample of 104 participants of data surveyed for the population of 600 participants planned (as per formula calculated). Non-probability convenience method for

sampling was used in the present study.

5.2.1 Pilot Study: This is where the data collection questionnaire was tested and or piloted and modified there off. This also took into consideration the language spoken and understood by the households' respondents. It was conducted in 2016 in Dang covering two main blocks/tehsils namely Ahwa which constitute a city area in the district and Waghai villages with randomly selected 104 participants (52 male and 52 female participants) categorized as follows

Membership wise distribution of data			
Membership Year	Borrower	Non-Borrower	Total
2010	12	4	16
2011	10	2	12
2012	14	2	16
2013	14	6	20
2014	9	5	14
2015	22	3	25
2016	1	0	1
Total	82	22	104

Universe (Population Size): i.e. how many people are in the group represents the samples (assumed here total sum of four districts assumed). The data includes members of credit societies from four districts of Gujarat.

Sample Size (n) : There is a need to understand how many data are required for research analysis some of the assumptions were considered in drawing the numbers such as:

Margin of error(ME): This is the plus-or-minus figure normally reported may vary from 1% to 5% (in this it is assumed 4% for current data).

Confidence level : This tells how sure about the error of margin. It is expressed as a percentage and represents how often the true percentages of populations who would pick an answer lie within the margin of error (assumed 95%) and the value of z score taken as 1.96.

Estimated Response Rate (p) : This is a percentage value of participate who responded in the survey. This value depends on different factors and distribution method assumed (in this survey it was assumed 50%).

The formula used : $ME = z * \text{SQRT} ((p * (1-p)) / n)$ where n is calculated sample size. (The calculated value of n comes out to be approximately 600)

5.3 Tools to be used

A structured **Questionnaire** (using Survey Form – **Appendix - I**) was prepared which included all the data quantitative and qualitative in nature. This survey form designed to capture every possible basic information which are useful and creates domain of social environment (Part – 0), Credit Loan Related and its impact on family income (Part – I and Part – II)), saving related data (Part – III), Micro Insurance related data (Part – IV), to capture data for factors responsible for socio economic impact (Part – V) and factors for problems faced by villagers (Part –VI). Some of the parts of the form having data in *Likert Scale* Format such as 5 points scale and 2 points scale for factor analysis and which will be helpful in conclusion. The following is a brief account of these data concepts involved with their variables which were measured in the present study.

5.4 Concept of variables in the study

Social impact (poverty assessment) is the major concept of this study for Microfinance Activities in Gujarat State, more precisely at district level (rural and urban areas). This concept is studied in context of Family Structure, living conditions, economic status and other development environment concept. In relation to the Dependent Variables (DV) as an Independent Variables (IV) were used as standardized.

Family Structure	Gender Categories	:	Male and Female;
	Type of Families	:	Nuclear and Joint
Economic Status	Socio-economic Status	:	Kuppuswamy Scale defined.
Assets	Housing	:	Katcha, Semi Pucca, Pucca
Living Area	District Type	:	Rural and Urban
Education	Professional or Non Professional		
Occupation	Skilled, Semi-Skilled or Unskilled		

5.5 Statistical Techniques used

The statistical analysis of the data helps for conclusion and findings of the study. Appropriate statistical techniques will be used in the study to analyze data. However, some of the statistical techniques used in this pilot study for data analysis are listed as follows:

- Top Box Analysis
- Spearman's rho (correlation coefficient)

- Cronbach's alpha test
- Test for normality
- Mann-Whitney U-Test
- Levene's Test for Equality of Variances
- Principal Component Analysis (PCA)
- Factor Analysis (FA)
- Discriminant Analysis

The above mentioned statistical techniques will be used to identify impact and measure of effectiveness of presence of credit societies.

5.5.1 Data Classifications, Types and Measurement scales

The data are classified in group (type of participant, survey site, family type etc.) and structured format of questionnaires to collect, measure, analyze and interpret from credit societies in selected areas of four districts of Gujarat State.

The surveyed data are entered through MS Excel 2007 worksheets and the alphabetical nature data also entered using numeric codes (as per Appendix). Some of the data of the survey form were converted in *Likert Scales'* format. The *Likert Types* of data uses two different methods of item selection: (1) *item analysis*, in which selection is based on the correlation of item score with total score; and (2) the employment of a *criterion of internal consistency*, which is used to examine, for every statement, the difference in average item score between high-scoring and low-scoring groups defined based on total score.

5.6 Data Analysis

5.6.1 Basic environmental Data analysis

The survey data form (see Appendix) is divided into different parts with reference to data characteristics and requirements from the participants. Hence the data analysis carried out accordingly.

The average age of all **104** pilot surveyed participants is 40.1 years which includes 50.0% male participants with average of age is 42.3 years and 50.0% of female participants with average age are 38.0 years. For further study purpose the ages are classified into two different groups' i.e. first group of **age < 37** years and second group of **age > 36**. The average age of

first group is 32.1 years, having male's average age is 32.2 years, while female's average age is 32.0 years and the average age of second group is 45.7 years, having male's average age is 47.7 years, while female's average age is 43.2 years respectively.

The data of participants for SES (using **Kuppusswamy Scales**) includes nil from Upper (I), 21% from Upper Middle (II), 64% from Lower Middle (III) and 15% from Upper Lower (IV) respectively.

5.6.2 Correlation between categorical data variables (Spearman's rho)

The correlation between categorical types of data such as poverty line, gender, age, social economic status (Kuppusswamy Scale classification), family type etc. calculated $p < 0.05$.

5.6.3 Test for Data Reliability (Cronbach's alpha test)

It is essential to understand whether responses to every question in the survey are internally consistent. It is imperative for Likert-type scales to calculate and report Cronbach's alpha coefficient for internal consistency reliability. The test of data was done separately for every part of the survey forms divided into different group segment.

The Cronbach's Alpha for **SV variables** data the survey is 0.801 and Cronbach's Alpha based on standardized item is 0.784 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **IN variables** data the survey is 0.887 and Cronbach's Alpha based on standardized item is 0.884 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **SE variables** data the survey is 0.911 and Cronbach's Alpha based on standardized item is 0.947 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **SS variables** data the survey is 0.946 and Cronbach's Alpha based on standardized item is 0.947 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **MC variables** data the survey is 0.976 and Cronbach's Alpha based on standardized item is 0.976 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **MS variables** data the survey is 0.978 and Cronbach's Alpha based on standardized item is 0.978 which is excellent and most reliable to internal items consistency.

The Cronbach's Alpha for **MI variables** data the survey is 0.893 and Cronbach's Alpha based on standardized item is 0.828 which is excellent and most reliable to internal items consistency.

5.6.4 Top Box Analysis for Borrowers and Non-Borrowers

The important data of survey question (e.g. Part - V) is converted in five-point scale *Likert Scale* format *i.e.* 1 = Strongly Disagree, 2= Disagree, 3 = Neutral, 4= Agree and 5 = strongly Agree respectively and for questions (Part – 6) a two-point scale survey *i.e.* 1= Yes, and 2 = No, respectively. Technically, *Likert scale* data are *ordinal*. Rating scales are used widely. In the absence of any benchmark or historical data top-box and top-two-box scores calculated. Some of the important variables are (savings) SV variables, IN Variables, Micro credit (MC) details are as follows (2-point scale survey).

Table – 2 Responses of Saving Habits (in %)					
Var.	Descriptions	Barrowers & Non-Borrowers		Only Barrowers	
		Yes	No	Yes	No
SV1	To face uncertainties relating to employment	40.2	59.8	19.5	23.5
SV2	To face uncertainties relating to health	40.2	59.8	21.7	21.3
SV3	For children education	36.0	64.0	19.3	23.7
SV4	For children marriage	35.2	64.8	18.7	24.3
SV5	For old age security	23.5	76.5	13.0	30.0
SV6	To repay loan amount	36.2	63.8	23.8	19.2
SV7	To maintain social status	40.2	59.8	22.0	21.0
SV8	Any Other	6.8	93.2	3.2	39.8
Overall		32.3	67.7	17.6	25.4

Simple percentages were employed to analyze every question (Yes or No) responded by either participant as borrower and non-borrower. The percentages of responses for SV1 thru SV8 variables were calculated and tabulated Table – 2 the saving habits who are only

borrower is only 18% while the 14% participants having saving habits even though they are not borrowing money.

In the survey instrument the IN variables (2-point scale) for instance having yes or *no* i.e. binary replies in nature and hence equal values of percentage could possible. As tabulated below in Table – 3 the percentages of responses for every participant either borrower or non-borrower respectively only 14% participants having insurance related importance.

Table – 3 Responses of Insurance Habits (in %)					
Var.	Descriptions	Barrowers & Non - Barrowers		Only Barrowers	
		Yes	No	Yes	No
IN1	Increase in financial security	19.5	80.5	11.0	32.0
IN2	Increase in security against accident and death	21.7	78.3	11.5	31.5
IN3	Increase in Peace of mind and feeling of protection	9.0	91.0	5.3	37.7
IN4	Increase in risk bearing capacity	15.2	84.8	8.7	34.3
IN5	Any other	5.5	94.5	3.0	40.0
Overall		14.2	85.8	7.9	35.1

The survey instrument with respect to the MC variables (2-point scale) having percentage which are tabulated below in Table -4 which shows only 20% participants having importance.

Table – 4 Responses of Problems in Micro Credit (in %)					
Var.	Descriptions	Barrowers & Non-Barrowers		Only Barrowers	
		Yes	No	Yes	No
MC1	Adequate Loan Amount	21.2	78.8	18.7	24.3
MC2	Simple procedure in availing loan	24.2	75.8	19.0	24.0
MC3	Reasonable Rate of interest on Loans	23.2	76.8	18.3	24.7
MC4	Loan timely sanctioned	20.8	79.2	16.0	27.0
MC5	Loan utilization check was done	25.7	74.3	19.0	24.0
MC6	Easy Repayment policy	23.0	77.0	16.8	26.2
MC7	Bank branch nearby	22.0	78.0	16.0	27.0
MC8	Interaction with the bank staff is comfortable	26.7	73.3	18.3	24.7
MC9	Waiting period is less	18.5	81.5	12.3	30.7
MC10	Credit linkage with Marketing	10.2	89.8	8.8	34.2
MC11	Credit linkage with Insurance	11.5	88.5	10.0	33.0
MC12	Received training related to micro-credit	11.5	88.5	9.0	34.0
Overall		19.9	80.1	15.2	27.8

5.6.5 Test for Normality

Likert scales by definition not normally distributed and having the greater variance in data set and the closer the central tendency is to the edges of the scale, the more likely it violates the assumption of normality in the t -test. To analyze ordinal data statistically, non-parametric tests should be used.

5.6.6 Mann-Whitney U-test

This is a non-parametric equivalent test of the independent t test for two independent groups such as family type (joint and nuclear), gender (male and female) and area of residence type (rural and urban) for ordinal data. Several assumptions for this test need to be met. The most important are: (a) coincidence of the sample and (b) independence of observations.

5.6.7 Levene's Test for Equality of Variances

The Levene's test is an inferential statistic used to assess the equality of variances for a variable calculated for two or more groups. Some common statistical procedures assume that variances of the populations from which different samples are drawn are equal.

The Levene's Test			
<i>t</i> -test (equality of means)	<i>p values</i>	<i>F test</i> (equality of variances)	
		≤ 0.05	> 0.05
	≤ 0.05	(1)	(2)
	> 0.05	(3)	(4)

If the p -value of Levene's test is less than some significance level (at present $p < 0.05$), the obtained differences in sample variances are unlikely to have occurred based on random sampling from a population with equal variances. The Levene's tests include analysis of variance (F test) and t -tests. Levene's test is often used before a comparison of means. When Levene's test shows significance, one should switch to more generalized tests i.e. non-parametric tests.

5.6.8 Principal Component Analysis (PCA)

A principal component can be defined as a linear combination of optimally-weighted observed variables. In principal component analysis, the first component extracted accounts for a maximal amount of total variance in the observed variables. Under typical conditions the first component will be correlated with at least some of the observed variables. It may be

correlated with many. Principal component analysis parsimoniously reduces information to the few common uncorrelated components or higher level relationships.

5.6.9 Factor Analysis (FA)

The *factor analysis* normally used in exploratory data analysis to explore the data for patterns, confirm our hypotheses, or reduce the many variables to a more manageable number. The factors obtained for all Likert type data providing a significant concept of objectives and confident to get some meaningful relation between variables.

5.6.10 Correlation between factors of variables

Significant partial relationship between the factors obtained for all variables (referred in Chronbach's Analysis) shows that there is some impact on women empowerment and upliftment due to support from Microfinance support.

5.6.11 Discriminant Analysis

In order to identify the factors that make a householder a borrower or non-borrower in these study two broad groups of characteristics or variables assumed such as the first group consists of *demographic* and *economic* respectively while the characteristics of other group includes *habits* such as *saving habit* and *insurance habit* respectively.

5.6.11.1 Variables for first group – some of the important variables assumed (referenced to Kuppaswamy Scale) such as gender, family type, family income, age, education, house type, house ownership and residence area (rural, urban – for Dang District it is considered only rural so may not be considered) and so on...

5.6.11.2 Variables for second group – some of the important variables for *habits* are considered with respect to saving, no saving, insurance and no insurance habits and so on.

5.7 Ethical Considerations

The researcher considered the research values of voluntary participation, anonymity and protection of respondents from any possible harm that could arise from participating in the study. Researcher also introduced the purpose of the study as a fulfilment of a Ph.D. degree and not for any other disguised motive by the researcher and requested the respondents to participate in the study on a voluntary basis and refusal or abstaining from participating was

permitted. The researcher also assured the respondents of confidentiality of the information given and protection from any possible harm that could arise from the study since the findings would be used for the intended purposes only.

6. Achievements with Respect to Objectives

The primary objectives of the study were to identify impact of presence of microfinance in rural areas to women. The entire work of this thesis is the original work, researches with respect to the socio-economic impact of microfinance (Credit, Savings and Insurance) on their members / beneficiaries for which at present there is no systematic study is conducted in Dang Districts of Gujarat. So far from the pilot study and from the primary survey what is observed is formal sources of finance viz. commercial banks, cooperative banks and SHGBLP are more popular than that of informal sources viz. moneylenders, friends and relatives. But the potential of insurance sector in reaching poor is enormous. Presently the awareness level is not much among the households about the micro insurance policies whether individual or group micro insurance schemes.

7. Conclusions, Limitations and Recommendations of the study

7.1 Conclusions

The study has brought out formal sources for microfinance contribution to socio-economic welfare of its members especially women by offering micro finance services to them. Though there is a need to put more thrust to implement Government Schemes (make policies more flexible) in rural areas specially to empower women. It was also discovered that, risk of nonpayment by the creditors, cultural expeditions and other social factors affect women entrepreneurial development.

7.2 Limitations

Some of the limitations of the study are:

- Internal and Structural weakness at basic level of microfinance.
- Much dependence on governmental policies and financial assistance.
- Restrictive provisions of law and Political Interferences.

- Lack of professional management and lack of adequate infrastructure such as usage of IT infrastructure and communication facilities.
- Formal resources still follow the traditional management techniques.
- Lack of proper policy support resulting performance in mismanagement, inefficiency, and corruption.
- People are not aware about the objectives of the movement (lack of good leadership).
- The microfinance movement (e.g. savings and insurance) has suffered from inadequacy of trained personnel.

7.3 Recommendations of the study

On the basis of the findings of the study, the following recommendations were made:

- The policies of the microcredit should be maintained with increased capacity on lending powers to make available finances for the success of entrepreneurship development.
- The microfinance organizations should enhance its campaign programs to encourage more awareness and client base for micro insurance schemes.
- Well defined training module to be structured for insurance intermediaries for rural India.
- Stereotype on women and stigmatization should be discouraged to allow more of women entrepreneurship participation. Also, poverty reduction can effectively be achieved in rural household provided women are given the opportunity to obtain credit facilities and be self-reliance.
- NPA of the nationalized banks to be controlled and enhanced financial literacy of not only loans but also saving schemes and individual or group micro insurance schemes for the low-income group to be strengthen.

8. Chaptalization Plan

The present research study is planned to present in following suggested chapters

Sr. No.	Chapter	Page
1.	Chapter - I Introduction Problem Statements and hypothesis testing	

2. Chapter – II
Review of Literature
Objectives and Hypotheses
 3. Chapter – III
Research Methodology
 4. Chapter – IV
Data Analysis and Interpretation
 5. Chapter – V
Discussion and Conclusion
Limitation and Recommendation
- References
Appendix

9. References

1. Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality Progress*, 40(7), 64-65.
2. Armendáriz, Beatriz and Jonathan Morduch (2005): *The Economics of Microfinance*, Chapter 6 Savings and Insurance, Cambridge, Mass. and London: The MIT Press.
3. Aslanbeigui N, Oakes G and Uddin N. (2010). Assessing Microcredit in Bangladesh: A critique of Concept of the Empowerment, *Review of Political Economy*, Vol. 22, No. 2, 181- 204.
4. Bairwa M, Rajput M, Sachdeva S. Modified Kuppaswamy's socioeconomic scale: social researcher should include updated income criteria, 2012. *Indian J Community Med* 2013; 38:185-6
5. Bartholomew, D. J. (1980). Factor analysis for categorical data. *Journal of the Royal Statistical Society Series B (Methodological)*, 42(3), 293-321.
6. Bartholomew, D., Knotts, M., & Moustaki, I. (2011). *Latent variable models and factor analysis: A unified approach*. (3rd ed.). West Sussex, UK: John Wiley & Sons.

7. Barslund, Mikkel and Finn Tarp (2008): Formal and informal rural credit in four provinces of Vietnam, in: *Journal of Development Studies*, 44(4), pp. 485-503.
8. Bhat, Ramesh and Nishant Jain (2006): *Factoring Affecting the Demand for Health Insurance in a Micro Insurance Scheme*, Working Paper No. 2006-07-02, Ahmedabad: Indian Institute of Management.
9. Beatriz Armendariz de Aghion, Jonathan Morduch (2005), *The Economics of Microfinance*, Publishers The MIT Press. Cambridge, Massachusetts, London, England, Copyright @ Massachusetts Institute of Technology.
10. Bhardwaj RL. Manual for socio-economic status scale. National Psychological Corporation, Agra, 2001.
11. Cattell, R.B. (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York, NY: Plenum Press.
12. Cattell, R.B. (1973). *Factor analysis*. Westport, CT: Greenwood Press.
13. Child, D. (2006). *The essentials of factor analysis*. (3rd ed.). New York, NY: Continuum International Publishing Group.
14. Clason, D. L., & Dormody, T. J. (1994) Analyzing data measured by individual Likert-type items. *Journal of Agricultural Education*, 35(4), 31- 35.
15. Cooley, W. W., and Lohnes, P. R. (1971). *Multivariate Data Analysis*. New York: John Wiley & Sons.
16. CRISIL Ratings, 2009, India's top 50 Microfinance Institutions pp 7-8.
17. CRISIL Ratings, June 2014, India's 25 leading MFIs. pp 24-49.
18. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*. 16, 297-334.
19. de Winter, J.C.F. and D. Dodou (2010), Five-Point Likert Items: t test versus Mann-Whitney-Wilcoxon, *Practical Assessment, Research and Evaluation*, 15(11).
20. Darlington, R.B. (2004). *Factor Analysis*. Website: <http://comp9.psych.cornell.edu/Darlington/factor.htm>
21. Develtere, Patrick, and An Huybrechts. "Evidence on the social and economic impact of GB and BRAC on the poor in Bangladesh." N.p., 2002. Web.
22. Dichter, T.M. (1999), *Non-governmental Organizations in Microfinance: Past, Present and Future – An Essay, Case studies in Microfinance*, World Bank, Washington, DC, pp. 12.

23. Everitt, B., (1981): Cluster analysis. 2nd edition. London-New York. [4th edition available: Everitt, B., Landau, S., Leese, M., 2001: Cluster analysis. 4th edition. London-New York]
24. Fisher, R. A. (1936). "The Use of Multiple Measurements in Taxonomic Problems." *Annals of Eugenics* 7:179–188.
25. Forbe's List prepared by Microfinance Information Exchange (MIX).
26. "GB – Women Empowerment and Poverty Alleviation through Micro Credit." Government of India, n.d. Web.
27. Gine, Xavier, Robert Townsend und James Vickery (2007): *Patterns of Rainfall Insurance Participation in Rural India*, Policy Research Working Paper 4408, Washington DC: World Bank.
28. Gine, Xavier and Dean Yang (2007): *Insurance, credit and technology. Field experimental evidence from Malawi*, Policy Research Working Paper 4425, Washington DC: World Bank.
29. Gimbari, I. (2002). Africa creeps along path to democracy, *the New York time series*.
30. Gnanadesikan, R. (1977). Methods for Statistical Data Analysis of Multivariate Observations. New York: John Wiley & Sons.
31. Gordon, A. D., (1999): Classification. 2nd edition, London and others
32. Hair J. F, Black W. C., Babin B. J, Anderson R. E and Tatham R. L (2009). *Multivariate Data Analysis*, New Delhi: Pearson Education.
33. Hand, D. J. (1981). Discrimination and Classification. New York: John Wiley & Sons.
34. Hand, D. J. (1982). Kernel Discriminant Analysis. New York: Research Studies Press.
35. Hashemi S. M, Schuler S. R. and Riley A. P. (1996). Rural Credit Programs and Women's Empowerment in Bangladesh, *World Development*, Vol. 24, No. 4, 635-653.
36. Hatcher, L. (1994), A step-by-step approach to using the SAS(R) system for factor analysis and structural equation modelling. Cary, NC: SAS Institute.
37. Habing, B. (2003). Exploratory Factor Analysis. Website: <http://www.stat.sc.edu/~habing/courses/530EFA.pdf>
38. Jabbar, M.A., S.K. Ehui and R. von Kaufmann (2002): Supply and Demand for Livestock Credit in Sub-Saharan Africa: Lessons for Designing New Credit Schemes, in: *World Development*, 30(6), pp. 1029-1042.

39. Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical Education*, 38, 1212-1218.
40. Johnson 2000. "Gender Impact Assessment in Microfinance and Microenterprise: Why and How?" *Development in Practice* 10 (1): 89–93.
41. Johnson, S., and S. Arnold. 2011. "Financial Exclusion in Kenya: Examining the Changing Picture 2006–2009." In *Financial Inclusion in Kenya: Survey Results and Analysis from FinAccess 2009*, 88–117. Nairobi: FSD Kenya and Central Bank of Kenya.
42. K Mutua, P Nataradol, M Otero, The view from the field: Perspectives from managers of microfinance institutions, *Journal of International development*, March 1996, Volume 8, Issue 2, pp 179-193,
43. Kapadia, K.M (1966). *Marriage and Family in India* (3rd ed.), Bombay: Oxford University Press.
44. Khandker, Shahidur R., Baqui Khalily, and Zahed Khan. "World Bank Discussion papers - GB Performance and Sustainability." World Bank, 1995. Web.
45. Kim, J.O. and Mueller, C.W. (1978a), *Introduction to Factor Analysis: What It Is and How to Do It*, Sage University Paper Series on Quantitative Applications in the Social Sciences, series no. 07-013, Beverly Hills: Sage Publications.
46. Kim, J.O. and Mueller, C.W. (1978b), *Factor Analysis: Statistical Methods and Practical Issues*, Sage University Paper Series on Quantitative Applications in the Social Sciences, series no. 07-014, Beverly Hills: Sage Publications.
47. Klecka, W. R. (1980). *Discriminant Analysis*. Vol. 07-019 of Sage University Paper Series on Quantitative Applications in the Social Sciences. Beverly Hills, CA: Sage Publications.
48. Kline P. *An easy guide to factor analysis* New York: Routledge; 1994.
49. Kshirsagar, A. M. (1972). *Multivariate Analysis*. New York: Marcel Dekker.
50. Kumar N, Gupta N, Kishore J. Kuppaswamy's socioeconomic scale: Updating income ranges for the year 2012. *Indian J Public Health* 2012;56:103-4
51. Kuppaswamy B. *Manual of Socioeconomic Status (urban)*, Manasayan, Delhi, 1981.
52. Labour Bureau, Ministry of Labour, Government of India. *Linking Factors between New Series and Old Series*. Available from: <http://www.labourbureau.nic.in/indexes.htm>
53. Lachenbruch, P. A. (1975). *Discriminant Analysis*. New York: Hafner Publishing.
54. Lachenbruch, P. A. (1979). "Discriminant Analysis." *Biometrics* 35:69–85.

55. Ledgerwood, J, 1999, *Microfinance Handbook: An Institutional and Financial Perspective*. Washington, DC, Banco Mundial.
56. Ledgerwood, Joanna, with Julie Earne and Candace Nelson, eds. 2013. *The New Microfinance Handbook: A Financial Market System Perspective*. Washington, DC: World Bank. doi: 10.1596/978-0-8213-8927-0. License: Creative Commons Attribution CC BY 3.0
57. Lehmann, E. (2006), *Nonparametric: Statistical methods based on ranks*. ISBN: 978-0387352121
58. Linda Mayoux, September 2011, *IMPACT ASSESSMENT OF MICROFINANCE: TOWARDS A SUSTAINABLE LEARNING PROCESSE*Enterprise Development Impact Assessment Information Service (EDIAIS). bookmark <http://www.sed.manchester.ac.uk/research/iarc/ediais>.
59. Lubke, Gitta H.; Muthen, Bengt O. (2004). Applying Multigroup Confirmatory Factor Models for Continuous Outcomes to Likert Scale Data Complicates Meaningful Group Comparisons. *Structural Equation Modeling*, 11, 514-534.
60. Mosley P. (2001). Microfinance and Poverty in Bolivia, *The Journal of Development Studies*, Vol. 37, No.4, 101-132.
61. Microfinance Information Exchange Report (MIX) 2005.
62. Muradoglu, Gulnur and Fatma Taskin (1996): Differences in Household Savings Behaviour: Evidence from Industrial and Developing Countries, in: *The Developing Economies*, 34(2), pp. 138-153.
63. Narayanan P. (2003). Empowerment through Participation: How Effective is this Approach? *Economic and Political Weekly*, Vol. 38, No. 25, 2484-2486.
64. Phyllis Wanjiku Kibui, President, Tor G Gull, (2005), Board of Directors' Report Okiocredit, Accelerating Growth.
65. Prakash, D (Rural Development and Management Centre, New Delhi, India). (2003). Rural women, food security and agricultural cooperatives. Paper produced for presentation and to serve as a theme paper at the 4th Asian-African International Conference on Women in Agricultural Cooperatives in Asia and Africa organized jointly by the ICA, AARRO, JA-Zenchu and IDACA at Tokyo, Japan. August 24-29 1999
66. Professor David Hulme, *IMPACT ASSESSMENT METHODOLOGIES FOR MICROFINANCE, A REVIEW*, Paper prepared in conjunction with the AIMS

Project for the Virtual Meeting of the CGAP Working Group on Impact Assessment Methodologies (April 17-19, 1997), May 1997.

67. Raghav Gaiha, Ganesh Thapa, A methodology for assessment of the impact of microfinance on empowerment and vulnerability, the second in a series of discussion papers produced by the Asia and the Pacific Division, © 2006 by the International Fund for Agricultural Development (IFAD).
68. Rangarajan (2008) Report of the committee on financial inclusion in India.
69. Reserve Bank of India, Report of the Sub-Committee of the Central Board of Directors of Reserve Bank of India to Study Issues and Concerns in the MFI Sector, January 2011.
70. Robinson, M. S. (2001). The Microfinance Revolution: Sustainable Finance for the Poor-Lessons from Indonesia. Washington D.C: World Bank
71. Sa-Dhan Report, 2014, Directory of MFIs in India, pp 9-28.
72. Sam, Daley-Harris, Microcredit Summit Report, 1997.
73. Sam, Daley-Harris, State of Microcredit Summit Campaign Report 2005.
74. Schreiner, M.; and H.H. Colombet. 2001, "From Urban to Rural: Lessons for Microfinance from Argentina", Development Policy Review, Vol. 19, No. 3, pp.339–354.
75. Sebstad J. and Gregory C. (1996). Overview of the Studies on the Impact of Microenterprise Credit, Microenterprise Impact Project, USAID.
76. Sharma P. (2007). Microfinance and Women Empowerment, *The Journal of Nepalese Business Studies*, Vol. IV No. 1, 16-27.
77. Silverman, B. W. (1986). Density Estimation for Statistics and Data Analysis. New York: Chapman & Hall.
78. Swain, Ranjula Bali (2002): Credit Rationing in Rural India, in: *Journal of Economic Development*, 27(2), pp. 1-20.
79. Tatsuoaka, M. M. (1971). Multivariate Analysis. New York: John Wiley & Sons.
80. Tavakol M, Dennick R. post-examination analysis of objective tests. *Med Teach*. 2011; 33:447-58.
81. Report of the Expert Group to recommend the detailed methodology for identification of families living below poverty line in urban areas, Planning Commission, Government of India (December 2012)
82. Understanding Poverty in India, Asian Development Bank (2011), ISBN 978-92-9092-329-9

83. "Women Empowerment and Poverty Alleviation through Micro Credit." Government of India, n.d. Web. Impact of Grameen.
84. Yunus, Muhammad. "IS GRAMEEN BANK DIFFERENT FROM CONVENTIONAL BANKS?" N.p., 2009. Web.
85. Zeller, Manfred and Manohar Sharma (2002): Access to and Demand for Financial Services by the Rural Poor: A Multicounty Synthesis, in: Manfred Zeller and Richard L. Meyer (eds.): *The Triangle of Microfinance: Financial Sustainability, Outreach, and Impact*, Baltimore and London: Johns Hopkins University Press, pp. 19-45.
86. Census Hand book of Gujarat (2011)
87. "History." Ed. Grameen Bank. Grameen, n.d. Web.
88. Using microcredit to advance women. Tech. N.p.: World Bank, 1998. Print.
89. Microsoft Office 2007 (MS Word and MS Excel)
90. IBM SPSS Statistics 20 for statistical analysis.
91. MINITAB 14 statistical package

PART-0 PERSONAL INFORMATION OF RESPONDENT

Sr. No _____ Block Code: Ahwa / Waghai / Subir Village: _____

1. Name : _____
2. Gender : (a) Male (b) Female 3. Age : _____ years
4. Duration of staying in this village : _____ years
5. Type of family : (a) Joint (b) Nuclear
6. Category : (a) SC (b) ST (c) OBC (d) GEN
7. Educational status : (a) Illiterate (b) only Primary (c) SSC (d) HSC (e) Graduation
(f) P.G (g) Diploma / ITI / PTC
8. Proficiency : (a) Skilled (b) Semi Skilled (c) Unskilled
9. Marital Status : (a) Married (b) unmarried (c) divorced (d) separated
10. House ownership : (a) Owned (b) Rented (c) Other
11. Type of House : (a) Kachha (b) Semi Pakka (c) Pakka
12. Identity you hold : (a) Adhar card (b) PAN card (c) both (d) Any other
13. Occupation : (a) Farmer (b) Agriculture labourer (c) Non-Agriculture labourer
(d) Rearing livestock (e) Business (f) Unemployed
14. If Occupation is Farming, than mention your farming technique?
(a) Modern technology (b) Old traditional technology
15. No. of Family members: _____ 16. No. of Dependents: _____
17. No. of Earning members: _____
18. Your Annual income: _____ 19. Family's Annual income: _____
20. Do you possess land ownership: (a) Yes (b) No
21. If yes: (a) own use (b) lease (c) other 22. Size of land holding: _____
23. Amenities available

Particulars	Yes	No
A. Basic amenities		
a. Pure drinking water		
b. In-house sanitation		
c. Electricity		
d. LPG		
B. Other facilities		
a. Telephone/Mobile facility		
b. Owning Radio		
c. Owning TV		
d. Internet		
e. Fridge		
f. two wheeler		
g. four wheeler		

Date: _____ M: _____

PART – 1 CREDIT ACQUISITION HISTORY

Q1. Are you client of any MFI? (a) Yes (b) No

Q2. Which of these products attracted you to join the MFI?

(1) Savings (2) Credit (3) Insurance (4) All (5) only 1-2 (6) only 2-3 (7) only 1-3

Q3. Have you borrowed money in the span of last seven years (2010-16)?

(a) Yes (b) No (if No, then please fill up only Q13 (below))

Q4. If YES then from which Source, money is borrowed?

Type of Source	Source	Source Code	Bank Name	Years (how many times borrowed)						
				2010	2011	2012	2013	2014	2015	2016
Formal source	Commercial Bank	CB								
	Cooperative Bank	COP								
	SHG- BLP	SHGB								
Informal source	SHG	SHG								
	Friends & relatives	FR								
	Money Lenders	ML								
	Any Other	MS								

Q5. Details of money borrowed

When was/is money borrowed? (mention year between 2010 – 16)	Purpose of Money Borrowed*	Amount Borrowed	Rate of Interest %	Number of Instalments Paid

*Use the following purpose code of the loan / credit?

Purpose of micro-credit	Code
Agricultural	AG
Animal Husbandry	AH
Small business	SB
Skill Development	SD
Purchase of land	PL
Purchase of house	PH
Improvement of land/House	IM
Medical	MD
Repaying old Debts	RD
Social Function	SF
Loss – Agri / Live Stock	AL
Any other	MS

Q6. What is your repayment Status?

(a) Maturity due (b) Timely repaid (c) Delayed repayment (d) Defaulter

Q7. If borrowed from formal source, how you came to know about the Microcredit facility?

(a) Government office/ DRDA (b) Bank representatives (c) NGO representatives
(d) Village Panchayat (e) Friends/ Neighbours (f) Any other _____

PART – 2 IMPACTS OF INCREMENTAL INCOME

Q8. What is the change in your income after receiving credit?

Q8A. Formal source - (a) Increased (b) decrease (c) no change

Q8B. Informal source - (a) Increased (b) decrease (c) no change

Q9. The change in income overall (from Q8)

Particulars (seven years i.e. 2010 – 2016)		
	Formal Source(MC)	Informal Source
Yearly average income before exposure		
Yearly average income after exposure		

- **Note: Response from here onward only with reference to Formal Source**

Q10. What is the end use of income from Formal Source?

Particulars	Amount = the difference of Q9 MC
Land acquisition (Acer)	
House modification (Rs)	
Business Assets (Rs.)	
Movable	
Immovable	
Household assets (Rs.)	
Movable	
Immovable	
Educational expense (Rs.)	
Health expense (Rs.)	
Food expense (Rs.)	
Clothing expense (Rs.)	
Individual/Social enrichment expense(Rs.)	
Savings	
Any other	

Q11. If your answer for Q8 is increased then mention reasons? (Tick only)

Particulars	Tick as many possible
Expanded small business (ES)	
Good agricultural season (GA)	
Sold in new markets (NM)	
Increase in demand (DM)	
None of them (NO)	
Any Other (MS)	

Q12. If your answer for Q8 is decreased then mention reasons? (Tick only)

Particulars	Tick as many possible
1 Someone sick/died in the house (SS)	
2 Marriage took place in the house (MG)	
3 Natural disaster (flood, earthquake etc) (NT)	
4 Poor agricultural season (PA)	
5 None of them(NO)	
6 Any other (MS)	

Q13. If No, tick the reasons? (With reference Q3)

Particulars	Tick as many possible
1 Not required (NR)	
2 Already having debt (AD)	
3 Lack of access to Formal resources (LA)	
4 Rate of interest unaffordable (RI)	
5 Lack of awareness of financial sources (LW)	
6 Avoiding procedural difficulties (PD)	
7 Lack of collaterals (LC)	
8 Any other (MS)	

PART – 3 SAVINGS HISTORY

Q14. Do you have saving habit? (a) Yes (b) No (if No, response only Q15)

- **Note: If No, crosscheck with Q10. Option 10.**

Q15. If No, what is your reason?

- (a) Inadequate income (b) lack of awareness (c) no institution nearby to save
(If No, then Now Response to PART 4)

Q16. If Yes, from which year? (Tick) 2011 / 2012 / 2013 / 2014 / 2015 / 2016

Q17. Where do you save?

- (a) Commercial Bank saving deposit (b) Cooperative Bank saving deposit
(c) Post office saving deposit (d) SHG (e) Cash in hand at home

Q18. What is your monthly savings?

- (a) 50-100 (b) 100-500 (c) 500-1000 (d) 1000-2000 (e) Above 2000

Q19. Is there substantial increase in savings after participating in micro-savings Scheme? (a) Yes (b) No

Q20. Has this increased saving benefited you? (With ref to Q19)

Descriptions	YES	NO
1. To face uncertainties relating to employment		
2. To face uncertainties relating to health		
3. For children education		
4. For children marriage		
5. For old age security		
6. To repay loan amount		
7. To maintain social status		
8. Any Other		

Q21. How do you evaluate the impact of micro credit scheme in improving your saving habit? (a) High (b) Medium (c) Low (d) No impact

- **Note: Crosscheck with Q10. Option 10.**

PART – 4 MICRO-INSURANCE

Q22. Have you ever heard of Micro insurance? (a) Yes (b) No

Q23. Do you think insurance is necessary? (a) Yes (b) No

Q24. If No, How do you cope up with risks in absence of insurance?

(Tick One most suitable)

(a) Take loan (b) use savings (c) Sell asset (d) seasonal migration (e) Any other

Q25. Are you aware of any Micro-insurance policy? (a) Yes (b) No

Q26. If Yes, tick the relevant

Q26A. LIC : (a) Jeevan Madhur (b) Jeevan Mangal (c) Bhagya Laxmi

Q26B. SBI : (a) Grameen Shakti (b) Grameen Super Suraksha (c) Grameen Bima

Q26C. Government Schemes :

(a) Pradhan Mantri Jeevan Suraksha Bima Yojana (PMJSBY)

(b) Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)

Q27. Have you availed micro insurance in the span of last seven years (2010-16)?

(a) Yes (Fill Q29 to Q33) (b) No

Q28. If No, why not availed any micro insurance? (With reference to Q27)

(Tick One most suitable)

(a) Unaware (b) lack of access to formal source (c) high premium (d) lack of need

Q29. If Yes, which micro insurance policy?

Q29A. LIC : (a) Jeevan Madhur (b) Jeevan Mangal (c) Bhagya Laxmi

Q29B. SBI : (a) Grameen Shakti (b) Grameen Super Suraksha (c) Grameen Bima

Q30. Why did you take the policy? Is it due to?

(a) Agents force (b) SHG insisted (c) For effective savings

(d) to meet future contingencies

Q31. Premium payment is:

(a) Weekly (b) Fortnightly (c) Monthly (d) Quarterly/ Half yearly (e) Yearly

- **Note: For any SBI policy premium payment is only Yearly**

Q32. Have you claimed any policy? (a) Yes (b) No

Q33.PERCEPTION OF BENEFICIARY ON THE IMPACT OF MICRO INSURANCE

Particulars	Yes	No
1. Increase in financial security		
2. Increase in security against accident and death		
3. Increase in Peace of mind and feeling of protection		
4. Increase in risk bearing capacity		
5. Any other		

PART 5 – Q34 PERCEPTION OF BENEFICIARY ON THE IMPACT OF

MICROCREDIT AND SAVINGS ON SOCIO-ECONOMIC IMPROVEMENT

Likert Scale 1=strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=strongly Disagree

Variable	STATEMENTS	1	2	3	4	5
ECONOMIC IMPACT						
SE1	1. Improvement in Income level					
SE2	2. Enhanced asset position					
SE3	3. Increased Savings					
SE4	4. Increased business expense on purchase of inputs					
SE5	5. Increased domestic expense					
SE6	6. Increased employment opportunity					
SE7	7. Reduced indebtedness					
SOCIAL IMPACT						
SS1	1. Reduced dependence upon informal finance source					
SS2	2. Improvement in financial literacy					
SS3	3. Improved Market Knowledge for sale of product					
SS4	4. Role in decision making process has increased					
SS5	5. Improved household quality of life					
SS6	6. Better utilization of available resources					
SS7	7. Increase in capacity building through training					
SS8	8. Increase in source of Income contributed by Women family members					
SS9	9. Contributed to Women family members Education					
SS10	10. Contributed to Women family members Health awareness					
SS11	11. Increase in involvement of women participation in Social Activities					
SS12	12. Improved women participation in local Panchayat					

PART 6 – PROBLEMS FACED BY BENEFICIARY

Q35. Are you satisfied from the following microfinance service availed?

Variable	STATEMENTS	Yes	No
Micro credit			
MC1	1. Adequate Loan amount		
MC2	2. Simple procedure in availing loan		
MC3	3. Reasonable Rate of interest on Loans		
MC4	4. Loan timely sanctioned		
MC5	5. Loan utilization check was done		
MC6	6. Easy Repayment policy		
MC7	7. Bank branch nearby		
MC8	8. Interaction with the bank staff is comfortable		
MC9	9. Waiting period is less		
MC10	10. Credit linkage with Marketing		
MC11	11. Credit linkage with Insurance		
MC12	12. Received training related to micro-credit		
Micro savings			
MS1	13. Ease in process of opening saving account		
MS2	14. Reasonable return on savings		
MS3	15. Easy in withdrawing		
Micro insurance			
MI1	16. Ease in taking micro insurance policy		
MI2	17. Ease in payment of premium		
MI3	18. Ease in claim settlement		
MI4	19. Complains and grievances are well handled		

Appendix – II

Data Code List

Block Codes			Identity Card		
Code	Description	Remarks	Code	Description	Remarks
1	Ahwa		1	Aadhar	1
2	Waghai		2	PAN Card	2
3	Subir		3	Both (Aadhar + PAN)	3
Gender Codes			4	Any other (Voter ID)	4
Code	Description	Remarks	Proficiency Code		
1	Male		Code	Description	Remarks
2	Female		1	Skilled	1
Area of Residence			2	Semi Skilled	2
Code	Description	Remarks	3	Unskilled	3
1	Urban		Family Income Code for Kuppaswamy		
2	Rural		Code	Description	Remarks
Family Type			1	< 2301	1
Code	Description	Remarks	2	2301 - 6850	2
1	Joint		3	6851 - 11450	3
2	Nuclear		4	11451 - 17150	4
Matial Status Codes			6	17151 - 22850	6
Code	Description	Remarks	10	22851 - 45750	10
1	Married	1	12	> 45750	12
2	Unmarried	2	Status of Loan		
3	Divorced	3	Code	Description	Remarks
4	Separated	4	1	Maturity Due	1
Type of House			2	Timely repaid	2
Code	Description	Remarks	3	Delayed	3
1	Katcha	1	4	Defaulter	4
2	Semi Pucca	2	5	Nil	5
3	Pucca	3	Technology Type		
Education Code for Kuppaswamy			Code	Description	Remarks
Code	Description	Kcode	1	Modern	
1	Illiterate	1	2	Traditional	
2	Primary School	2	Land Usage		
3	Middle School	2	Code	Description	Remarks
4	High School	3	1	Owned	1
5	Intermediate / Diploma	5	2	Leased	2
6	Graduate or Post graduate	6	3	Other	3
7	Proffessional or Honours	7			

Total Score for Kuppuswamy		
Score	Class	Remarks
0		Lower (V)
1		Lower (V)
2		Lower (V)
3		Lower (V)
4		Lower (V)
5	Lower	Upper Lower (IV)
6	Lower	Upper Lower (IV)
7	Lower	Upper Lower (IV)
8	Lower	Upper Lower (IV)
9	Lower	Upper Lower (IV)
10	Lower	Upper Lower (IV)
11		Lower Middle (III)
12		Lower Middle (III)
13		Lower Middle (III)
14		Lower Middle (III)
15		Lower Middle (III)
16	Middle	Upper Middle (II)
17	Middle	Upper Middle (II)
18	Middle	Upper Middle (II)
19	Middle	Upper Middle (II)
20	Middle	Upper Middle (II)
21	Middle	Upper Middle (II)
22	Middle	Upper Middle (II)
23	Middle	Upper Middle (II)
24	Middle	Upper Middle (II)
25	Middle	Upper Middle (II)
26	Upper	Upper(I)
27		Upper(I)
28		Upper(I)
29		Upper(I)
30		Upper(I)

Appendix - III

Table – III : Concepts for Kuppuswamy Classifications					
Indicators	Very Poor	Poor	Borderline	Self-Sufficient	Surplus
	Lower(V)	Upper Lower(IV)	Lower Middle(III)	Upper Middle (II)	Upper(I)
Housing	Homeless / Katcha Rented	Katcha Owned	Katcha Owned / Semi Pucca Rented	Pucca Rented / Semi Pucca Owned	Pucca Owned
Assets	without land, having some house hold items, may have some animals like goat / hens / sheep	having marginal portion of land for farming / few milch animals / fan, radio , bicycle	having small portion of land for farming / few milch and draught animals / fan , radio, bicycle, two wheeler and TV	having big portion of land for farming / few milch and draught animals / well / tub-well, fan , radio, bicycle, motor cycle, telephone, fridge and TV	having very large land for farming / milch and draught animals / wells / tub-wells, tractor / lorry, fan, radio, bicycle, motor cycle, telephone, fridge and TV
Employment	daily wager / single earner / Unemployed	Unskilled worker / Semi-skilled Worker / hired farming / regular wage earner	Skilled worker / labourer / farming with owned less land / less paid salaried work	Skilled and experienced worker / Semi Professional / monthly salary	Professional / own business and land for farming / high monthly Salary