IMPACT ANALYSIS OF MICROFINANCE INTERVENTION ON SOCIO-ECONOMIC WELFARE OF HOUSEHOLDS IN DANG DISTRICT GUJARAT

A Summary of the Thesis

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Chapter - I

1.0 INTRODUCTION

One of the main development tools is Finance, whether for a household or for an economy. It is an undisputed necessary resource for all. This gives rise to a core question that how this finance can be obtained as one of the crucial means. Well, for an individual as an agent factor of production, earns by way of factor payment in terms of wages or in form of profit as an entrepreneur. Apart from factor earnings, a sound financial system in an economy contributes in fulfilment of household financial needs. For an economy increase in its real income results from greater economic activities taking place and thereby generating higher resources.

An agrarian economy like India still depends on rural finance because 70%t of the population depends upon agriculture for their livelihood and 40% of our GDP is contributed by rural sector. As per census of India in 2011 the total population of India is 121 crores; whereas 50% of population is below 25 years' age and assume 90% of this are below 18 years who cannot have bank accounts meaning (i.e. 59 crores) only 71 crores can have bank accounts while in reality only 40 crores have bank accounts. As Per there port card of Pradhan Mantri Jan Dhan Yojana (PMJDY) during January 2017 claims the higher percentages of bank accounts but still many are not having privilege for gaining access to finance.

Across the world's countries the contribution of state-run banks in providing financial services to poor households characterizes insufficiency led by inefficient and ineffective inspite of injecting various subsidies time to time. Economic theories also provided ample caution in providing financial service to low income households. There are three main factors responsible for poor section of the society being excluded from the financial system firstly is high operational costs for small operations and secondly lack of collaterals and lastly lack of information.

The banking policies, procedures and systems were not suitable and sufficient prior to 1980's for poorer in India, thus credit through unorganized sources were prominent.

NABARD has suggested alternative policies, procedures and systems for poorer and introduced microfinance in banking sector. 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".*

In India**,** the microfinance movement has almost assumed the shape of an industry embracing thousands of NGOs/MFIs, community based SHGs, cooperatives in their varied forms, credit unions, public and private banks and this has resulted in sharp growth of the sector with that are providing financial and non-financial support to the poor to lift them out of poverty. *The present research analyzes* the socio-economic impact of microfinance intervention considering its vital element not only Microcredit but also Micro Savings and Micro Insurance with an assumption that "*the poor stay poor, not because they are lazy but because they have no access to primary financial facilities of credit, savings and insurance"* and to find such evidence among households and specially women from Dang district in Gujarat, India.

The Dang district (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, yet one of its own district (Dang) is considered to be economically most backward. There is no significant study done for Dang 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 and women in Dang. 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.

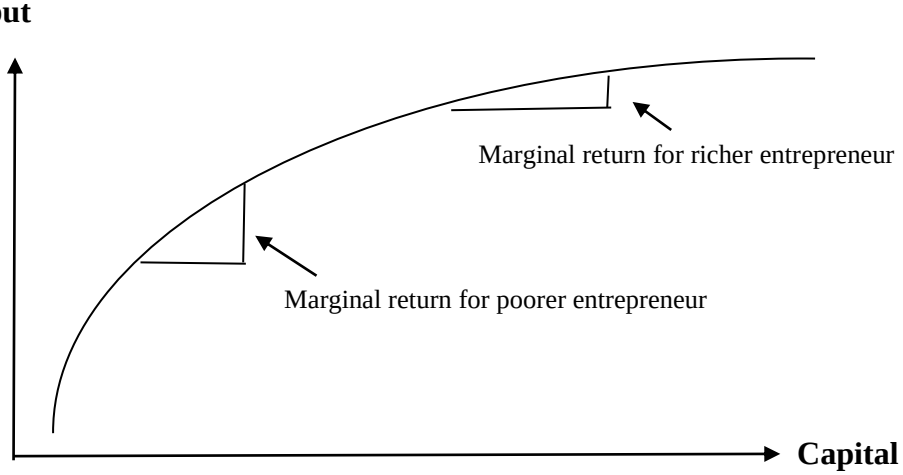
1.1 Economics of Microfinance

Microfinance activities started because of the *failure of formal rural credit services.* Earlier not only in India but across various developing economies. The **Figure 1.1** explains

some basic economics principles to understand why capital does not naturally flow to the poor. This principle defines the one of diminishing marginal returns to capital, which was derived from the assumption of concavity of the production function.

The assumption is intuitive: the more the firm invest and uses capital K, the more output Y it produces, but each additional unit of capital K will bring smaller and smaller marginal gains. In other words, it means that businesses with little capital should be able to get greater returns on their investments than richer ones, which use more capital, and thus to be able to pay higher interest rates.

But this model did not really consider few important factors when the bank is considering lending capital to someone i.e. the risk of investing in such uncertain environments as developing economies, the lack of information about poor borrowers and their inability to offer collateral as security. About incomplete information it is useful to define two types of problems.



Source: Beatriz Armendariz and Jonathan Morduch (2010)

Figure 1.1 : **Production function and Diminishing Marginal Returns to Capital**

The First problem, adverse selection, it occurs when the bank is not able to identify the degree of risk of the customer. The bank would like to charge riskier borrowers with higher interest rates but, given the asymmetric information, it would raise the average interest rate, leaving poorer people out of the credit market.

The second problem, moral hazard, occurs when the bank is not able to verify the level of effort of their clients in ensuring the good realization of bank's investment projects. ***Both the problem of poverty and Market Failure can be overcome by microfinance services. M*icrocredit compared to Micro Insurance is more likely to overcome both the challenges arising from market imperfection.**

1.2 Presence of Microfinance in Asia and India's Standing

In Asia microfinance, specifically in India has witnessed high volatility ups and down in the sector. Certain Asian countries like Bangladesh, India, Philippines and Indonesia the industry is mature, whereas in other Asian countries such as China, Myanmar, and Laos, the microfinance sector is still establishing itself. However, going by only the size in microfinance loans, India ranks number one in the charts with gross loan portfolio of 12.3 billion (USD) for MFIs. For most of the developing nations microfinance is one of the measures leading to financial inclusion in a country through its macro policy support.

1.3 Rural credit, Saving, Insurance and Seeds of Microfinance in India

In India, the birth of MF is mainly due to inefficiency and failure of conventional models, Regional Rural Banks (RRBs), others government schemes and Cooperatives. Starting late 1960s, India was home to one of largest state intervention in rural credit market. During 1969 we saw nationalization of existing private commercial banks, massive expansion of branch network in rural areas, mandatory directed credit to priority sectors of the economy, subsidized rates of interest. It was in 1982, Apex bank for Agriculture and Rural Development (NABARD) at national level was created. In India Microfinance Revolution began in the 1980s with the formation of pockets of informal Self-Help Groups (SHG) engaging in micro activities financed by Microfinance. But India's first Microfinance Institution 'Shri Mahila SEWA Sahkari Bank was set up as an urban co-operative bank, by the Self-Employed Women's Association (SEWA) soon after the group (founder Ms. Ela Bhatt) was formed in 1974.

1.3.1 Legal Structure of MFIs

A microfinance institution under the Microfinance Institutions (Development and Regulation) Bill, 2012 includes the following five entities (a) a society registered under the Societies Registration Act, 1860 (b) a company registered under section 3 of the Companies

Act, 1956 (c) a trust established under any law for the time being in force (d) a body corporate or (e) any other organization, which may be specified by the RBI if the object of the institution is the provision of microfinance services.

1.3.2 Micro insurance Regulations in India

The coverage of micro insurance in India has been increasing but not in the explosive manner of as micro credit. The journey of micro insurance started in India from the year 2002. The first nominative provision for micro insurance has made in the Insurance Regulatory Development Authority of India (Micro Insurance) Regulation 2002. It was just a starting in this sector. It set a quota system for the insurers to promote the micro insurance. The complete regulation issued by IRDA in the year 2005 which got again modified in 2015.

1.4 Statement of the Problem

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 Dang in Gujarat. 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 Dang District of Gujarat. Also, a large majority of microfinance impact studies are only microcredit centred in the name of microfinance**.** Available evidence from micro insurance implementations is much scarcer than for microcredit (Young et al. 2006, Dercon and Kirchberger 2008). The existing impact if any need needs to be re-investigated and to measure robustness of claims that microfinance helps to improve wellbeing of households and empowers beneficiaries.

An important question how does microfinance services impact on the target group of borrowers? has been raised but never been fully answered. To give the best possible answer to this question, it is needed to measure the extent to which microcredit along with micro savings and micro insurance services has affected the outcomes of the targeted households. This is referred as impact evaluation. *Hence, this study revisits the evidence of microfinance services which comprises not only Microcredit but also savings and Micro Insurance, with a focus to analyses its impact on socio-economic improvement and on evaluations of the challenges in its implementation from the viewpoint of beneficiaries. There is no significant study so far is conducted in Dang district which comprehensively measure the performance of the MF services on the socio-economic improvement of household.*

Chapter – II

2.0 Review of Literature

2.1 Review of Literature with definitions of terms used

The brief account of literature review on the main concepts involved in the research *viz.* family structure, socio-economic status and microfinance vital components Micro Credit, Savings and Micro Insurance.

It is categorized in to four parts. **Part One** gains understanding on the complex nature and role of family in a social setting. **Part two** discusses about the impact analysis of only *micro credit and savings* service, containing some of the studies which concluded both favorable and unfavorable impact. **Part Three** includes research in the area of *micro insurance* services and last **Part four** provides a brief on research or knowledge gaps.

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).

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.

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.

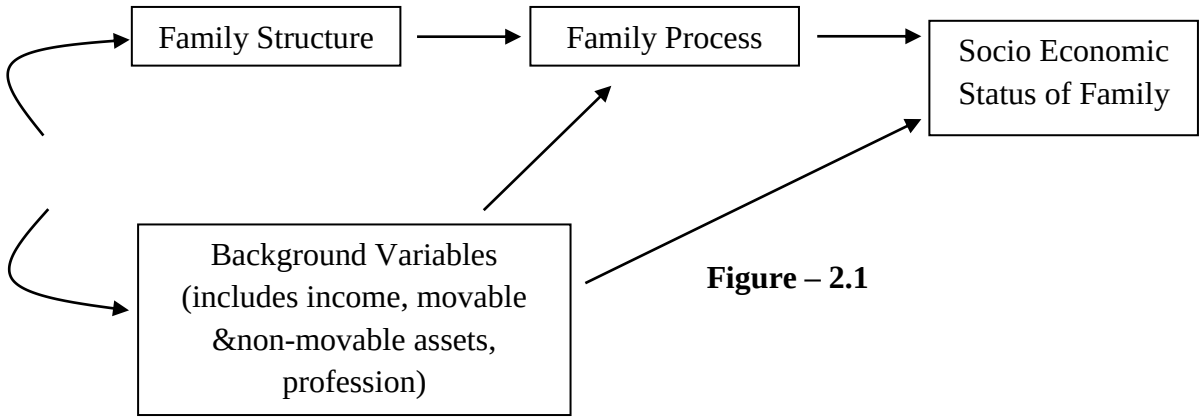


Figure – 2.1

A theoretical model (**Figure – 2.1**) 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.

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.

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.

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.

2.2 The Research Gap

In comparison with the available literature on credit, there are fewer studies on the savings and insurance behavior of the households in developing counties. Most of these studies concentrate on one of loans, savings, or insurance, with the first having clear prominence and leaves out part of the story, if it looks at only one of the three elements of the so-called finance trinity, i.e. credit, savings, or insurance. Whereas savings were called the forgotten half of finance during the 1980s, one may consider insurance the forgotten third of

finance during the 1990s (Zeller and Sharma 2002).Nevertheless, now there has been a slow transition towards a more holistic concept of microfinance as practitioners have come to realize that 'low-income households can profit through access to a broader set of financial services than just credit' (Armendariz and Murdoch 2005).The brief review of literature on the subject shows that many attempts have been made to draw the impact of microfinance. From the research studies presented above following can be observed that -

- A large majority of microfinance impact studies are mostly *microcredit centered* and mainly through the self-help group bank linkage program (SHG-BLP).
- Scholars have divergent views whether and how much is impact of Microfinance. There are certain studies foresaid have concluded that microfinance is apositive and effective measure of poverty reduction, improving welfare etc. and at the opposite end are studies which have argued the true purpose and reach of microfinance overall. Saying that employing microfinance strategy has in fact driven people into greater poverty and has weakened the position of poor even further, rather than improving it.
- None of the study adopts a comprehensive socio-economic impact assessment of MF program that is both credit and credit-plus services on clients.
- Available evidence from micro insurance implementations is much scarcer than for microcredit.
- Contributions on the outreach and impact of micro insurance in developing countries are still rare.

2.2.1. The Research Questions

Some of the research questions inspired for this study and to find out how far the stated and targeted goal of the MFIs, bank and insurance institutions being achieved such as substantial poverty elimination and reduction in vulnerability of poor households.

1. Does microfinance interventions have really resulted in improving socio-economic living condition among poor households of Dang District?
2. Does microfinance have changed the quality of life of rural household through at ground level?
3. Does microfinance contribute in growth and income of the individual / family?
4. To what extent there is use of micro insurance by the households in Dang.

5. What different components (factors) are responsible for socio-economic impact on beneficiaries by microfinance intervention in Dang district.
6. Are there any challenges faced by the household in availing microfinance services such as Micro credit, savings and micro insurance?
7. Is there any inter relationship between credit, savings, insurance and socio-economic factors or are they independent.
8. Has microfinance intervention discriminated between beneficiaries of Dang District of Gujarat State?

The present study is an attempt to examine the extent to which microfinance interventions especially micro credit, micro savings and micro insurance, have been successful in delivering their promises?

2.3 Objectives of the Study

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

2.3.1. Primary Objective

The **primary objective** of this study was to determine whether and up to what extent the formal source microfinance intervention has improved socio-economic condition of the households in Dang District Gujarat. Subsequently the **secondary objectives** could be defined as

- **i.** To know the respondent's 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 household.
- **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 find out the different components (factors) responsible for socio economic impact on beneficiaries by microfinance intervention in Dang District.

2.4 Scope of the Study

The scope of this study is restricted to formal financial sources in Dang district of Gujarat State which are providing micro finance loans, savings and insurance services to households in all the three blocks namely Ahwa, Vaghai and Subir.

2.5 Hypothesis of the study

With reference to Primary Objective:

Ho = Microfinance intervention by formal financial sources have not made socio-economic improvement in living standards of beneficiaries in the Dang district of Gujarat State.

This is a complex hypothesis in context of different types of data which may requirefrom 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.

H.1o = Microfinance intervention have not made socio-economic improvement in living standards of family type participants.

H.2o = Microfinance intervention have not made socio-economic improvement in living standards influenced by gender of the participants.

H.3o = Microcredit services have not made socio-economic improvement in living standards of borrowers of the Dang District.

H.4o = There shall be no correlation between factors of economic impact and factors of social impact by microfinance intervention of formal sources.

H.5o = There shall be no Discriminant between variables of borrowers or non-borrowers of microfinance intervention of formal sources.

Main Hypothesis

With reference to above defined objectives the main hypothesis for the study is designed as follows:

H_O = Microfinance intervention by formal financial sources have not made socio-economic improvement in living standards of beneficiaries in the Dang district of Gujarat State.

The above hypothesis is more complex regarding data received from beneficiaries and to understand the socio-economic impact of formal and informal microfinance organizations with reference to different parameters such as family type, residence area type, gender, socio economic status etc.; it is necessary to test independently sub hypotheses using these parameters as it is more exploratory study. Assuming 95% level of confidence $\alpha = 0.05$ and p *value* (significant value) <= 0.05 (reject null hypothesis).

Sub Hypotheses (variables derived from every part of survey questioner)

The purpose of hypothesis testing is to determine whether there is enough statistical evidence in favor of a certain belief or hypothesis about a parameter.

Saving habit variables (SV variables)

H.1o Microfinance intervention has not made socio-economic improvement by inculcating saving habits in different gender beneficiaries of Dang District of Gujarat State.

H.2o Microfinance intervention has not made socio-economic improvement by inculcating saving habits in different family type beneficiaries of Dang District of Gujarat State.

Insurance habit variables (IN variables)

H.3o Microfinance intervention has not made socio-economic improvement by inculcating insurance habits in different gender beneficiaries of Dang District of Gujarat State.

H.4o Microfinance intervention has not made socio-economic improvement by inculcating insurance habits in different family type beneficiaries of Dang District of Gujarat State.

Economic Impact variables (SE variables)

H.5o Microfinance intervention has not made improvement in economic status in different gender beneficiaries of Dang District of Gujarat State.

H.6o Microfinance intervention has not made improvement in economic status in different family type beneficiaries of Dang District of Gujarat State.

H.7o Microfinance intervention has not made improvement in economic status of different borrowers of Dang District of Gujarat State.

Social Status Impact variables (SS variables)

H.8o Microfinance intervention has not made improvement in social status in different gender beneficiaries of Dang District of Gujarat State.

H.9o Microfinance intervention has not made improvement in social status in different family type beneficiaries of Dang District of Gujarat State.

H.10o Microfinance intervention has not made improvement in social status of different borrowers of Dang District of Gujarat State.

Challenges in Availing Micro Credit Service (MC variables)

H.11o There are problems faced in availing micro credit services by different gender beneficiaries of Dang District of Gujarat State.

H.11a There are no problems faced in availing micro credit services by different gender beneficiaries of Dang District of Gujarat State.

H.12o There are problems faced in availing micro credit services by different family type beneficiaries of Dang District of Gujarat State.

H.12a There are no problems faced in availing micro credit services by different family type beneficiaries of Dang District of Gujarat State.

Challenges in Availing Micro Saving Service (MS Variables)

H.13o There are no problems in availing micro savings services by different gender beneficiaries of Dang District of Gujarat State.

H.14o There are no problems in availing micro savings services by different family type beneficiaries of Dang District of Gujarat State.

Challenges in Availing Micro Insurance Service (MI Variables)

H.15o There are no problems in availing micro insurance services by different gender beneficiaries of Dang District of Gujarat State.

H.16o There are no problems in availing micro insurance services by different family type beneficiaries of Dang District of Gujarat State.

Relationships Analysis

H.17o There shall be no correlation between factors of economic impact (SE) and factors of socio benefits (SS) responsible to beneficiaries of Dang District of Gujarat State.

H.17a There shall be correlation between factors of economic impact (SE) and factors of socio benefits (SS) responsible to beneficiaries of Dang District of Gujarat State.

Discriminant Analysis

H.18o Microfinance intervention has not discriminated between potential beneficiaries of Dang District of Gujarat State.

H.18a Microfinance intervention has discriminated between potential beneficiaries of Dang District of Gujarat State.

Chapter - III

3.0 Research Methodology

According to a famous Hudson Maxim, "All progress is born of inquiry. Doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention". It brings out the significance of research, increased amounts of which makes progress possible. Research encourages scientific and inductive thinking, besides promoting the development of logical habits of thinking and organization.

Research is equally important to social scientist for analyzing social relationships and seeking explanations to various social problems. It gives intellectual satisfaction of knowing things for the sake of knowledge. It also possesses practical utility for the social scientist to gain knowledge so as to be able to do something better or in a more efficient manner. This, research in social sciences is concerned with both knowledge for its own sake, and knowledge for what it can contribute to solve practical problems

3.1 Population of the Study

The Dang 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 –3.1 Population of Gujarat and Dang District (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.

3.2 Data Collection Process

Dang district has in all three Tehsil / Block namely Ahwa, Subir and Waghai, hence for purpose of data collection and to have representativeness sample, the data were drawn from these 3 blocks and collected (using Survey Form – **Appendix - I**). For present study data surveyed for the population of 600 participants planned (as per formula given below). Non-probability convenience method for sampling was used in the present study. The numbers of borrowers from different sources are shown in Table - 3.2.

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 * SQRT ((p * (1-p)) /n) where n is calculated sample size. (The calculated value of n comes out to be approximately 600)

Table – 3.4 Block Wise Selection of Samples					
Sr. No.	**Block / Taluka**	**Village Clusters**	**Sample Villages**		
			Number	**Village Name**	
1	**Ahwa**	26	4	Ghoghli	Ahwa City
				Linga	Dhavalidod
2	**Vaghai**	22	4	Chinchod	Kosimda
				Godadiya	Waghai
3	**Subir**	19	3	Mahal	Sepuamba
				Kadmal (Subir)	
Total		**67**	**11**	**Total Number of Survey Forms Required**	
Number of Households from Each Village			**55**	**11*55 = 605~ 600**	

Table – 3.2 Year wise Borrowers (Cases = 600)			
Membership Year	**Borrower**		
	Formal	**Informal**	**Total**
2010	10	6	16
2011	19	9	28
2012	62	27	89
2013	78	33	111
2014	86	48	134
2015	36	38	74
2016	1	0	1
Total	**292**	**161**	**453**
%	**48.7**	**26.8**	**75.5**
As Participant surveyed		**Total**	**%**
Total Borrowers		**264**	**44.0**
Total Non-Borrower		**336**	**56.0**

Source: Field Survey

3.3 Tools Employed

A structured **Questionnaire** (using Survey Form – **Appendix - I**) was prepared which included all the data quantitative and qualitative in nature. The survey also includes questions for calculation of the factors which are responsible for impact of the credit societies on their members (especially women) measured on a 5-point Likert scale and 2-point Likert scale data. The following is a brief account of these data concepts involved with their variables which were measured in the present study.

3.4 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		

3.5 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.

3.5.1 Data Classifications, Types and Measurement scales

The data are classified in a group (gender, residence area, family type etc.) and structured format of questionnaires to collect, measure, analyze and interpret from participants of Dang districts of Gujarat State.

The surveyed data are entered using MS Excel 2007 software. The alphabetical nature data also entered using numeric codes (as per Appendix) for analysis purposes. Some of the data in the survey form contains *Likert Scales's* format. The *Likert Types* of data uses two different methods of item selection:

- *item analysis*, in which selection is based on the correlation of item score with total score; and
- 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.

Chapter – IV

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 Data Analysis

Data collected from participants and data were converted as per the codification decided. For the purpose of our thesis we have reconsidered the grouping of variables and scale of data other than defined in survey form. The frequencies, average, and % of data of those variables and other analysis conducted accordingly. The data are summarized in tables.

4.1.1 Basic Data analysis

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

The form consist of different parts use as different categories of variables such as – to create domain of basic social personal and economic environment (Part – 0), Credit Loan Related data with other data for analysis to check socio-economic impact on family income (Part – I and Part – II)), saving (i.e. SV Variables) related data (Part – III), Insurance (i.e. IN Variables) related data (Part – IV), to capture data for analyzing (in form of Likert *five point*)the factors responsible for socio economic impact (i.e. SE and SS variables) (Part – V) and data for analyzing (in form of Likert *two point*) the factors responsible for problems (i.e. MC, MS and MI Variables) faced by participants (Part –VI). Hence the data analysis carried out accordingly.

The average age of all **600** surveyed participants is 43.7 years which includes 82.0% male participants with average of age is 43.1 years and 18.0% of female participants with average age are 44.2 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 30.9 years, having male's average age is 30.7 years, while female's average age is 32.2 years and the average age of second group is 49.1 years, having male's average age is 48.8 years, while female's average age is 50.1 years respectively.

The data of participants for SES (using **Kuppuswamy Scales**) includes none from Upper (I) and Lower (V) level respectively, 21% from Upper Middle (II), 64% from Lower Middle (IIII) and 15% from Upper Lower (IV) respectively.

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

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

4.1.3 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 0.913 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.

4.1.4 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 – VI) 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 SV variables, IN Variables, Micro credit details are as follows (2-point scale survey).

Table – 4.1 Responses of Saving Habits (SV Variables) (%)

Var.	Descriptions	Borrowers & Non-Borrowers		Only Borrowers	
		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 – 3.3 the saving habits who are only borrower is only 18% while the 14% participants having saving habits even though they are not borrowing money.

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. The Table – 4.2 contains the percentages of responses for every participant either borrower or non-borrower respectively only 14% participants having insurance related importance.

Table – 4.2 Responses of Insurance Habits (IN Variables) (%)

Var.	Descriptions	Barrowers & Non-Borrowers		Only Borrowers	
		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 –4.3 which shows only 20% participants having importance.

Table – 4.3 Responses of Problems in Micro Credit (MC Variables) (%)

Var.	Descriptions	Barrowers & Non-Borrowers		Only Borrowers	
		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**

Micro Savings – MS Variables

In this survey instrument the MS variables (2-point scale) i.e. MS1 thru MS3 showing percentage values below in table (Table – 4.4). There are 57% participants who show interests in savings.

Table – 4.4 Responses of Problems in Micro Savings (MS Variables) (%)

Var.	Descriptions	Borrowers & Non-Borrowers		Only Borrowers	
		Yes	No	Yes	No
MS1	Ease in process of opening saving account	**57.5**	42.5	30.7	12.3
MS2	Reasonable return on savings	**57.3**	42.7	30.2	12.8
MS3	Easy in withdrawing	**56.8**	43.2	29.8	13.2
Overall		**57.2**	**42.8**	**30.2**	**12.8**

Micro Insurance – MI Variables

The survey instrument having the MI variables (2-point scale) i.e. MI1 thru MI4 and the table (Table – 4.5) shows 24% participants feel about insurances.

Table – 4.5 Responses of Problems in Micro Insurance (MI Variables) (%)

Var.	Descriptions	Borrowers & Non-Borrowers		Only Borrowers	
		Yes	No	Yes	No
MI1	Ease in taking micro insurance policy	28.5	71.5	15.7	27.3
MI2	Ease in payment of premium	28.3	71.7	15.5	27.5
MI3	Ease in claim settlement	24.8	75.2	12.8	30.2
MI4	Complains and grievances are well handled	13.8	86.2	7.2	35.8
Overall		**23.9**	**76.1**	**12.8**	**30.2**

Economic Impact – (SE Variables)

The data collected for SE and SS variables infive-point scale *Likert Scale* format *i.e.* 1 = Strongly Disagree, 2= Disagree, 3 = Neutral, 4= Agree and 5 = Strongly Agree as questions listed in Measuring Impact. The cumulative frequencies of all seven SE variables related questions as replied by every participant of Dang districts data are distributed and the variations in responses.

The top box analysis of responses (in **Table – 4.6**) from 600 participants for every different type of parameters (i.e. gender, family type) in Likert Scale (5-point) format shows (look Overall row) nearer to NU (%A) i.e. nearly 32% while there are a smaller number of Strongly Agree (i.e. 13% (i.e. - %TB) and Strongly disagree (i.e. 16% - %LB). These % values show that most of the participants neither understand the benefits could be drawn properly or not able to express in favor of these concepts at their district.

Table – 4.6 Top Box Analysis for Economic Impact (with different groups)

Parameter	Groups	Frequency of Responses					Median	Top Box Calculated (%)						Cases
		SA	AG	NU	DA	SD		%H	%A	%L	TB	LB	NTB	
Gender	**Male**	454	888	1062	481	545	3	39.1	31.0	29.9	13.2	15.9	-2.7	490
	Female	84	210	294	69	113	3	38.2	38.2	23.6	10.9	14.7	-3.8	110
Family Type	**Joint**	335	731	830	297	159	3	**45.3**	35.3	19.4	14.2	6.8	**7.5**	336
	Nuclear	203	367	526	253	499	3	**30.8**	28.5	40.7	11.0	27.0	**-16.0**	254
Borrower	**Borrower**	278	535	543	238	212	3	45.0	30.1	24.9	15.4	11.7	3.7	258
	Non-Borrower	260	563	813	312	446	3	34.4	34.0	31.7	10.9	18.6	-7.8	342
Overall	**Total**	**538**	**1098**	**1356**	**550**	**658**	**3**	**39.0**	**32.3**	**28.8**	**12.8**	**15.7**	**-2.9**	**600**

Social Impact – (SS Variables)

The analysis of all these 600participants data (Table – 4.7) for SS variables includes all different parameters; for **overall** the responses are near to NU (%A) i.e. nearly 32% while there are a smaller number of Strongly Agree (i.e. 8% - %TB) and Strongly disagree (i.e. 18.5% - %LB) this means that most of the participants are unable to understand the benefits from micro insurance and micro savings in their favor within the district.

Table – 47 Top Box Analysis for Social Impact (with different groups)

Parameter	Groups	Frequency of Responses					Median	Top Box Calculated (%)						Cases
		SA	AG	NU	DA	SD		%H	%A	%L	TB	LB	NTB	
Gender	**Male**	457	1434	1810	1053	1125	3	32.2	30.8	37.0	7.8	19.1	-11.4	490
	Female	137	327	490	161	205	3	35.2	37.1	27.7	10.4	15.5	-5.2	110
Family Type	**Joint**	361	1182	1392	718	379	3	**38.3**	34.5	27.2	9.0	9.4	**-0.4**	336
	Nuclear	233	579	908	496	951	3	**26.6**	29.8	47.5	7.6	31.2	**-23.6**	254
Borrower	**Borrower**	282	863	948	577	425	3	27.9	23.1	24.4	6.9	10.4	-3.5	258
	Non-Borrower	312	898	1352	637	905	3	29.5	32.9	37.6	7.6	22.1	-14.4	342
Overall	**Total**	**594**	**1761**	**2300**	**1214**	**1330**	**3**	**32.7**	**31.9**	**35.3**	**8.3**	**18.5**	**-10.2**	**600**

In the survey instrument several data related to credit, saving and insurance opted by participants were gathered to understand whether microfinance activities are really reaching to common people or they can understand the microfinance activities. The Table – 4.36 showing percentage values below for all the participants Demand for Microfinance Services accordingly.

Table – 4.36: Demand for Microfinance Services

Microfinance Services	Participants	% (cases = 600)
None	336	56.0
Credit only	264	44.0
Savings only	441	73.5
Insurance only	246	41.0
Credit and Savings	239	39.8
Savings and Insurance	244	40.7
Credit and Insurance	139	23.2
Credit, Savings and Insurance	138	23.0

Source: Analysis from Survey Data

4.1.5 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. a simulation study conducted by de Winter and Dodou; that compares the capabilities of the two-sample t-test and the Mann-Whitney test to analyze five-point Likert items for two groups.

To analyze ordinal data statistically, non-parametric tests should be used i.e. Anderson-Darling Test. The basic choice between a parametric test and a non-parametric test are generally described as the following:

- Parametric tests, such as the 2-sample t-test, assume a normal, continuous distribution. However, with a sufficient sample size, t-tests are robust to departures from normality.
- Nonparametric tests, such as the Mann-Whitney test, do not assume a normal or a continuous distribution. However, there are concerns about a lower ability to detect a difference when one truly exists.

To test the normality of every data items means they are relatively close to the fitted normal distribution line. The p-value is greater than the significance level of 0.05 then we fail to reject the null hypothesis defined as follows:

Null hypothesis	H_0	: Data follow a normal distribution (if p >0.05)
Alternative hypothesis	H_1	: Data do not follow a normal distribution (if p<0.05)

The normality test for variables such as SV Variables, IN Variables, MC Variables, MS Variables, MI Variables, SE variables and SS Variables is the first step for testing of above hypotheses and confirms that data are not normal for every variable.

4.2 Test of Hypotheses

A hypothesis is a specific statement of prediction. It describes in concrete (rather than theoretical) terms what is expected to happen with present research study. Not all studies have hypotheses. Sometimes a study is designed to be exploratory (inductive research). There is no formal hypothesis, and perhaps the purpose of the study is to explore some area more thoroughly in order to develop some specific hypothesis or prediction that can be tested in future research. A single study may have one or many hypotheses. In this present research study some of the hypotheses formulated to analyze the impact and factors responsible.

4.2.1 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 borrower or non-borrower 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.

The Mann-Whitney U-test for every variable performed with different grouping such as gender group, family type group and borrowers and non-borrower group to test all null hypotheses (from Ho.1 thru H0.17).

4.2.2 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.

Table – 4.8 The Levene's Test			
***t*-test (equality of means)**	***p values***	***F* test (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 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. The results of Levene's Test for all variables as analyzed with different groups such as gender, family type and borrower and non-borrower respectively and results were tabulated as per Table – 3.10 where the hypothesis as follows:

H_0: $\sigma 21=\sigma 22=\ldots=\sigma 2k$

H_a: $\sigma 2i\neq\sigma 2j$ for at least one pair (i,j).

4.2.3 Test of hypotheses Summarized

Variables Associated in Analysis		
Independent Variables*		**Dependent Variables@**
Type	**Groped (one from each type)**	**Microfinance Intervention**
Gender	Male, Female	Micro credit Services
Family	Joint, Nuclear	Micro Savings Services
Credit Loans	Borrower or Non-Borrower	Micro Insurance Services
* Every Type for analysis with every variable of @		Variables for Economic Impact
		Variables for Social Impact

Hypothesis	Research Method	Results
Saving habit variables (SV variables)		
H.1o Microfinance intervention has not made socio-economic improvement by inculcating saving habits in different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis is not rejected (i.e**. H1o**).
H.2o Microfinance intervention has not made socio-economic improvement by inculcating saving habits in different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H2o**) is partially rejected
Insurance habit variables (IN variables)		
H.3o Microfinance intervention has not made socio-economic improvement by inculcating insurance habits in different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis is failed to reject **(H.3o)**
H.4o Microfinance intervention has not made socio-economic improvement by inculcating insurance habits in different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis is failed to reject **(H.4o)**

Hypothesis	Research Method	Results
Economic Impact – SE Variables		
H.5o Microfinance intervention has not made improvement in economic status in different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test& Levene's Test**	Null hypothesis (i.e.**H.5o**) is fail to reject
H.6o Microfinance intervention has not made improvement in economic status in different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e.**H.6o)** is not rejected

H.7o Microfinance intervention has not made improvement in economic status of different borrowers of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e.**H.7o**) is rejected
Social Impact – SS Variables		
H.8o Microfinance intervention has not made improvement in social status in different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.8o**) is rejected
H.9o Microfinance intervention has not made improvement in social status in different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.9o**) is not rejected
H.10o Microfinance intervention has not made improvement in social status of different borrowers of Dang District of Gujarat State	**Mann Whitney U-test & Levene's Test**	For borrower grouping (borrower v/s no-borrower) for SS variables some of the questions on social impact. Since $p<0.05$ for variables such as SS1, SS5, SS7, SS8 and SS10 thru SS12 are significant thus the null hypothesis (i.e. **H.10o**) is fail to reject. But at the same time other variables SS2 thru SS4, SS6 and SS9 the $p>0.05$ which makes null hypothesis accepted and hence with this contradiction it become necessary to analyze further

Hypothesis	Research Method	Results
Challenges in Availing Micro Credit Services – (MC Variables)		
H.11o There are problems faced in availing micro credit services by different gender beneficiaries of Dang District of Gujarat State	**Mann Whitney U-test & Levene's Test**	Null hypothesis is failed to reject **(**i.e.**H.11o);**
H.12o There are problems faced in availing micro credit services by different family type beneficiaries of Dang District of	**Mann Whitney U-test &**	In MC variables whereas MC2 thru MC9 $p < 0.05$ are statistically significant so

Gujarat State.	**Levene's Test**	that the null hypothesis (i.e.**H.12o**) is partially rejected because for variables MC1 and MC10 thru MC12 the $p>0.05$. The mean ranks values for variables MS1 thru MC9 is higher in case of joint family type and for MC10 thru MC12 is higher in case of nuclear family type gives different reasoning to analyze further.
Challenges in Availing Micro Savings Services – (MS Variables)		
H.13o There are no problems in availing micro savings services by different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.13o**) is failing to reject and shows male prefer need and importance of savings.
H.14o There are no problems in availing micro savings services by different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.14o**) is rejected. The mean ranks values for MS variables are higher in case of joint family than nuclear family type which shows that joint family type is more concerned about savings.

Hypothesis	**Research Method**	**Results**
Challenges in Availing Micro Insurance Services – MI Variables		
H.15o There are no problems in availing micro insurance services by different gender beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.15o**) is failed to reject Both genders share the importance of insurance but these needs to further analysis.
H.16o There are no problems in availing micro insurance services by different family type beneficiaries of Dang District of Gujarat State.	**Mann Whitney U-test & Levene's Test**	Null hypothesis (i.e. **H.16o**) is failing to reject. It concludes that joint family type feels more importance of insurance.

H.18o Microfinance intervention has not discriminated between potential beneficiaries of Dang District of Gujarat State.	**Discriminant Analysis**	Here, the null hypothesis (i.e. **H.18o**) is rejected. From the Discriminant analysis it can be concluded that variables namely **Skill Type** and **Family Type** has been found key drivers of the overall performance of formal financial institutions in Dang District.

4.3 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 (using Principal Component Analysis i.e. PCA). The factors obtained for all Likert type data providing a significant concept of objectives and confident to get some meaningful relation between variables.

The **Factor Analysis** is a useful tool for finding variable relationships for complex concepts such as socio-economic status or psychological scales. It allows investigating concept that is not easily measured directly by collapsing a large number of variables into a few interpretable underlying factors. The key concept of **factor analysis** is that multiple observed variables have similar patterns of responses because they are all associated with a latent variable (i.e. not directly measured).

The variables used in factor analysis should be linearly related to each other. Obviously, the variables must also be at least moderately correlated to each other; otherwise the number of factors will be almost the same as the number of original variables, which means that carrying out a factor analysis would be pointless. The factor analysis has three main uses:

- To understand the structure of a set of variables
- To construct a questionnaire to measure an underlying variable
- To reduce a large data set to a more manageable size.

4.3.1 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.

Principal component analysis is a Variable Reduction Technique and used when variables were highly correlated. It reduces the number of observed variables to a smaller number of principle components which accounts for most of the variance of the observed variables. It is useful when there is some redundancy in those variables. The redundancy means that some of the variables are correlated with one another, possibly because they were measuring the same construct.

For this research study there are eight variables named as **SV variable**, five variables named as **IN variables**, twelve as **MC variables**, three as **MS variables** and four as **MI variables** having 2-point *Likert Scale* and there are seven variables as **SE variables** and twelve variables as **SS variables** with 5-point *Likert Scale* for all 600 participants (say cases).

The principal component analysis conducted on all valid cases which are converted through codes (1 to 5 or 1 and 2) as used in *Likert Scale*. The ratio of cases to every variable is very large (compared to 1:5) in this research study (Table – 4.9). The analysis carried out with a common assumption that overall 600 participants irrespective of their classifications such as gender, age, family type, borrower and residence area etc.

Table – 4.9 Ratios of cases with variable for PCA and FA (Cases = 600)

Variables	No of Variables	Cases per variable
SV Variables	8	75
IN Variables	5	120
MC Variables	12	50
MS Variables	3	200
MI Variables	4	150
SE variables	7	94
SS Variables	12	50

4.3.2 Factor Analysis

SV Variables

The latent root criterion for number of factors derived only one component to be extracted for these variables (out of 8 variables only 4 variables). This one component solution would explain 62% of the total variance. Since the SPSS calculates by default to extract the number of components indicated by the latent root criterion, the initial factor solution was based on the extraction of 2 components.

IN Variables

The latent root criterion for number of factors derived only one component to be extracted for these variables (out of 5 variables only 4 variables). This one component solution would explain 79.1% of the total variance.

MC variables

The latent root criterion for number of factors derived two components to be extracted for these variables (out of 12 variables; 9 variables in one component and 3 variables in another component). These two components solution would explain 79.4% of the total variance.

MS Variables

The latent root criterion for number of factors derived only one component to be extracted for these variables (out of 3 variables all 3 variables). This one component solution would explain 95.8% of the total variance.

MI Variables

The latent root criterion for number of factors derived only one component to be extracted for these variables (out of 4 variables all 4 variables). This one component solution would explain 85.3% of the total variance.

SE Variables

The latent root criterion for number of factors derived only one component to be extracted for these variables (out of 7 variables only 6 variables). This one component solution would explain 71.00% of the total variance.

SS Variables

The latent root criterion for number of factors derived only component to be extracted for these variables (out of 12 variables; only 9 variables in one component). This one component solution would explain 73.4% of the total variance.

4.4 Correlation between factors of variables

To understand the relationships between different variables of (various) factors such as **SV variables, IN variables, SE variables, SS variables, MC variables, MS variables and MI variables** respectively.

Relationship between variables drawn after factor analysis performed for savings, insurance, socio economic impact (i.e. to test relationship between variables) and micro credit respectively tested by using bivariate *correlation coefficient*. It was assumed that all these factors are independent and having no relationship as a practical approach due to following reasons tested with significant relationship assume **correlated values are >= 0.3**, the result showed various positive and negative correlation between all these variables.

4.5 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.

4.5.1.1 Variables for first group – some of the important variables assumed (referenced to Kuppuswamy 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…

4.5.1.2 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.

It is observed from various calculations that estimating the Discriminant function is significant for Wilks' Lambda = 0.984 and *p value* =0.008. The method gives un-standardized Discriminant Function coefficients which are used to construct the actual prediction equation used to classify new cases. Based on the coefficients following equation drawn:

$$Z = -4.184 + 1.343 Family\ Type + 1.974 Skill\ Status$$

It concluded that variables namely ***Skill Type*** *and* ***Family Type*** has been found key drivers of the overall performance of formal financial institutions in Dang District. Microfinance has been an important tool in poverty alleviation, empowerment of women and in bringing about financial inclusion. The continuous efforts are required to diversify the concept of family and skill development. **Here, the null hypothesis** (i.e. H.18o Microfinance intervention has not discriminated between potential beneficiaries of Dang District of Gujarat State) **is rejected.**

Chapter – V

5.0 DISCUSSION AND CONCLUSION

5.1 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 especially to empower women. It was also discovered that, risk of nonpayment by the creditors, cultural expeditions and other social factors affect women entrepreneurial development.

5.2 Limitations

All possible efforts were made by researcher to make study precise, but certain limitations like any other social science research did remain in present study too. Some limitation related to the present study could be cited here as follows:

- The study is confined only to the microfinance services comprising microcredit, savings and micro insurance in Dang district (majorly rural area) and the findings of this study may not be generalized directly to all other areas. However, the study is useful for an area specific investigation and the possibility of comparing results with other area specific studies.
- Only Life Micro Insurance products of LIC, SBI and Governments are been considered for the study, excluding any other micro insurance (such as crop, livestock etc.) by any other financial institutions.
- The present research study is carried out to analyze the impact of microfinance on socio-economic improvement of rural households, however it is limited only to variables mentioned in subsequent chapters 3 and 4.
- As the study is based on primary data collected through questioner and interview schedule the reliability depends in the true responses of the respondents and at times it is difficult to persuade the respondents to provide complete detail of their households. Also, statistical methods used with 95% confidence limits two sided.

5.3 Key Findings

The microfinance services i.e. microcredit, micro savings and microinsurance were considered each in isolation and in combination with one another. The research questions were set for this study stated and targeted for the MFIs, banks and insurance institutions in Dang district (rural area) e.g. improvement in the living standards, reduction in vulnerability and services to women.

The major findings of this study are:

I. **With Respect to Survey Form –** different types of data were identified for the study and analyzed concludes that

- **a.** There are basic concept differences and understanding about microfinance services among peoples who are *not much aware* about the Government Schemes and services provided by formal sources.
- **b.** Bank accounts are essential for the day to day economic life, findings reveal that 73.5 % of the households reported having bank accounts in the Dang district.
- **c.** *Less training and popularity* about microfinance services by formal sources to peoples.
- **d.** The rural areas people's quality of life depends on agriculture farming and live stocks but most of the people are either illiterate or less qualified. There is *need of extensive literacy not only financial literacy* (education program).
- **e.** The people are well settled and are *not belonging to lower class (as per Kuppuswamy scale)*, there is need of inclusive growth of the district, state and country since the Dang district is rich in natural resources too. The increased income is only usable for small business development or agriculture purpose.
- **f.** *Credit services* are definitely providing positive change in very small proportion which could be increase with efforts.
- **g.** There is *need of affordable rate of interest* from formal sources for microfinance for their services.
- **h.** People are *using only saving as their safeguard* but able to understand about insurance services; there is need to make awareness about such schemes with positive approach.

i. Though there is socio-economic impact in aggregate but their liabilities also increased due to increase in purchase expenses, domestic expenses, less employment opportunities and due to seasonal impact loans are unpaid.

j. Similarly, social impact has also affected because of dependency on knowledge for use of latest technology, products, resources and processes.

k. There is *need of more women participation and empowerment*. As there is scanty demand for credit, savings and insurance by female headed households indicating that female heads are generally less able to grab benefit of the financial services?

II. **With Respect to Statistical Analysis–** different types of data were statistically analyzed to confirm the study.

a. The data were grouped and it was observed that results from family type group are attracting more deep interest. The results of joint family type are different than nuclear family type.

b. The family type has definitely increased the dependency of social impact and economic impact especially borrowing, better utilization of resources, education to women family members and women empowerment respectively.

c. Every factor grouped in calculation reflects common nature of issues as listed above in ***b*.**

d. The discriminate analysis also reflects the outcome of socio-economic impact definitely depends on family type and the skill of the member (i.e. education, occupation and knowledge).

e. These results in imparting proper training form the government and other dependent organizations.

f. In contrast to the researcher's expectations, that majority of loans could be substitute for insurance i.e. for making up of any monetary loss occurred due to uncertain event, but that was not so and only 3% credit went in this purpose.

g. It can be said that households didn't saved mainly to build surplus against future calamities rather for overall productive use of the same.

III. Executive Summary of findings

The study of all the three blocks from Dang district includes both types of participants (e.g. borrowers and non-borrowers) which includes (for study overall 600 cases) male 81.6% and female 18.4% respectively. These participants belonged to different family structure i.e. Joint (56.0%) or Nuclear (44.0%) families and different economic level living in different residence areas of District.

The **Kuppuswamy Scale's** analysis (Table – 4.5) findings revealed that none of the participants belongs to Upper (I) and Lower (V) level respectively while 21% to Upper Middle (II), 64% to Lower Middle (IIII) and 15% to Upper Lower (IV) respectively shows that people are not below the poverty line. Only 138 households' members from samples had taken up all the *three major microfinance services of credit, savings and insurance.* This revealed that microfinance activities are not reaching to common people and not able to understand the benefits to them (Table – 4.36).

1. Top-Box Scoring of Scale Data

Savings – The analysis reveals that 73.5% has habit of thrift while 26.5% of the total households' respondents had no saving habit which means still there are some reasons for savings (Table 4.14)

Micro insurance – The62.7% households are unaware about any micro *insurance schemes* while 37.3% having knowledge about micro insurance schemes (Table – 5.8) but only 21.7% are insurance takers (Table – 5.9).

Economic Impact – The top box analysis of responses from 600 participants irrespective to any type of parameters (i.e. gender, family type) in Likert Scale (5-point) format shows nearer to NU (%A) i.e. nearly 32% while there are a smaller number of Strongly Agree (i.e. 13% %TB) and Strongly disagree (i.e. 16% - %LB). These % values show that most of the participants neither understand the benefits could be drawn properly or not able to express in favor of these concepts at their district (Table – 4.32).

Social Impact – Irrespective of any group parameters it shows that most of the responses are near to NU (%A) i.e. nearly 32% while there are a smaller number of Strongly

Agree (i.e. 8% - %TB) and Strongly disagree (i.e. 18.5% - %LB) reveals that most of the participants are not able to understand the benefits in favor of these concepts of within the district (Table – 4.34).Furthermore, it indicates that there are very *high variations in every blocks of the district* for both social and economic impact which may be due to various factors (needs to find out) causing changes to their living conditions.

Problem in Availing Microfinance Service – The Micro *Credit Service* for overall households' perception on challenges faced in availing *service,* 80% reported they faced problem and only 20% showed satisfaction for the service availed. Out of these 20% participants, 15% are borrowers which were satisfied and 5% are non-borrower (Table – 4.37). Only 57% participants were satisfied with or *Micro Savings Service* while 43% had faced barriers for the same (Table – 4.38).

For *Micro Insurance Services* 76% of the households faced challenges in availing such service while only a handful of households' i.e. only 24% participants who didn't faced any challenges for the same. (Table – 4.39)

2. Normality test of Data

Basically, normality test confirms the nature of data collected in study as every data are discrete and non-parametric in nature. The normality tests for 2-point Likert Scale data and 5-point Likert Scale data leads data are non-normal and skewed in nature as results from top box analysis; this leads us to test the different hypotheses to conclude the impacts on different groups (such as gender, family type and borrower type) with behavior of data. The possible tests of these non-parametric data are Mann Whitney U test and Levene's Test.

3. Cronbach – Reliability Test

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items (surveyed as *Likert data*) i.e. the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha (□) is one way of measuring the strength of that *consistency*.The result obtained in here for every variable independently with their analysis indicated that none of the question be removed from the survey; the results reflects overall reliability coefficient for a set of variables (i.e. every question is a variable and inter-dependent).

4. Mann-Whitney U-test

One of the non-parametric alternative tests to the independent *sample t-test* which is used to compare two sample means drawn from the same population (e.g. male and female), and used to test whether two sample means are equal or not.

Saving habit **–** it leads to the conclusion that the difference between medians for gender type (male v/s female) was not statistically significant (as p >0.05) and hence Microfinance intervention has not made socio-economic improvement by inculcating saving habits in different gender beneficiaries. Also, male members saving habit surpassed than that of females which needs active measure to strengthen female socio-economic status. The joint family type plays vital role it seems as their saving habit was found to be more than that of nuclear.

*Insurance habit***–**it leads to the conclusion that the difference between medians for gender type (male v/s female) and for family type (joint v/s nuclear) was not statistically significant as p >0.05 and hence microfinance intervention has not made socio-economic improvement by inculcating insurance habits among beneficiaries.

Economic Impact – In this study it was required to understand and to find out whether all *micro finance schemes* providing economic empowerment to household in the districts. The analysis of surveyed data gives surprise results for different groups such as Gender group feels that no *improvement in income level* but it has *increased business expenses on purchase of inputs* and not *able to reduce indebtedness*. Similar survey was analyzed with Family type group and result show that nuclear family responses feel that *micro finance schemes* more protective than joint family type.

During the survey the study was with both types of households either they are borrower or non-borrower (either belongs to any gender or family type) the results for borrowers reveals that though expenses has increased but employment opportunities also increased which non-borrowers are in opposite feel that savings and asset accumulation increase even though they are not dependent of micro finance schemes.

Social Impact – Every scheme launched are measured in two different impacts one economic impact which measures economic uplift of households and other is social impact

which measures the benefits drawn for status in society such as literacy, women empowerment and education, change in quality of life etc. It was observed in calculation with gender grouping male dominant society there is lack towards women empowerment and encouragement but nuclear family type is encouraging some time possibly these households could be borrowers.

Challenges in Availing Micro finance Services – There are problems faced in availing *micro credit services* by different gender beneficiaries of Dang District. In case of family type grouping (joint v/s nuclear) for variables MC2 thru MC9 the $p < 0.05$ which means statistically significant while other variables MC10 thru MC12 having different p values that indicates to analyze extensively. It means that credit linkages with marketing and insurance is weak or not existing and strong need for training. The micro finance schemes recently introduced *Micro Savings Services* and *Micro Insurance Services* but the success of these schemes are mostly dependent of earnings by individual and understanding of the schemes in general. These schemes need more effort to popularize schemes.

Thus, the overall results suggest that microfinance policies merely focused on expanding access to credit service which too faced high barriers to access by households. Though evidence indicated large number basic saving accounts operated by households which is indeed as integral component to enhance financial inclusion and generally it is assumed that if people have habit of thrift and access to savings accounts than the process of accumulation deposit itself draws member into the other banking services and enhance their familiarity with financial concepts; but this was not true in case of dang households and moreover, ignoring insurance service; are unlikely to improve welfare noticeably on average.

5. Levenes Test – Measure of Variability

The Levene's test is used to test with assumption for variables have equal variances; which is precondition for *parametric test* such as t-test and F-test. Some statistical tests e.g. the analysis of variance (ANOVA i.e. F Values), assume that variances are equal across groups (e.g. male v/s female, rural v/s urban etc.) or variables.

Once data are tested through the **Mann-Whitney U-test;** the next step for data is to compare difference between two independent groups (e.g. gender or family type etc.) which

could only possible through Leven's Test for equality of variance performed on these variables (such as SV, IN, MC, MI, MS, SE and SS) for different groups separately assuming variances are equal the results are indicating large differences in understanding and following the importance of micro fiancé schemes such as:

The concept of saving with male is more prominent for children's education and repayment of loan while this is differently taken by nuclear family type where their impotence with children education need for saving during uncertainties of employment, old age health related issues and children's marriage purposes. The insurance concept is equally understood by both genders but male feels it increases peace of mind and protection while different family types also feel the same.

The micro saving, insurance and credit schemes having high variability even either gender or family type which could possibly the financial organization not able to promote these schemes properly. This also provide conclusion for economic impact and social impact.

6. Factor Analysis Outcome

This analysis gives us those reasons and variables which are important and are affecting overall analysis and we reach to consider training, literacy, linkage of credit with marketing and insurance is necessary to obtain desired outcome. The total conclusion of this study in these areas is based on this.

Saving habit– the dominant reported reasons for households' savings appeared to be uncertainties relating to employment and health, for children education and to maintain social status (SV1, SV2, SV3, and SV7). This shows that saving was done for productive reasons and not for any unproductive use.

Micro Insurance habit– The principal factors responsible for the take-up of any insurance policy arefinancial security against accident and death and also feeling of protection and risk bearing capacity (IN1, IN2, IN3, IN4)**.** But the relevant issue is that the overall reach of micro insurance is extremely low and *78% households reported no take-up* for any micro life insurance product. Moreover, only LIC dominated and other schemes by SBI and Government's insurance schemes PMJ-JBY and PMJ-SBY needs active attention.

Economic impact–The core factors responsible to bring desired economic impact are mainly level of income, savings, assets, business and domestic expenses (namely SE1 thru SE6). But interestingly, the reduction in household's indebtedness does not play a major role in uplifting member's economic position (SE7).

Social impact –There is *need of more women participation and empowerment*. As there is scanty demand for credit, savings and insurance by female headed households indicating that female heads are generally less able to grab benefit of the financial services.

*Challenges in availing microfinance service*s –Understanding the reasons for the non-take-up of credit, savings or insurance services became a primary question of interest. Nearly 80% of the households reported problem relating procurement of loan. Furthermore, for problem relating to capacity building, non-linkage of credit with marketing, insurance and proper training appears to be the dominant reported reasons for barriers in providing MF services. Also, location exclusion i.e. lacks of access in household's locality to appropriate financial services. Evidence indicated no problems in availing micro savings services among beneficiaries of Dang District and it did show handsome saving picture on the saving front but that doesn't act as reduced need for credit. Thus, a full picture of the challenges of microfinance required better consideration of insurance and marketing linkage with loans and also need for training as an essential component of the strategy to enhance socio-economic wellbeing and thereby financial inclusion.

7. Correlation Between Variables

The study examined the correlation between variables drawn after factor analysis performed for savings, insurance, socio economic impact and micro credit respectively tested by using bivariate *correlation coefficient*.

The relationship between the variables of factors of SV Variables with IN Variables and MI variables reflects impact of savings with insurance coverage to useful in future requirements to households. Significant negative relationship betweenthe factors of Saving habit Variables (SV's from Table – 4.102) and socio-economic improvement Table – 4.156 (variables drawn from Table – 4.120 and Table – 4.132 respectively) *reflects impact of savings itself are not much helpful to households*.

Also, there exists a positive significant relationship between insurance habit with micro credit factor 2 Capacity building (Table – 4.157) that if effective credit linkages with marketing and insurance backed by training is made it will inculcate insurance habit among the households. There exists a significant negative correlation between economic and social factors their impact in different areas of insurance facilities. It reflects *impact of life micro insurance itself is not much helpful to households*.

Savings and insurance both services complement to microcredit; since they satisfy different needs and to be included in a long-term development strategy. Microcredit seeks to foster business creation and growth to create a favorable environment for professional development. Insurance, on the other hand, protects micro-borrowers from risks, and savings enable them to build up a financial safety net. There is a need of risk management strategies (Table – 4.153) with respect to these products.

8. Discriminant Analysis

It reflects the outcome of socio-economic impact of microfinance intervention through formal financial source, definitely depends on family type and the skill of the member (i.e. education, occupation and knowledge). Therefore, the is a need to design a financial product considering joint family and skill attribute in rural areas which can help in bringing the desired socio-economic outcome.

9. Suggestions

Finally, some suggestions to make microfinance more effective and efficient support in development of quality of life, women empowerment, improving overall socio-economic status etc., as the success of microfinance service implementation can also promote inclusive growth.

9.1 Suggestions for Beneficiaries

The success of Government schemes and proper implementation of these schemes by banks is not only responsibility but there is need of cooperation and participation of the beneficiaries of such schemes. The success and benefits could be possible

- The beneficiaries should make only *productive use of loan* taken for the purpose only or else trust of the bank will be lost and it will affect socio-economic development.

- Those beneficiaries who are illiterate or less literate should give priority to get good *education to their children under RTE Act*.
- The beneficiaries should understand the usage and adopt the latest technology. But today also Dang district is facing challenge of telecom and internet connectivity, so that should be improved promptly first.

Four important financial elements should be imbibed in the ordinary way of living.

- Proper way to Save
- Borrow money effectively
- Control the cost of living
- Diversify the finances

These needs to be taught as life skills. But especially among rural households the first two i.e. proper and regular savings and low cost of borrowing is utmost important. One these develop than one needs to control cost of living and diversify its finances. Hence, financial literacy is not only a skill but rather a life style that could result in financial stability. *Financial stability* is the byproduct of a proper lifestyle.

9.2. Suggestions for Creating Micro Insurance Awareness and Outreach

It is noticeable that there is absence of well-functioning market trading in risk. From table 5.8 it can be observed that nearly 62% of the total households were unaware about various micro life insurance schemes. Also, the awareness among borrower was more than that of non-borrowers.

Table – 5.8: Awareness and Importance of Micro Insurance (in brackets %)

		Non-Borrower (Cases = 336)	Borrower (Cases = 264)	Total (600)
Awareness about Micro Life Insurance Policy	No	243 (72.3)	133 (50.4)	376 (62.7)
	Yes	93 (27.7)	131 (49.6)	224(37.3)
Saving Habit	No Saving Habit	134 (39.9)	25 (9.5)	159(26.5)
	Saving Habit	202 (60.1)	239 (90.5)	441(73.5)
Need of Insurance	No	229 (68.2)	125 (47.3)	354(59.0)
	Yes	107 (31.8)	139 (52.7)	246(41.0)

It can be observed from the table 5.9 below that the number of dang households' beneficiaries of various micro life insurance schemes was too small of the total population i.e. only 22% and the 78% households reported no take-up for any micro life insurance service/product. Moreover, only LIC micro life insurance products dominated and there was no single respondent beneficiary for SBI group insurance and Government's insurance schemes PMJ-JBY and PMJ-SBY commenced in 2015.

Table – 5.9: Beneficiaries of the various micro life insurance scheme (in brackets %)

Provider	Micro Insurance Product	Non-Borrower (Cases = 336)	Borrower (Cases = 264)	Total (Cases:600)
LIC	Jeevan Madhur	27 (8.0)	41 (15.5)	68(11.3)
	Jeevan Mangal	8 (2.4)	14 (5.3)	22(3.7)
	Bhaghay Laxmi	27 (8.0)	13 (4.9)	40(6.7)
	No Takers	**274 (81.5)**	**196 (74.2)**	**470 (78.3)**
SBI	Grameen Shakti	0	0	0
	Grameen Super Suraksha	0	0	0
	GarmeenBima	0	0	0
GOV	PMJ-JBY	0	0	0
	PMJ-SBY	0	0	0

Table – 5.11: Reason for No Take-up of Micro Insurance (in brackets %)

Reasons	Non-Borrower (Cases = 336)	Borrower (Cases = 264)	Total (600)
Unaware	85 (25.3)	49 (18.6)	134(22.3)
Lack of Access to formal Sources	65 (19.3)	25 (9.5)	90(15.0)
High Premium	55 (16.4)	56 (21.2)	111(18.5)
Lack of need	44 (13.1)	32 (12.1)	76(12.7)
Any other	87 (25.9)	102 (38.6)	189(31.5)

From the present study one can observe the paucity of demand for micro insurance in Dang district. Table 5.11 exhibits main causes for less take up for insurance services, not less than 22% showed lack of awareness and understanding of not only life micro insurance but rather overall insurance concept and product. Since the awareness is increasing post 2015 with launch of governments' life micro insurance scheme. But despite this huge potential take-up of micro life insurance policies is still low and unable to transfer the low demand of micro insurance into bigger demand. Following approach can help to overcome this existing challenge in micro insurance sector-

- To build momentum at the bottom grassroots level about micro insurance it is imperative to make people, intermediaries and institutions providing services to be

more sensitive towards understand functioning of micro insurance and its potential contribution in risk protection.

- The role of private companies along with certain financial perks should be increased in the distribution channel to reach maximum number of people in rural markets.
- Mandatory linkages to be made for small businesses to be made while providing either credit or savings services.
- It is imperative to channel micro insurance through text massages by government as the number of mobile users has enormously increased in rural areas. But today also Dang district is facing challenge of telecom and internet connectivity, so that should be improved promptly.

9.3. Contribution of the study

The entire work in this thesis is the original work, researches with respect to the socio-economic impact of microfinance by formal financial sourceson 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 service with respect to microcredit, savings and micro life insurance as vehicle of socio-economic transformation, whereby it suggests required modifications to strengthen their outreach to poor with long term sustainability of the same.

- This study has highlighted different factors with respect to credit, insurance and saving with reference to beneficiaries. An analysis of awareness, expectations and level of satisfaction of the beneficiaries has revealed the current state of affair. Banks which aim to escalate Microfinance facilities are advised to understand the factors responsible and modified their business strategy accordingly.
- The importance of microfinance intervention will increase in rural areas if their efforts and contribution are towards inclusive growth of that area.
- The analysis of data in this study supports the nature and extent of the microfinance services provided by the banks that would make both present and potential customers aware of the various schemes that are meant for them.

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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:** _____

1

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 Heath 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 Kuppuswamy**		
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 Kuppuswamy			**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	Professional or Honors	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 / laborer / 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