

FINANCIAL INCLUSION OF THE SMALL AND MARGINAL FARMERS BY THE BANKING SECTOR IN KERALA

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under the
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by

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Certificate

This is to certify that the thesis entitled “Financial Inclusion of The Small and Marginal Farmers by the Banking Sector in Kerala” is the record of bonafide research work done by Mr. Biju John .M. under my supervision and guidance at the School of Management Studies, in partial fulfillment of the requirements for the Degree of Doctor of Philosophy under the Faculty of Social Sciences, Cochin University of Science and Technology. The thesis has not been submitted earlier, to any Institution or University for the award of any degree, diploma, fellowship or other similar title.

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Declaration

*I, **Biju John .M**, hereby declare that the thesis titled “Financial Inclusion of The Small and Marginal Farmers by the Banking Sector in Kerala”, submitted to Cochin University of Science and Technology under the Faculty of Social Sciences is the record of the original research done by me under the supervision and guidance of Prof. (Dr.) Mary Joseph T., School of Management Studies, Cochin University of Science and Technology. I further declare that no part of the thesis has been submitted elsewhere for the award of any degree, diploma or any other title or recognition.*

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CONTENTS

<i>Chapter 1</i>	<i>Page No</i>
INTRODUCTION	01-19
1.1 The Backdrop	01
1.1.1 Concept and Meaning of Financial Inclusion	04
1.1.2 Financial Inclusion: Global Scenario	07
1.1.3 Financial Inclusion in India	09
1.1.4 Financial Inclusion and the Banking System	11
1.1.5 Social Banking and Financial Inclusion	12
1.1.6 Financial Inclusion in the Indian Agriculture Sector	14
1.2 Chapterisation	18
<i>Chapter 2</i>	
REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE	20-72
2.1 Introduction	20
2.2 Review of Theoretical Literature	21
2.2.1 Finance and Growth	21
2.2.2 Access to Finance and Development	24
2.3 Review of Empirical Literature	27
2.3.1 Financial Inclusion and Development	27
2.3.2 Determinants of Financial Inclusion	31
2.3.3 Dimensions of Financial Inclusion	36
2.3.4 Banking and Financial Inclusion	39
2.3.5 Comprehensive Financial Inclusion	46
2.3.6 Agriculture Sector and Financial Inclusion	52
2.3.7 Problems and Challenges of Financial Inclusion	63
<i>Chapter 3</i>	
METHODOLOGY OF THE STUDY	73-93
3.1 Introduction.	73
3.2 Statement of the Problem	74
3.3 Objectives of the Study	78
3.4 Major Hypotheses of the Study	78
3.5 Conceptual Framework of the Study	79
3.5.1 Measuring Financial Inclusion	82
3.5.2 Determinants of Financial Inclusion: Multinomial Regression	82
3.5.3 Impact of Financial Inclusion: Factor Analysis	84
3.5.4 Impact Factors and Financial Inclusion: Regression Analysis	85
3.6 Research Design	86
3.7 Sampling Design	87

3.7.1 Sample Size and Selection	87
3.7.2 Data Collection	88
3.8 Analysis Design	89
3.9 Importance of the Study	90
3.10 Limitations of the Study	93
<i>Chapter 4</i>	
TREND AND PATTERN OF FINANCIAL INCLUSION	94-150
4.1 Introduction	94
4.2 Financial Inclusion: A Global Assessment	95
4.3 Financial Inclusion in India	99
4.4 Major Initiatives towards Financial Inclusions in India	104
4.4.1 Microfinance and SHG- Bank Linkage Programme	104
4.4.2 General Credit Card	106
4.4.3 No-Frills Account	106
4.4.4 Know Your Customer (KYC) Norms	107
4.4.5. Engaging Business Correspondents	107
4.4.6 Use of Technology	108
4.4.7 Electronic Benefit Transfer (EBT) through Banks	109
4.4.8 Bank Branch and ATM Expansion Liberalized	110
4.4.9 Project Financial Literacy	110
4.4.10 Financial Literacy and Credit Counseling	111
4.4.11 Simplified Branch Authorization	112
4.4.12 Opening of Branches in unbanked rural centres	112
4.4.13 Roadmap for Banking Services in unbanked villages	113
4.4.14 Direct Benefit Transfer	113
4.4.15 Financial Inclusion Plan of Banks	114
4.5 Progress in Financial Inclusion	115
4.5.1 Select Banking Sector Developments in India	115
4.5.2 Usage of Banking Services in India	117
4.5.3 Spread of Commercial Bank Offices and ATMs in India	117
4.5.4 Reach of Financial Inclusion in India	119
4.5.5 Financial Inclusion Plan Summary progress of banks	121
4.6 Financial Inclusion and the Agricultural Sector in India	124
4.6.1 Sources of Agricultural Credit in India	124
4.6.2 Agricultural Credit by the banking sector in India	126
4.6.3 Prevalence Rate of Indebtedness among farmer in India	128
4.6.4 Indebtedness among farmer categories by size of holdings	129
4.6.5 Sources of Outstanding Loans by Farm Size in India	130
4.6.6 Performance of Kisan Credit Cards in India	132
4.7 Financial Inclusion and the Agriculture Sector in Kerala	134

4.7.1 Households availing Banking Services in Kerala	134
4.7.2 Bank-Wise Flow of Credit to Agriculture in Kerala	135
4.7.3 Priority Sector Credit by the Banking Sector in Kerala	137
4.7.4 Number and Area of Operational Holdings in Kerala	138
4.7.5 District-wise Operational Holdings by Size-Class in Kerala	139
4.7.6 Spread of Area Operated among Districts in Kerala	141
4.7.7 Credit Flow to Agriculture in Kerala	142
4.7.8 Spread of Commercial Bank Branches in Kerala	143
4.7.9 Progress of Self Help Groups by the Banking Sector in Kerala	145
4.7.10 Progress of BSBD Accounts and GCCs in Kerala	146
4.7.11 Progress of Kisan Credit Cards in Kerala	147
Chapter 5	
PROFILE OF THE SMALL AND MARGINAL FARMERS IN KERALA	151-168
5.1 Introduction	151
5.2 Socio-economic Characteristics of Farmers	152
5.2.1 District-wise Distribution of Farmer Groups	152
5.2.2 Age-wise Classification of Farmer Groups	154
5.2.3 Religion-wise Classification of Farmer Groups	155
5.2.4 Major occupation-wise Classification of Farmer Groups	156
5.2.5 Education-wise Classification of Farmer Groups	157
5.2.6 Age-wise Classification of Farmers among Bank Groups	159
5.3 Transaction Banking Services among Farmer Groups	160
5.4 Savings / Deposit Services among Farmer Groups	163
5.5 Credit/Loan Services among Farmer Groups	164
5.6 Insurance Services among Farmer Groups	166
Chapter 6	
FINANCIAL INCLUSION AMONG	
SMALL AND MARGINAL FARMERS IN KERALA	169-227
6.1 Introduction	169
6.2. Financial Inclusion: The Analytical Framework	170
6.2.1 Financial Inclusion Index.	170
6.2.2 Selection of Variables and Assigning Weights	171
6.3 Distribution of Financial Inclusion Index among variables	175
6.3.1 Education and Financial Inclusion	175
6.3.2 Size of Land Holdings and Financial Inclusion	180
6.3.3 Occupation status and Financial Inclusion	185
6.3.4 Religion and Financial Inclusion	190
6.3.5 Caste and Financial Inclusion of farmers	195
6.3.6 Age and Financial Inclusion	200
6.3.7 Domicile District and Financial Inclusion	205
6.3.8 Type of Bank and Financial Inclusion	210

6.3.9 Major Credit Sources and Financial Inclusion	215
6.3.10 Income and Financial Inclusion	220
Chapter 7	
DETERMINANTS OF FINANCIAL INCLUSION	
AMONG SMALL AND MARGINAL FARMERS IN KERALA	228-252
7.1 Introduction	228
7.2 Analytical Framework	229
7.2.1 Independent Variables	231
7.3 Multinomial Regression Model Summary	235
7.3.1 Regression for Medium level of Financial Inclusion	236
7.3.2 Regression for High Level of Financial Inclusion	240
7.4 Impact of Financial Inclusion among Small and Marginal Farmers	243
7.5 Impact Factors and Financial Inclusion-Regression Analysis	246
7.6 Problems of Financial Inclusion among Farmers	248
Chapter 8	
SUMMARY OF FINDINGS, RECOMMENDATIONS	
AND CONCLUSION	253-274
8.1 Introduction	253
8.2 Progress of Financial Inclusion in India and Kerala	255
8.3 Financial Inclusion among Small and Marginal Farmers in Kerala	260
8.4 Determinants of Financial Inclusion among farmers in Kerala	265
8.5 Impact of Financial Inclusion among farmers in Kerala	265
8.6 Impact factors and financial inclusion: Regression Analysis	266
8.7 Problems of Farmers in Kerala	266
8.8 Policy Suggestions	267
8.9 Conclusion	272
8.10 Scope for Further Research	273
REFERENCES	275-289
APPENDICES	i-xii

Table No.	LIST OF TABLES	Page No.
4.1	Key Statistics on Global Financial Inclusion	97
4.2	Key Statistics on Financial Inclusion in India: A Survey of Global Usage of Financial Services	98
4.3	Accesses To and Use of Financial Services in India	101
4.4	Banking Sector Developments in India	116
4.5	Position of Households Availing Banking Services	117
4.6	Offices of Scheduled Commercial Banks in India	118
4.7	Number of ATMs in the Country	119
4.8	Reach Financial Inclusion in India	120
4.9	Banking Outreach in Villages	121
4.10	Progress in Basic Savings Bank Deposit Accounts	123
4.11	Sources of Agricultural Credit	125
4.12	Bank-Wise Credit Disbursed to Agriculture	127
4.13	Prevalence of Indebtedness among Farmers in India	128
4.14	Status of Financial Inclusion in India among Farmers	129
4.15	Outstanding Loans by Farm Size and Sources	131
4.16	Performance of Kisan Credit Cards in India	133
4.17	Households availing Banking Services in Kerala.	135
4.18	Bank-Wise Flow of Credit to Agriculture in Kerala	136
4.19	Priority Sector Credit by The Banking Sector In Kerala	137
4.20	Number and Area of Operational Holdings in Kerala	139
4.21	District-Wise Distribution of Operational Holdings by Size Class in Kerala	140
4.22	Spread of Area Operated among Districts in Kerala	141
4.23	Credit Flow to Agriculture in Kerala	143
4.24	Commercial Bank Branches in Kerala	144
4.25	Number of Self Help Groups Maintaining Savings Bank Account with Banking Sector in Kerala	145
4.26	Growth in BSBD Accounts and General Credit Cards in Kerala	147
4.27	Kisan Credit Cards issued by the Banking Sector in Kerala	148
4.28	Financing of Kisan Credit Cards by the Banking Sector in Kerala	149
5.1	District-wise Distributions of Farmer Groups	153
5.2	Age-wise Distribution of Farmer Groups	154
5.3	Religion-wise Distribution of Farmer Categories	155
5.4	Major Occupation-wise Classification of Farmer Groups	157
5.5	Education-wise Distribution of Farmer Groups	158
5.6	Age-wise Distribution of Farmers among Banks	160
5.7	Use of Transaction Banking Services among Farmer Groups	161
5.8	Savings/Deposit Services among Farmers	164
5.9	Credit/Loan Services among farmers	165
5.10	Insurance services among farmers	167

Table No.	LIST OF TABLES	Page No.
6.1	Financial Inclusion Index: Indicators and Weights	174
6.2	Financial Inclusion Index among Various Education Levels of Farmers	176
6.3	Chi-Square Test of Independence of Financial Inclusion Index	177
6.4	Mean and Standard Deviation of Financial Inclusion Index among Various Education groups of Sample Farmer Households	178
6.5	Analysis of Variance of Financial Inclusion Index in Various Education Groups of Farmers	178
6.6	Post Hoc Test for Comparing Financial Inclusion Index among Education Groups	179
6.7	Financial Inclusion Index among Various Size-Classes of Land Holdings among Farmers	181
6.8	Chi-Square Test of Independence of Financial Inclusion Index on Size of Land Holdings of Farmers	182
6.9	Mean and Standard Deviation of Financial Inclusion Index among Various Farmer Groups	182
6.10	Analysis of variance of Financial Inclusion Index in various farmers categories	183
6.11	Post Hoc Test for Comparing Financial Inclusion Index among Farmer Groups	184
6.12	Financial Inclusion Index among Various Occupation Groups of Farmer Households	186
6.13	Chi-Square Test of Independence of Financial Inclusion Index on Various Occupation Groups of Farmers.	187
6.14	Mean and Standard Deviation of Financial Inclusion Index among Various Occupation Groups of Farmer House Holds	187
6.15	Analysis of Variance of Financial Inclusion Index in Various Occupation Groups among Sample Farmer House Holds	188
6.16	Post Hoc Test for Comparing Financial Inclusion Index among Occupation Groups of Farmers	189
6.17	Financial Inclusion Index among Various Religious Groups of Farmers	191
6.18	Chi-Square Test of Independence of Financial Inclusion Index on Religion of Farmer Households	192
6.19	Mean and Standard Deviation of Financial Inclusion Index among Various Religious Farmer Households.	192
6.20	Analysis of Variance of Financial Inclusion Index in Various Religious Groups of Farmer Households	193
6.21	Post Hoc Test for Comparing Financial Inclusion Index among Religious Groups	194
6.22	Financial Inclusion Index among Various Religious Groups of Farmers	196
6.23	Chi-Square Test of Independence of Financial Inclusion Index on Caste of the Farmer Households	197
6.24	Mean and Standard Deviation of Financial Inclusion	197

Table No.	LIST OF TABLES	Page No.
	Index among Various Caste Groups of Farmers	
6.25	Analysis of Variance of Financial Inclusion Index in Various Caste Categories among Sample Farmer House Holds	198
6.26	Post Hoc Test for Comparing Financial Inclusion Index among Caste Categories	199
6.27	Financial Inclusion Index among Various Age Groups of Small and Marginal Farmer Households.	200
6.28	Chi-Square Test of Independence of Financial Inclusion Index on Age of Farmer Households	201
6.29	Mean and Standard Deviation of Financial Inclusion Index among Various Age Groups of Farmer Households.	202
6.30	Analysis of Variance of Financial Inclusion Index in Various Age Groups among Sample Farmer Households	203
6.31	Post Hoc Test for Comparing Financial Inclusion Index among Various Age Groups	204
6.32	Financial Inclusion Index in Various Districts of the Farmers	206
6.33	Chi-Square Test of Independence of Financial Inclusion Index on Domicile Districts of Farmers	207
6.34	Mean and Standard Deviation of Financial Inclusion Index among Various Districts	208
6.35	Analysis of Variance of Financial Inclusion Index in Various Districts of Farmer Households	208
6.36	Post Hoc Test for Comparing Financial Inclusion Index among domicile Districts	209
6.37	Financial Inclusion Index among Farmer Households of various Bank Categories.	211
6.38	Chi-Square Test of Independence of Financial Inclusion Index on Type of Bank of Farmer House Holds	211
6.39	Mean and Standard Deviation of Financial Inclusion Index among Various Bank Categories of Farmers	212
6.40	Analysis of Variance of Financial Inclusion Index in Various Bank Groups among Farmers	213
6.41	Post Hoc Test for Comparing Financial Inclusion Index among Bank Categories of Farmers	214
6.42	Major Credit Source-wise distribution of Financial Inclusion Index among Farmers	216
6.43	Chi-Square Test of Independence of Financial Inclusion Index on Major Credit Sources of Farmers	217
6.44	Mean and Standard Deviation of Financial Inclusion Index among Major Credit Source of Farmers	218
6.45	Analysis of Variance of Financial Inclusion Index in Various Major Credit Source Categories of Farmers	218
6.46	Post Hoc Test For Comparing Financial Inclusion Index among Credit Sources	219
6.47	Income Wise Distribution of Financial Inclusion Index among Farmer Households	221
6.48	Chi-Square test of independence of Financial Inclusion	222

Table No.	LIST OF TABLES	Page No.
	Index on Level of Income of Farmers	
6.49	Mean And Standard Deviation of Financial Inclusion Index in Various Income Categories of Farmer Households	223
6.50	Analysis of Variance of Financial Inclusion Index among Various Income Categories	223
6.51	Post Hoc Test for Comparing Financial Inclusion Index among Income Groups of farmers	224
7.1	Model Fitting Information	235
7.2	Model Summary-Pseudo R-Square	236
7.3	Results of Multinomial Logistic Regression	237
7.4	Results of Multinomial Logistic Regression	241
7.5	KMO and Bartlett's Test of Sampling Adequacy and Significance	244
7.6	Rotated Component Matrix	245
7.7	ANOVA of Multiple Regressions	247
7.8	Regression Model	247
7.9	Problems of Financial Inclusion among Farmer Groups	251

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Chapter 1

INTRODUCTION

<i>Contents</i>	1.1	<i>The Backdrop</i>
	1.2	<i>Chapterisation</i>

1.1 The Backdrop

Financial inclusion for inclusive growth is central to the developmental philosophy of most of the nations over the past decade. It has been a priority for policy makers and regulators in financial sector development for improving access and usage of financial services to achieve comprehensive financial inclusion. The initiatives taken towards financial inclusion can promote a more effective and efficient process to achieve significant improvements in financial inclusion are to establish and achieve shared and sustainable development and growth. Realising this, an increasing number of countries are committing to promote financial inclusion, encouraged by the growing body of country level experiences (World Bank, 2012). Financial inclusion basically means, broad based growth through participation as well as sharing the benefits from the growth process along with the under privileged and marginal segments of the economy. Evidence suggests that it has substantial benefits for equitable and sustainable growth. Inclusive growth ensures that while economy grows rapidly, all segments of society are involved in this growth process, ensuring equal opportunities, devoid of any regional or sectoral disparities. It is widely acknowledged that the objective of

inclusive growth is accomplished through the process of financial inclusion. Financial inclusion envisages bringing everyone, irrespective of financial status, into the banking fold for the individual progress and development and thereby achieving comprehensive growth with equity (Choudhary, 2014).

The need for inclusive growth as a strategy of economic development is widely appreciated due to the rising concern that the fruits of economic growth have not been equitably shared. Financial inclusion, being critical in achieving inclusive growth is a recent paradigm in the economics of growth and development. Hence, it has been getting the attention of policy makers and executors across the world. Financial inclusion is not an end in itself, but a means to the end. Most of the nations are making conscious efforts to achieve greater financial inclusion and the initiatives to further this phenomenon gathered momentum during the last decade. However, disparities still prevail in financial inclusion among nations worldwide (World Bank, 2014). Despite, a lot of policy driven initiatives towards financial inclusion has been undertaken across the globe, there remains much to be accomplished in extending the reach of the financial services towards the vulnerable and the marginalised groups of the society. Studies show that when people participate in the financial system, they are better equipped to start and expand business, invest in education, manage risk, and absorb financial shocks. Access to finance, savings and payment mechanisms increases savings, empowers people, and enhances investment and consumption (Demirguc-Kunt, Klapper, Singer, and Peter, 2015). In order to achieve greater levels of financial inclusion across the world, multilateral organizations such as the World Bank and the International Monetary Fund (IMF) are paying attention to the development of relevant database, besides

focusing on the issue of financial inclusion through policy prescriptions and guidelines (Chakrabarty, 2012).

In India, multiple socio-economic hindrances faced by varied classes and social groups which limit their access to resources, technology, education, finance and market as well as quality of life (Planning commission, 2011). As the Indian economy moves ahead with the vision to become an economic power in the forth-coming years, the level of prosperity attained by the masses and the degree of equitable growth are to be determined by the degree of inclusive growth that the nation is likely to achieve. The earliest effort at financial inclusion can be traced back to 1904, when the co-operative movement originated in the country. A crucial event in its evolution happened to be the bank nationalization program in 1969, when 14 major commercial banks were nationalized, and the lead bank scheme was subsequently introduced. Since then, branches were opened in large numbers across the nation, even in areas that were until then unreached by banks. The agenda for financial inclusion got a further impetus in the early 2000s in India, following the publication of a series of findings about financial exclusion and its direct correlation to poverty. Complementing the government's efforts, the Reserve Bank of India (RBI) has, over the years, undertaken major initiatives such as introduction of priority sector lending requirements for banks, establishment of Regional Rural Banks (RRBs), and self-help group-bank linkage programmes to augment the availability of financial services to the poor and marginalized segments of society. In the last few years, RBI also initiated the requirement that banks provide no-frills (BSBD) accounts, improve the outreach of banking services through the business facilitator and business correspondent models, and set up the goal for banks to provide access to

formal banking to all 74,414 villages with a population over 2000. This target of covering villages with a population of over 2000 was largely achieved by the end of March 2012 (99.7 per cent). The goal towards financial inclusion has accordingly been refined in June 2012. In the next Financial Inclusion Plan period (2013-16), banks were required to prepare a road map to cover all unbanked villages with population of less than 2000 with banking services (Crisil, 2013).

In a phase of high growth in India, the consequences of leaving a huge section of the people out of the development process can be unfortunate. Despite a lot of efforts on the part of policy makers and executors, a sizeable section of our population, par groups, continue to remain excluded from even the most basic opportunities and services provided by the financial sector. Hence, the situation necessitates for designing appropriate policies and programmes to further financial inclusion.

1.1.1. Concept and Meaning of Financial Inclusion

Financial inclusion has a special significance for an emerging economy as this would help in bringing the large segment of the financially excluded sectors of the economy under formal financial network. Financial inclusion improves the financial conditions, living standards, enable to create financial assets, generate income and build resilience to meet macro-economic and livelihood shocks. Financial inclusion is not a process of charity, rather it is the recognition that the poor are the solution, not the problem. The government also benefits by way of efficient and transparent transfer of vast amounts of welfare benefits to the targeted, disadvantaged groups of population. From the perspective of the banking regulator, the Reserve Bank

of India (RBI), greater participation by all the economic agents in the financial system makes monetary policy more effective and, thereby, enhancing the prospects of non-inflationary growth. It also reduces reliance on the informal sector which tends to impede the impact of monetary policy decisions.

The World Bank considers financial inclusion as the broad access to financial services, without any price or non price barriers in the use of financial services (World Bank 2008). It recognizes the fact that financial inclusion does not imply that all households and firms should be able to borrow unlimited amounts or transmit funds across the world for some fee. It highlights the point that creditworthiness of the customer is critical in providing financial services. The report also stresses the distinction between 'access to' and 'use of' financial services as it has implications for policy makers. 'Access' basically means supply of services, whereas use is determined by demand as well as supply.

As the process of financial inclusion is often context specific, the extent and degree varies widely. A universally accepted definition of financial inclusion is next to impossible. In order to develop a strategy for achieving financial inclusion and, therefore, inclusive economic growth, the Government of India set up two committees to discuss the issues and recommend action. In 2006, the Committee on Financial Inclusion under the Chairmanship of Mr. C. Rangarajan (Chairman, Economic Advisory Council to the Prime Minister) was constituted and in the following year, the Planning Commission constituted a High Level Committee on Financial Sector Reforms under the Chairmanship of Dr. Raghuram. G. Rajan. While its focus was on identifying emerging challenges in meeting the financing needs of the Indian economy as

a whole, several of its recommendations also emphasized the need for and strategies for achieving financial inclusion.

The Rangarajan committee defines financial inclusion as the process of ensuring access to financial services and timely and adequate credit which are needed by vulnerable groups such as weaker sections and low income groups at an affordable cost (Rangarajan, 2008). The committee recognises the fact that provision of financial services such as a formal bank account is a basic step in the process of financial inclusion, whereas, providing a variety of financial services to meet the varied financial needs of the individuals would be necessary to achieve comprehensive financial inclusion. The Raghuram Rajan Committee on financial sector reforms, broadly defined, financial inclusion as the universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products (Rajan, 2009).

According to the Planning Commission (2009), financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. The household access to financial services includes access to contingency planning, credit and wealth creation. Access to contingency planning would help for future savings such as retirement savings, buffer savings and insurable contingencies and access to credit includes emergency loans, housing loans and consumption loans. On the other hand, access to wealth creation includes savings and investment based on household's level of financial literacy and risk perception.

According to Chakraborty (2011), financial inclusion is the process of ensuring access to appropriate financial products and services needed by all

sections of society including vulnerable groups, such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players. At same time, Fuller and Mellor (2008) noted that financial inclusion is the desire to develop ‘alternative’, welfare-oriented (rather than profit-driven), reliable, affordable and accessible financial services for all sections of the population. Others, however, also view inclusion as a market-driven solution for poverty alleviation (Alpana, 2007). Financial inclusion is a desired outcome regardless of the motivation behind it as it can help poor people access financial services at a lower cost and reduce the consequences of poverty. Being a new and evolving concept, financial exclusion is defined in various overlapping manners ranging from not having access to a bank account to financial illiteracy.

1.1.2 Financial Inclusion: Global Scenario

Financial inclusion is being promoted as an important development priority among the nations, especially during the past decade. The World Bank Group in October 2013 postulated the global goal of universal access to basic transaction services as an important milestone towards full financial inclusion, a world where everyone has access and causes the financial services to capture opportunities and reduce vulnerability (World Bank, 2013b). Policy makers have articulated these objectives in the conviction that financial inclusion can help poor households to improve their lives and stimulate economic activity. The evidence for the impact of financial inclusion efforts can only be traced by the analysis at the micro-data analysis at local levels and not using country level panel data comparisons.

Recognizing the global need for up-to-date data to support the financial inclusion agenda, the World Bank’s Development Research Group,

had constructed the Global Financial Inclusion (Global Findex) database. In April 2012, the Global Financial Inclusion (Global Findex) Database analysis explained a new set of indicators that measure how adults in 148 economies save, borrow, make payments, and manage risk. The data show that 50 percent of adults worldwide have an account at a formal financial institution, though account penetration varies widely across regions, income groups and individual characteristics. Moreover, 22 percent of adults report that they have saved at a formal financial institution in the past 12 months, and 9 percent report having taken out a new loan from a bank, credit union or microfinance institution in the past year. Although half of adults around the world remain unbanked, at least 35 percent of them report barriers to account use that might be addressed by public policy. Among the most commonly reported barriers are high cost, physical distance, and documentation, though there are significant differences across regions and individual characteristics (Demirguc-Kunt and Klapper, 2012).

Looking beyond global averages, financial inclusion varies widely around the world. Recently available user-side data show striking disparities in the use of financial services by individuals in developed and developing economies. For instance, the share of adults with a bank account in developed economies is more than twice the corresponding share in developing ones. The disparities are even larger if we examine the actual use of accounts. Worldwide, 44 percent of adults regularly use a bank account. However, if we focus on the bottom 40 percent of income earners in developing countries, we find that only 23 percent regularly use an account, which is about half the participation rate among the rest of the populations of these countries whereas, the corresponding participation rates in developed economies were 81 percent and 88 percent, respectively (World Bank, 2014).

1.1.3 Financial Inclusion in India

India has, for a long time, recognized the social and economic imperatives for broader financial inclusion and has made enormous contribution to economic development by finding innovative ways to empower the poor. The concept of financial inclusion can be traced back to the year 1904 when co-operative movement started in India. It gained momentum in 1969 when 14 major commercial banks of the country were nationalized and the lead bank scheme was introduced. Since then Branches were opened in large numbers across the country and even in the areas which were hitherto being neglected. Starting with the cooperative banks, nationalization of banks, priority sector lending requirements for banks, lead bank scheme, establishment of regional rural banks (RRBs), service area approach, SHG-bank linkage programme and the recent Pradhan Mantri Jan-Dhan Yojana (PMJDY), multiple steps have been taken by the Reserve Bank of India (RBI) over the years to increase access to the poorer segments of society. The Reserve Bank of India has set up a high level Financial Inclusion Advisory Committee (FIAC) committee on 11th October, 2012 to spearhead the efforts towards greater financial inclusion. The financial inclusion in India can broadly be identified to consist of three phases. During the First Phase (1960-1990), the focus was on channelling of credit to the neglected sectors of the economy. Special emphasis was also laid on weaker sections of the society. Second Phase (1990-2005) focused mainly on strengthening the financial institutions as part of financial sector reforms. Financial inclusion in this phase was encouraged mainly by the introduction of Self-Help Group (SHG)-bank linkage programme in the early 1990s and Kisan Credit Cards (KCCs) for providing hassle-free credit to farmers. The SHG-bank linkage

programme was launched by National Bank for Agriculture and Rural Development (NABARD) in 1992, with policy support from the Reserve Bank of India, to facilitate collective decision making by the poor and provide 'door step' banking. During the Third Phase (2005 onwards), the 'financial inclusion' was unambiguously made as a policy objective and efforts was on providing safe facility of savings deposits through 'no frills' accounts.

Realising the gravity of the problem, Reserve Bank in its Mid Term Review of Monetary Policy (2005-06), urged the banks to make financial inclusion as one of their prime objectives (Chattopadhyay, 2011). The XIth Five Year Plan (2007-12) envisages growth as a key objective. The Plan document notes that the economic growth has failed to be sufficiently inclusive particularly after the mid 1990s. The future reforms, it is indicated, will also be anchored around broadening and deepening financial markets and creating a competitive and differentiated banking structure. Interestingly, financial inclusion has been co-opted into the larger initiatives as a major 'pillar' of such financial sector reforms (Mohanty, 2014; Rajan, 2014).

The policy statements from RBI with a bearing on financial inclusion testify the intention of the regulator to further the process of market-based financial inclusion embracing the bottom of the pyramid (Rajan, 2014). Thus, a series of initiatives on the part of Government of India and Reserve Bank of India on financial inclusion has transformed it as an ambitious agenda of reforms in the financial sector in India (Sriram, 2014). Further, the seriousness of the issue in India is reflected in the Approach Paper to the Twelfth Five Year Plan for a 'faster, sustainable and more inclusive growth'.

1.1.4 Financial Inclusion and the Banking System

Financial inclusion as a concept, process and business proposition is not new for the banking sector of India and, in fact, it dates back to the phase of nationalisation of banks and even beyond. One of the objectives of nationalisation was aimed at taking banking to the masses. Financial inclusion, thus, has been and continues to be at the centre of the policy priority of the nation. With the passage of time, the means of achieving deeper and sustainable financial inclusion has shifted towards innovative methods with the adoption of technology-led products. In this changed environment, the modern banking systems become a critical component of financial inclusion for bringing the unbanked into the formal banking channels, particularly as the nation move towards the second phase of financial inclusion that aims to cover the villages with population of less than 2000 (Khan, 2013). In India, creation of robust institutional structures and public-private partnerships through action and policy and creation of a supportive regulatory framework has been identified as key strategies for successful financial inclusion (Sakariya, 2013). While there could be barriers and limitations that cause hindrances to banks' in their efforts towards financial inclusion, there are also ameliorative steps that could be taken by banks to overcome their limitations. Moreover, the Indian scenario of financial inclusion in the work done by Burgess and Pande (2005) revealed that state-led growth of rural bank branches in India has helped to reduce poverty.

India has a historic and well-structured banking system to cater to the financial needs of individuals and households and contribute towards the improvement and advancement of the nation. Towards these needs,

necessary reforms, supervision and continuous monitoring are envisaged to ensure modern and up-to-date banking practices, healthy competition, financial inclusion and well calibrated de-regulation. The accessibility to banking services and strong bank branch network are the key facilitators of developmental and expansionary activities. Despite the banking industry showing incredible growth in the last decade and making major improvements in all the areas relating to financial viability, profitability and competitiveness, there are concerns that the essential banking services have not reached a vast segment of the population, especially among the underprivileged sections of the society. Thus in India, financial inclusion has been positioned as a bank-led model with the Government of India and the Reserve Bank of India directing the course of the engagement of the banking community, primarily the scheduled commercial banks and regional rural banks (Chakrabarty, 2014).

1.1.5 Social Banking and Financial Inclusion

Social banking and financial inclusion present a significant challenge and a unique opportunity to build a broad based and stable financial system, supportive and contributing to the growth in the real sector and overall economic prosperity of the masses. Any activity which is viewed by society as not being in lines with societal priorities would get eliminated in the course of time. Therefore, any business, in order to be sustainable, needs to be socially oriented. This is all the more true of banking business which, due to its financial intermediation function, has to necessarily be aligned to the developmental needs of the society that it operates in. Notwithstanding, banks being commercial organizations, must earn surplus, else they would not remain viable or be able to absorb shocks. At the same time, they must serve a social purpose; otherwise, they will become irrelevant and unsustainable.

Thus, seen in a broader perspective, banking can never be ‘unsocial’. Hence, the terminology of ‘banking’ and ‘social banking’ can be used in tandem. The banking business, globally, has followed pricing practices that have resulted in the poor subsidising the rich. This has worked to the detriment of the poor, who have had to pay high cost for accessing financial services, often forcing them to rely on informal sources which carry exorbitant rates. This has severely curtailed the opportunities available to them to use the financial system to improve the quality of their lives. Therefore, social banking is one where the rich subsidises the provision of financial services to the poor and where banking business is oriented towards serving the masses instead of exploiting them (Chakrabarty, 2012).

The strategy for financial inclusion has to incorporate the lessons learnt from the past policies pursued under social banking. Under social banking, credit to the vulnerable sections was used as a tool for poverty alleviation. Since access to cheap credit was seen as the major challenge, the emphasis was on directed lending and setting up of state sponsored institutions to provide cheap credit. Lending policies were defective and credit was inadequate or untimely or there was over-financing and a lack of supervision of the end use of credit. This led to mounting overdues and defaults making banks to escape from priority sector lending in innovative ways. Bad precedents set by some states by writing off bad debts and providing subsidies out of the state exchequer did not help either. The cooperative credit institutions and regional rural banks were hemmed in by government interference and poor regulation standards. Today, the viability of a loan depends not only on credit but also on complementary activities like financial counseling, insurance, savings and other extension activities provided to the

borrower. So, financial inclusion therefore has to go beyond the provision of credit to the poor. Delivery of credit and related services to the vulnerable sections should be at affordable rates of interest, bundled with insurance and saving in a convenient and user-friendly way. The biggest lesson from the pitfalls of the social banking policies of the past is that there is a need for a change in the mindset among the formal sector agencies lending to the poor. They have to learn to look at the poor and vulnerable as creditworthy (Kamath, 2014).

1.1.6 Financial Inclusion in the Indian Agriculture Sector

Agriculture is regarded as a risky enterprise in India and the development of agriculture continues to remain critical for India's sustainable and equitable growth. The nature of agriculture has been changing rapidly during the last two decades and farmers currently need a range of support including organizational, marketing, technological, and entrepreneurial apart from a variety of financial services. The agriculture and allied sectors contributed approximately 13.9% of India's GDP (at constant 2004-05 prices) during 2013-14. There has been a continuous decline in the share of agriculture and allied sectors in the GDP from 14.6 percent in 2009-10 to 13.9 percent in 2013-14 at 2004-05 prices (GoI, 2014). Moreover, and more importantly, about half of India's population is wholly or significantly dependent on agriculture and allied activities for their livelihood (GoI, 2011). The contribution of agricultural sector to GDP has continued to decline over the years, while that of other sectors, particularly that of services has increased. The 12th Five Year Plan Approach Paper recognizes the fact that for a faster, sustainable and more

inclusive growth (9.0-9.5% growth rate) in the 12th Five Year Plan under structural changes and unfavorable global economic environment requires a significant acceleration in growth (4.0 to 4.5% growth rates) in agriculture.

Agricultural growth has always been an important component for inclusiveness, and recent experience suggests that high GDP growth without high agricultural growth is likely to lead to acceleration in inflation in the country, which would adversely affect the larger growth process. The Eleventh Plan, which had attempted to reverse deceleration of agricultural growth during the Ninth and Tenth Plan, had some success (Government of India, 2011). However, to achieve between 4 - 4.5 percent average growth in agricultural sector in the Twelfth Plan period, adequate efforts on the part of the government are required. The 12th Five Year Plan Approach Paper recognizes the centrality of agriculture in achieving its basic objective of faster, sustainable and more inclusive growth. The growth of this sector is also crucial to generation for jobs, checking inflation, nutritional security and providing raw materials for industrial growth besides easing pressures on urban areas. Twelfth plan has provided for 9 per cent growth with 4 per cent growth in agriculture (Planning Commission, 2011).

As the process of financial inclusion is a continuum with a wide range of scope between the extremities and as the initiatives towards greater financial inclusion has been the key development agenda, it is high time to assess the degree of inclusiveness achieved within the sectoral and sub-sectoral segments of our economy. These type of enquiries based on unique individual-level data from the perspective of the users of financial services helps to disaggregate financial inclusion by key respondent characteristics, such as gender, age, education, income, employment and such other socio-

economic characteristics (Allen, Demirguc-Kunt, Klapper and Martinez Peria, 2012).

In spite of the declining trend in agriculture's share in the GDP, agriculture sector is critical from the income distribution perspective as it accounts for more than half of the population in the country. The agricultural sector not only contributes to the overall growth of the economy but also reduces poverty by providing employment and food security to the majority of the population in the country. Thus, it is regarded as the most critical inclusive growth sectors of the Indian economy. Hence, the growth in agriculture and allied sector remains a 'necessary condition' for inclusive growth (Government of India, 2012). The 12th Five Year Plan Approach Paper also indicates that agricultural development is an important component of faster, more inclusive sustainable growth (Dev, 2012). In the agriculture sector, the most vulnerable and the predominant segment consists of the small and marginal farmers who constitute more than eighty percent at the national level and more than ninety eight percent in the State of Kerala (Rangarajan, 2008 ; Government of India, 2012 and Government of Kerala, 2013). Despite the laudable achievements in the field of rural banking, issues such as slow progress in increasing the share of institutional credit, high dependence of small and marginal farmers on non-institutional sources, skewed nature of access to credit between developed regions and less developed regions emerge larger than ever before. A large segment of the small and marginal farmers still continue to be deprived of the formal sources of credit and other essential financial services like insurance, savings and payment services. Therefore, the key issue now is to ensure that formal financial services achieves much wider percolation to the sub-sectors of the economy with greater coverage and expanding the scope of financial inclusion.

The State of Kerala has much uniqueness in the process of its development. It has a high level of social development which is comparable to the developed countries of the world. Moreover, the performance of the State is worth mentioning in executing various financial inclusion policies and plans in the State. The financial inclusion initiatives were successful to a great extent in the State as compared to other states in India. The Reserve Bank of India in its working paper (Chattopadhyay, 2011) made a comparison of the Indian states regarding the level of financial inclusion achieved. The State of Kerala tops the list in the index of financial inclusion, followed by Maharashtra and Karnataka. Moreover, in 2013, INCLUSIX, the Financial Inclusion Index formulated by CRISIL, based on data provided by the Reserve Bank of India, rated Kerala as the first (inclusion score of 80.4) among the states in India. Five of the districts in Kerala found a place in the top ten districts in India in terms of financial inclusion. Later, in the succeeding year INCLUSIX (CRISIL, 2014), reported that among the various districts in India, Kerala State has the highest number of districts (13 out of 14) in the list of top 50 districts in India in the extent of financial inclusion achieved. Moreover, among the top nine districts in India, six are from Kerala.

Thus, the basic stage of financial inclusion was reasonably successful in Kerala when compared to other major states in India. The initial financial inclusion initiatives and the first level achievements are not sufficient to attain the ultimate objective of comprehensive financial inclusion and thereby financial development and growth with equity in Kerala. As the process of financial inclusion is a continuum in between the extremities and as the initiatives towards greater financial inclusion has been our key development

strategy over the past decade, it is high time to assess the degree of inclusiveness achieved within the sectoral and sub-sectoral segments of the population. Thus, it is necessary to examine and evaluate the extent of financial inclusion in the State in the context of the latest financial inclusion strategies. Such evaluations are to be carried among different sectors of the economy to identify the gaps existing in the extent of financial inclusion across various sectors in the state in the wake of successful completion of first level of financial inclusion strategies. Hence, in order to assess the extent and degree of financial inclusion among one of the vulnerable segments of the economy, it would be most appropriate to focus on the small and marginal farmers in the agriculture sector.

1.2 Chapterisation of the study

The present study is organised in the following eight chapters:

The first chapter gives the background, concepts and meaning of financial inclusion.

The second chapter contains the literature review covering both theoretical and empirical reviews. The reviews include earlier studies on innovation, economic theories and reviews of empirical studies on financial inclusion.

The third chapter elucidates the detailed methodology adopted for the present study including the importance of the study, statement of the problem, conceptual framework, research design, sampling design and analysis design.

The fourth chapter provides an overview of financial inclusion in India and Kerala with emphasis on agriculture sector.

The fifth chapter explains the profile of the study area and respondents belonging to the State of Kerala.

The sixth chapter contains the detailed analysis of the results and discussions on the level of financial inclusion among the small and marginal farmers in Kerala, based on the data derived from the survey.

The seventh chapter explains the determinants, impact and problems associated with the financial inclusion of small and marginal farmers in Kerala.

The concluding eighth chapter presents the summary of findings, recommendations and conclusion.



Chapter 2

**REVIEW OF THEORETICAL AND
EMPIRICAL LITERATURE**

<i>Contents</i>	2.1	<i>Introduction</i>
	2.2	<i>Review of Theoretical Literature</i>
	2.3	<i>Review of Empirical Literature</i>

2.1 Introduction

The review of literature for the present study provides an understanding to the underlying concepts: theoretical and empirical perspectives that are important to this study. The existing literature in this regard helps to understand the progress made in the related study area and to identify the gaps to be filled in by the researcher. Several studies have been made so far on inclusive growth through financial inclusion resulting in fruitful findings and policy imperatives. Although some of the studies are comprehensive, yet some gaps still persist. There exists challenges in the basic financial inclusion of the vulnerable segments of the masses and furthermore, there are challenges in the extent of use of financial services among them which are yet to be adequately examined and duly focused. The findings, analytical framework and policy proposals developed by the researchers are worth mentioning. The present study is a diagnostic attempt for finding out the position, progress, and the extent of inclusive growth.

Against this background, an attempt is made in the present chapter to present a brief summary of the literature available at both international and national levels relating to the various aspects of financial inclusion. The literature review covers both the theoretical literature and empirical reviews. The theoretical literature highlights the theoretical background relating to finance, development and growth and also provides a basis for understanding the importance of financial inclusion for sustainable economic growth and progress. The empirical literature presents the reviews of the studies relating to financial inclusion and its various aspects in the present context.

2.2 Review of Theoretical Literature

2.2.1 Finance and Growth

Finance and its impact on economic development has been a big question for development economists all over the world. Some economists consider that finance has very little implications on economic growth and vice versa. Early economic literature, as early as Bagehot (1873) and Schumpeter (1911), has highlighted the importance of the financial system on economic growth. Schumpeter (1934) stressed the role of the banking sector as a financier of investments and thus as a catalyst of economic growth and development. The works of Greenwood and Jovanovic (1990), Levine (1991), Bencivenga and Smith (1995) have all developed theoretical models of efficient financial markets that improves the quality of investments and enhances growth.

Although, the causal relationship between the development of a country's financial sector and its growth has been often challenged, (Robinson, 1952 and Lucas, 1988), recent empirical studies seems to have focused towards the convergence that well developed financial systems can

accelerate economic growth. Thus theoretical and empirical evidences reveal that a sound financial sector promotes economic growth. Moreover, it has been widely recognized that a well-performing financial system is critical to economic growth and development (McKinnon, 1973; Shaw,1973). Financial development would lead to economic growth in the different ways such as by promoting trading, hedging, diversifying, and pooling of risk; by allocating resources to the most productive purpose; by monitoring systems; by mobilizing savings, and by promoting the exchange of goods and services (Levine, 1997).

Economists have strong differences of opinion regarding the role of the financial sector in economic growth. Finance is not even mentioned in the anthology of essays by the ‘pioneers of development economics’ (Meier and Seers, 1984), and Robert Lucas (1988) and dismissing finance as an ‘over-stressed’ determinant of economic growth. Joan Robinson (1952) argued that ‘where enterprise leads finance follows’. According to this thought, finance does not result growth; rather it responds to changing demands from the ‘real sector’. Moreover, Bagehot (1873), Schumpeter (1912), Goldsmith (1969), and McKinnon (1973) reject the idea that the finance-growth nexus can be ignored. Research that testifies the role of finance in economic growth will have policy implications and would promote future policy-oriented research. Revelations about the impact of finance on economic growth will influence the policy makers and advisors in farming financial sector policies.

A sound and efficient financial system promotes growth by routing resources to their most productive uses, fostering more efficient distribution of resources. Such a system can also spur growth by enhancing the aggregate savings rate, investment rate and stimulating the acquisition of physical capital (Estrada, Park and Ramayandi, 2010). Moreover, a large financial system

would be much effective at allocating resources and monitoring the use of funds as there are considerable economies of scale in this function. Greater level of financing could also make the economy self-reliant, free from financial shocks. Thus, a financial system plays a great role in transforming and reallocating risk in an economy.

Further, theoretical studies have propounded that there is a crucial role for the economic stage of a region in determining overall development. According to Rostow (1960), the economic stage of a region can be compared to a takeoff of an aero plane from the ground. The growth of an economy is identified as follows; traditional society, pre-conditions for take-off, take-off, approaches maturity and stage of high mass consumption. Financial development massively starts in the stage of take off and it will mature in the upcoming stages of development (Rostow, 1960). According to Rostow's model, capital formation depends on the productivity of agriculture and the promotion of social capital. Agriculture plays a vital role in this transition process as the surplus from the produce can be set apart to support an increasing urban population of workers and also provides export earnings for continued sustainable development.

The theoretical literature on finance and economic volatility suggests how financial integration and financial development affect output and consumption pattern through various channels (Bernanke and Gertler, 1989; Greenwald and Stiglitz, 1993; Aghion, Bacchetta and Banerjee., 2004; Iyigun and Owen, 2004; Buch, Doepke and Pierdzioch, 2005; Leblebicioglu, 2009; Aghion, Angeletos, Banerjee and Manova, K, 2010). The early literature predicts that financial development reduces macroeconomic volatility (Bernanke and Gertler, 1989; Greenwald and Stiglitz, 1993).

However, more recent literature suggests that the type of relationship between financial development and macroeconomic volatility can be non-linear (Aghion, Bacchetta and Banerjee, 2003). Households who do not have access to financial services cannot save or borrow and this highlights the need to provide financial services to the needy for all-round development and growth.

Agriculture finance refers to resources for improving social welfare through development of agricultural sector. The regularity and magnitude of resource flows depend on the country risk, relative investment yield and enabling factors such as the quality of governance (Ariyo, 1999). The Agricultural growth and economic development is directly correlated. Therefore, agriculture finance is essential for economic growth in an economy. As often stressed by development literature, agricultural surplus is important for the structural transformation accompanying economic growth. This is based on the view that the agricultural sector would transfer to the non-agricultural sector the 'surpluses of investible' resources generated in agriculture (Kuznets, 1961). Therefore, it is suggested that developing countries must assimilate resources from agriculture for successful development (Johnston and Kilby, 1975).

2.2.2 Access to Finance and Development

In the case of developing countries, the financial system is a means through which financial development influences growth. A sound financial system is characterized by good financial institutions and well-functioning financial markets, which together helps to face adverse shocks. Access to finance is vital for sustaining growth and the lack of access to finance can be a serious threat in the process of financial development. Recent evidence

suggests that access to finance has a direct nexus with that of innovation and cross-country findings suggests that finance promotes growth through increased productivity (Ayyagari, Demirguc-Kunt, and Maksimovic, 2012). Well-functioning financial systems, provides for savings, credit, payment, and risk management products to people with a wide range of needs. Inclusive financial systems promoting broad access to financial services, particularly benefits the poor and the other disadvantaged groups. Except for inclusive financial systems, poor people have to depend upon their own limited savings, to invest in education or to become entrepreneurs must rely on their limited earnings to pursue promising growth prospects. Sound and efficient financial systems give common people access to the formal financial institutional system and thereby they are able to access various financial products such as deposits, credit, and micro-insurance/pension, safe funds transfer at reasonable prices with easy accessibility. Their access could be to any of the variety of financial instruments provided by them. Thus it promotes financial inclusion by facilitating the access of those sectors and groups of the population which are denied these facilities to become a part of the formal financial system, either as individuals or as groups. In the historical views, it is indicated that the early stages of economic development would inevitably be accompanied by inequality and concentrations of wealth (World Bank, 2008).

Some theories claim that financial intermediary development will have a disproportionately beneficial impact on the poor. Banerjee and Newman (1993), Galor and Zeira (1993) and Aghion and Bolton (1997) argue that informational asymmetries generate credit constraints particularly among the poor because the poor do not have the resources to fund their own ventures, nor the collateral to access bank credit. These credit constraints, therefore, prevent the poor from utilising investment opportunities. Moreover, some

political economy theories suggest that better functioning financial systems make financial services available to a larger proportion of the population, rather than restricting capital to entrenched incumbents (Haber, Maurer, and Razo, 2003; Rajan and Zingales, 2003). Thus, by ameliorating credit constraints, financial development may foster entrepreneurship, new firm formation, and economic growth. On the other hand, some argue that it is primarily the rich and politically connected who benefit from improvements in the financial system. Especially at early stages of economic development, access to financial services, especially credit, is limited to the wealthy and connected (Lamoreaux, 1986). Under these conditions, greater financial development may only succeed in routing more capital to a select few. Thus, it is an open question whether financial development will narrow or widen income disparities even if it promotes growth. Other models posit a non-linear relationship between finance and income distribution. Moreover, works of Greenwood and Jovanovic (1990) show how the interaction of financial and economic development can give rise to an inverted U-shaped curve of income inequality and financial intermediary development. During early stages of financial development, only a few wealthy individuals have access to financial markets. However, with comprehensive economic growth, more people can afford to join the formal financial system, with positive ramifications on economic growth.

2.3 Review of Empirical Literature

2.3.1 Financial Inclusion and Development

Patel (2006) in his work highlights the role of education in financial inclusion. According to him, the basis of banking is trust and trust emerges from transparency and truth. Education has a pious role to play in building the trust. The crucial role of education in the context of financial inclusion promotion is related to culturing the right attitude or positive orientation among the entire target group. The rural, poor and the excluded are to be extended credit and financial services which is a normal and integral part of banking business and the potential and problems depends upon how you handle the situations. He concludes that the financial inclusion is beneficial to the server, served and the society.

Das (2007) investigated the integration of financial development and its effect on the real sector via the transmission mechanism with special reference to developing and emerging market economies. It finds two co-integrating relationship between the financial development, output growth and allocation of credit which makes sense from the stand point of economic theory. Financial development has a positive association with short term loan while the nature of association with long term loan is negative for agriculture. The study shows that output of agriculture has a positive relation with short term loans and a negative relation with long term loans. The results indicate that the nature of relation between financial development and allocation of credit, or between output and allocation of credit are different across the sectors of the economy.

Mishra, Das and Pradhan (2009) in their work report that economic growth in India as a direct positive effect on credit market development of the

country. Economic growth results in credit market development and will have long term implication of the country. The study infers that the growth of GDP in India influences the growth of bank credit. The study adds that increase in the economic growth as measured by the growth of GDP and the development of bank credit in the nation.

Zhuang et.al (2009) in their evaluation on financial development and economic growth has concluded that financial sector development plays a vital role in facilitating economic growth. A good financial system promotes growth through pooling savings; producing information ex ante about possible investments and allocating capital; evaluating investments and ensuring corporate governance; facilitating the trading, diversification, and management of risks; and facilitating the exchange of goods and services. This consensus is supported by a large body of empirical evidence generated from cross-country and country specific studies, although there are methodological problems associated with many empirical studies. The empirical study also finds that the consequences of financial sector development on growth in developing countries are more persistent and larger than those in developed countries. Financial sector development also directly supports poverty reduction by broadening the access to finance of the poor and vulnerable sectors. Finance facilitates transactions, reduces the costs of remitting funds, provides the opportunity to accumulate assets and smoothen consumption, and enables poor households to better cope with shocks, thus mitigating the risk of deprivation.

Estrada, Park, and Ramayandi (2010) have reported that financial development has a significant positive effect on growth especially in developing countries. The results of their study also indicate that the impact of financial development on growth in Asia is not noticeably different than

elsewhere, and the impact has weakened since the Asian Financial Crisis. The study point out that access to finance to more households and producers is another high-priority policy area since greater financial access not only promotes growth but promotes inclusive growth by fostering equality of opportunity.

Sen (2010) in his study has suggested that policy makers should encourage financial innovation that favours the poor. New technology, such as internet, smart cards and mobile phones can greatly increase financial inclusion. The study highlighted that, more policy interventions in promoting both financial inclusion and financial development, the more likely it will be that financial development will be broad-based and inclusive and that such financial development will have a significant positive effect on the achievement of the MDGs.

Ardic, Heimann, and Mylenko (2011) in their report indicates that there is yet much to be done in the financial inclusion arena. Fifty six percent of adults in the world do not have access to formal financial services. The situation is even worse in the developing world with 64 percent of adults unbanked. However, highincome countries also have to worry because approximately one in every five adults in unbanked. On the contrary to conventional wisdom, poor people indeed need and use financial services, albeit in small amounts and usually from informal source as it is costly for formal providers to provide services for such small amounts. Empirical evidence suggests that informal financial services are at least 5-10 times more costly and also less reliable than formal ones. Hence, making formal and affordable financial services available for the unbanked would definitely have positive consequences on the lives of these people.

Bittencourt (2011) investigated the role of financial development in generating economic growth and the results confirm the Schumpeterian prediction which suggests that finance promotes economic growth. He remarks that financial development played the role that Schumpeter predicted in promoting innovation and growth, even under severe political and economic conditions. Moreover, he points out that the positive effects of financial development on growth could be even larger had those countries not allowed those hyperinflationary episodes to happen in the first place.

Krishnan (2011) investigated on how the financial development of an economy can be measured. He argues that traces the financial development of India through the 1990 to the present, assessing the development of each segment of financial markets and highlights the dualistic development of the financial sector. He noticed that inclusion, growth and stability are the three objectives of any reform process, and these objectives are contradictory. With the right reforms, the financial sector can be an enormous source of job creation both directly as well as indirectly, through the enterprise and consumption it can support with financing. Without reform, however, the financial sector could become an increasing source of risk, as the mismatches between the capacity and needs of the real economy and the capabilities of the financial sector widen. India has been a case study of how financial sector reforms can play a supporting role in the growth of an emerging market economy.

Bhavani and Bhanumurthy (2012) in their report on financial access in post-reform India argues that financial development plays a critical role in enhancing economic growth. The concept of financial access or financial inclusion is taken broadly as availability of financial service to all without any barriers, price and non-price. Three approaches are considered important in

measuring access to and use of financial services: (a) number of user of basic financial service, (b) physical and cost barriers to access, and (c) subjective assessment of individuals/households/firms about the availability and quality of financial services, while the data on barriers and subject assessment can be obtained through surveys, data on physical barriers and subject assessment can be obtained through surveys, data on physical barriers and number of users can be easily procured from the financial institutions or regulators. At the household level, the following indicators are used: (1) The proportion of adult population that uses a bank or bank-like institution, (2) The proportion of the adult population that uses services from other financial institutions, and (3) The proportion of the adult population that uses no financial services at all.

2.3.2 Determinants of Financial Inclusion

Kumar, Beck, Campos, and Chattopadhyay (2005) in their survey of financial behaviour corroborates the importance of location in determining access, but demonstrates that location in terms of the micro characteristics of an area or neighborhood can be as important a discriminator for access, as location in terms of regions or municipalities. More important than region or location, at the user level, are a range of socio-economic characteristics, especially income but also education and (for credit services) wealth, in determining financial access. They also point out that the importance of factors such as income, education and wealth, in determining access, which may be due to asymmetries in information and the factors which reduce such asymmetries in information can be important for the expansion of financial access. They also suggest that economic growth which is sensitive to income distribution will help to expand financial access, thereby establishing a virtuous circle.

Kaur (2011) examined the extent of poverty and nature and determinants of indebtedness among the marginal and small farmers in Punjab. The study reveals a positive relationship between farm size and income levels of the farming households. There is inverse relationship between the percentage of the marginal and small farmers living below the poverty line and farm size. Eighty three percent of sampled households are under debt. Moreover, the institutional agencies are playing a more significant role in providing loans to the marginal and small farm-size households as compared to the non-institutional agencies.

Gandhimathi (2011) in her analysis on the determinants of borrower behavior on farmers reveal that except the age of the farmer, all other socio-economic variables showed a high positive correlation with agricultural credit, that is, higher the size of land area, family size, capital expenditure, farm income, non-farm income, education of the borrower, total variable cost and consumption expenditure, higher the amount of agricultural credit disbursed. To sum up, the size of land holding was a significant factor in determining the borrowing behavior of farmers. It has a significant and positive relationship with the borrowing behaviour. The above findings were again confirmed in the principal component analysis. The study urges the policy makers to consider the size of land holding as one of the major factor in the allocation of agricultural credit to various regions. The study found that poor people's access to formal banking services can raise their incomes. The study identified five main pathways of change through which access to formal banking services can be achieved. **Firstly**, offering new savings products, especially ones that address challenges that households would like to surmount, increase the supply and the demand for savings, and thus increase income by allowing households to accumulate assets. **Secondly**, through

improving banking technology by using mobile phones to facilitate remittances, transfers and payments and to enable savings as it has the potential to increase income by allowing households to smooth consumption and accumulate savings. **Thirdly**, the review finds that state-led expansion of the banking sector in rural areas can reduce rural poverty, increase rural wages and increase agricultural investment. However, the distributional effects of such policies may be lopsided away from the poorest, while still benefiting socially backward groups. Further, the success of such a policy may be specific contextual. **Fourthly**, some evidences of access to credit is associated with increased and/or smoother consumption for rural farming populations, and some suggestive evidence that indirect access through social networks could also matter. **Finally**, across different countries, access to credit is associated with higher agricultural incomes by allowing farmers to invest in optimal agricultural inputs. Innovative design of new savings products that increase the supply of savings and increase demand for savings by helping people address behavioral challenges such as short-run impatience can increase income by allowing households to accumulate assets at least in the short run. Mobile banking technology is expanding and has the potential to reach large scale, and suggested that this technology, which facilitates remittances, transfers and payments and enables savings, can increase income through consumption smoothing and accumulation of savings. State-led expansion of the banking sector in rural areas increases supply of banking services, which reduces rural poverty, and increases rural wages and agricultural investment. Access to credit can increase household income by increasing and/or smoothing consumption. Moreover, access to credit may also increase incomes of members of an individual's social network. Moreover, access to credit can raise agricultural incomes by allowing farmers

to purchase better quality and levels of inputs, leading to higher outputs and income.

Datta and Ghosh (2013) in their investigation on access to credit by rural households in India has found that all loaned households in the sample have an overall 85% access to formal (32% to formal-1 and 53% to formal -2), 21% to semi-formal (12% and 9%, respectively to semi formal 1 and 2) and 45% to informal (11% and 34%, respectively, to informal 1 and 2) sources. Further, households already having access to formal sources do have still 5% and 29% access to semi-formal and informal sources, respectively. Moreover, for those having no access to formal sources these percentages are much higher-55% and 80% respectively. At the same time, among household having no access to formal sources and having access to semi formal sources. as many as 56% depend on formal sources and further, 56% depend on informal sources of credit. Moreover the study reveals that in terms of household attributes, household with access to formal source have larger operational holding as well as per capita operational holding of land, better irrigation and land quality status, higher cropping intensity, better quality of household and investment assets, better sanitation facilities, larger number of rooms available to them and better familiarity with important village functionaries.

Sahu (2013) estimated the financial inclusion index for various states in India and studied the relationship between index of financial inclusion and socio-economic variables. It was found that 72.7 percent of India's 89.3 million farmer households were excluded from formal sources of finance. No state in India belongs to high IFI group. The two states; namely, Chandigarh and Delhi belong to medium IFI, and rest of the states has low IFI values. The coefficients of PNSDP are positively associated with financial inclusion.

Regression results reveal that 34 percent of the change in financial inclusion index is explained by per capita net state domestic product.

Sarma (2015) reports that it is right time to achieve the target of meaningful financial inclusion. She remarks that in the first stage of progress towards financial inclusion, the basic focus was for the provision of access to affordable banking services to everyone. Recently, the government intensified its efforts by linking bank accounts with the direct benefits transfer programme. After nearly a decade of deliberate efforts among the bringing the poor to the financial mainstream, the government has presently acknowledged that there is still a long way to go. Having a basic bank account is the preliminary basic step in the process of financial inclusion. However, of late, it is well understood that, having a bank account does not lead to successful comprehensive financial inclusion. This is because of the fact that only if there are transactions in the accounts, greater financial inclusion can be achieved. The survey reported that 95 percent of the respondents are having bank accounts. All the bank accounts open as a part of financial inclusion drive was for government assistance (83 percent) and for savings with a figure of 16.7 percent. Moreover, the savings in those accounts were negligible. Those who availed of loans formed 64 percent, where as 36 percent did not take any loan. Almost 76 percent of the loans were for agricultural purposes. Most of the accounts remained dormant because most of the respondents were daily wage earners, farm labourers and small agriculturists with low and irregular income. Further lack of sufficient income compelled the individuals to use the loan amount for other purposes rather than what it was taken for.

2.3.3 Dimensions of Financial Inclusion

Bhaskaran (2006) in his study report remark that inclusive growth presupposes inclusive finance and finance is not merely restricted to opening of bank accounts and provision of credit; whereas, it includes a range of financial services such as insurance, pension, investment, payments etc. Moreover there is growing evidence that the poor are bankable and credit worthy and the banks must reciprocate to them by reorienting their priorities targeted at the poor. He points out that financial inclusion will happen if loan products are structured with flexibility in delivery with affordable rates of interest.

Hannig and Jansen (2010) in their working paper of the Asian Development Bank Institute reports that financial inclusion can be measured through the following lenses, in the order of complexity:

(1) *Access*: the ability to use available financial services and products from formal institutions. Understanding levels of access may require insight into and analysis of potential barriers to opening and using a bank account for any purpose, such as cost and physical proximity of bank service points i.e., branches or ATMs. A very basic proxy for access can be derived by counting the number of open accounts across financial institutions and estimating the proportion of the population with an account.

(2) *Quality*: the relevance of the financial service or product to the lifestyle needs of the consumer. Quality encompasses the experience of the consumer, demonstrated in attitudes and opinions toward those products that are currently available to them. The measure of quality, therefore, would be used to gauge the nature and depth of the relationship between the financial service

provider and the consumer as well as the choices available and consumers' levels of understanding of those choices and their implications.

(3) *Usage*: beyond the basic adoption of banking services, usage focuses more on the permanence and depth of financial service and product use. Hence determining usage requires more details about the regularity, frequency, and duration of use over time. To measure usage, it is critical that information reflect the user's point of view, that is, data gathered through a demand-side survey.

(4) *Impact*: Measuring changes in the lives of consumers that can be attributed to the usage of a financial device or service.

Pandey and Raman (2012) explored various dimensions of financial inclusion and provide insight into the nature of exclusion. Their work considers three basic dimensions of financial inclusion. They are: (1) financial depth or financial /banking penetration and the proxy measure is represented by number of bank accounts per 100 population, (2) availability of financial services and the proxy measure represented by number of bank branches/ATM's per 1000 population, and (3) usage of financial services measured by size of bank credit and bank deposits, relative to the population of a state. The enquiry clearly indicates that there is a direct and positive relationship between the level of development and the level of financial inclusion. They points out that farm households belonging to low land availability households are less financially included in comparison to other farm households and found that land availability is a significant factor in financial inclusion. The analysis of correlation shows that the most important variables significantly and positively correlated with the financial inclusion index are level of education, land availability, household income and awareness of households.

It reveals the fact that the literate households with assets are highly financially included. The study concludes that low asset households must be given great care in the process of achieving sustainable financial inclusion

Allen (2012) in his work measuring financial inclusion has noticed that sound financial systems is useful in ways such as offering savings, credit, payment, and risk management products to people with a wide range of needs. Inclusive financial systems facilitate broad access to financial services, without price or non price barriers to their use are especially likely to benefit poor people and other disadvantaged groups. Without inclusive financial systems, poor people must rely on their own limited savings to invest in their education or become entrepreneurs and the small enterprises have to depend on their limited earnings to pursue promising growth opportunities. This can contribute to persistent income inequality and slower economic growth

Sharma and Kukreja (2013) in their report highlighted the basic features of financial inclusion, and its need for social and economic development of the society. The study focuses on the role of financial inclusion in strengthening the India's position in relation to other countries economy. Even today the fact remains that nearly half of the Indian population doesn't have access to formal financial services and are largely dependent on money lenders. Mere opening of no-frill bank accounts is not the purpose or the end of financial inclusion, while formal financial institutions must gain the trust and goodwill of the poor through developing strong linkages with community based financial ventures and cooperatives. Financial Inclusion has not yielded the desired results and there is long road ahead but no doubt it is playing a significant role and is working on the positive side.

2.3.4 Banking and Financial Inclusion

Swain (2008) in the study report on financial inclusion has remarked that, in no-frills accounts of all the selected sample branches and it was observed that in an average not more than 10% of the no-frill accounts have repeated transactions. Indeed, more than 40% no-frill accounts have only the opening entry and there were no subsequent entries. It appears that monetary benefits released under various social welfare measures are yet to be routed through these accounts. The opening amount varies from zero balance in very few cases to five rupees and ten rupees in most of the cases. There are some instances where banks have charged fifty rupees to open 'no-frills' accounts and in some other cases it has been observed that banks have charged one hundred rupees to open such an account. It is a fact to note that out of thousands of accounts opened by the bank branches operating in the district, there are no transactions in more than two-third accounts opened under 'no- frills' accounts. Therefore, the average balance retained in the accounts comes to mere 240 rupees for the sample branches where the survey was undertaken. The same pattern appears to be observed for the district of Srikakulam as a whole. More than 75% of the 'no-frills' account holders never visited the branch even once for any transaction; though in most cases the accounts were opened for more than a year. Most rural bankers are demotivated to open no-frills accounts because they felt that operationally the scheme is not viable and it is difficult to make any business through these accounts. Most no-frills accounts opened would become inoperative accounts in due course of time; hence it is a waste of time and energy to channelize bank resources in this direction. Some rural bankers are not motivated to open no-frills accounts because they feel that operationally the scheme is not

viable and it is difficult to adjust the losses incurred towards such interventions

Bandari (2009) investigates the drive to financial inclusion in the form of the growth in bank accounts of scheduled commercial banks and the changes in below poverty line population. The results disclose that the growth in bank accounts is not significantly associated with the reduction in below poverty line population across states. Providing banking service to maximum number of people is unsuccessful as a poverty reduction strategy. As a poverty reduction strategy, developing inclusive financial systems should give priority, which is financially and socially sustainable. He noticed that poverty causes low demand for organised financial system and financial exclusion causes poverty. Therefore, there is a bidirectional cause and effect relationship between poverty and financial inclusion. The study highlights that state wise growth in bank accounts and corresponding poverty scenario indicates weak association between them. Thus, covering maximum number of people under banking service and providing credits without developing inclusive financial system has failed to lift people above poverty line. As a poverty reduction strategy, developing inclusive financial system should be given priority, which is financially and socially sustainable.

Ramji (2009) in his study on financial inclusion in Gulbarga found that thirty six percent of samples continues to remain excluded from any form of formal or semi-formal savings mechanism such as a bank account and savings account with SHGs, neighbourhood groups, MFIs, or chit funds and close to 70% of our sample remains without a bank account. The study finds that SHGs are a far more common means to save, perhaps because of the compulsory nature of savings. It also reveals that the general impression about banks is that they are meant for 'richer' people. While

these attitudes could be changed, it should be noted that significant costs related to travel to banks and loss of work pose a significant barrier to usage of formal bank savings accounts. His study does point us in the direction of a few key areas of concern which may help to improve future policy in this area, for instance issues related to financial awareness, marketing, and appropriateness of bank products for low-income communities. Further, this study looks specifically at a certain section of the population, the BPL households. The study provides a cursory overview of how 'No Frills Accounts' were being used. Access does not mean usage, and as such, opening bank account without adequate training or marketing may incur additional costs for the bank without any benefits to the community. Consequently, future policy measures to increase financial inclusion must specify incentives and the means by which these measures are to be adopted by those targets.

Samantara (2010) observed that among the major banking institutions, commercial banks, cooperative banks and Regional Rural Banks accounted for about 43.7 percent and 42.7 percent and 13.6 percent of the total number of KCC's issued respectively. Whereas, in terms of total loan disbursed to cardholders, the share of commercial banks was 57.5%, followed by 29.5% for cooperative banks and 13% for RRBs. Coverage of marginal farmers and small farmers in the KCCs was in the range of 63-68 % (Coop banks), 58-61 % (RRBs) and 59-64 % (CBs). Share of tenant farmers was very negligible (<1%). It was observed that most of the KCC-holders were not aware of the modalities, usefulness/benefits of KCC Scheme. Inadequacy of credit, non-adherence to scale of finance, lack of flexibility in implementation of the scheme is some of the observations made by the farmers interviewed in this study. It was quite conspicuous that KCC was

being used as one-shot loan (68% of the sample farmers), not as a cash credit limit as originally envisaged. Although, a staggering 78% of the farmers interviewed responded that KCC was truly a hassle-free card, it was indicated that farmers had to undergo cumbersome procedures for getting a loan above Rs.50,000/-. About 19 percent of the sample KCC holders were not aware of the modalities, usefulness benefits of KCC scheme. Farmers have been issued KCC and sanctioned limits under KCC, but they were not aware of its positive aspects, like, revolving cash credit facility (RCCF) involving any number of withdrawals and repayments, credit limits for full year including ancillary activities related to crop production and other NFS activities, sub limit for consumption purposes, etc. Agency-wise, while 26 percent sample KCC holders from Cooperative Banks were not aware of the utilities of KCC, the same was 12 percent and 14 percent for Commercial banks and RRBs respectively. Similarly, land holding size-wise, 30 percent of marginal farmers (<1.00 ha.) and 25 percent of small farmers (1.0-2.0 ha.) were not aware of the utilities of KCC. Land holding size-wise, while about 60.4 - 64.6 percent of small and marginal farmers opined that credit limit sanctioned under KCC was inadequate; the same was about 40.2 - 43.5 percent in case of medium and large farmers. Land holding size wise, small/marginal farmers (29-30 percent) used larger portion of average loan disbursed for non-production purposes as against medium/large farmers (16-25 percent). At the same time 76 percent of total sample felt that the KCC was very much farmer friendly. The KCC holders got benefits like, (i) meeting credit requirements and almost 78 percent of the total sample respondents responded that KCC was truly a hassle free card. Agency-wise, majority of KCC holders from commercial banks (81 percent) viewed that KCC was hassle free followed by RRB (76 percent) and Co-operative Banks (68 percent). During the

interaction with the farmers it was gathered that KCC holders got some relief in terms of sanctioning credit limit once in three years and benefits include: (i) drawing limit once in a year for cultivation for the whole year, (ii) availability of credit whenever the credit is needed, (iii) flexibility in drawing cash/buying inputs from any supplier of choice, (iv) reduction in quantum of interest due to withdrawal flexibility, (v) reduction in cost of credit for availing the bank loan, (vi) insurance cover (NAIS) at a very low premium rate. Loaning operation with Co-operative Banks (PACS) was found costly as effective Rate of Interest (interest+ non-interest) worked out to be the highest and ranged from 8.25 to 9.50 across slabs followed by RRB (7.50-8.75) and commercial banks (7.25 -8.00).

Chattopadhyay (2011) in his pioneering study on financial inclusion in India has found that about 61.7 percent of the households had opened an account with a commercial bank or RRB or a cooperative society. The Remaining 38 percent feel that they do not have sufficient income to open an account in the bank. About 77.5 per cent of the respondents feel that there are adequate banking facilities in the locality. The survey has revealed that money lenders are still a dominant source of rural finance, despite wide presence of banks in rural areas and in about 66.5 per cent cases; finance is received from village money lenders at exorbitantly high rate of interest. Almost in 28.1 percentages of the cases, collateral security was required to be provided by the borrowers. It was found that 76.0 percent households are willing to take loan from the banks due to comparatively lower interest rates in the banks and 51.4 percent households have availed loan from the commercial banks. It was also revealed that money lenders were still a dominant source of rural finance despite wide presence of banks in rural areas. In a nutshell, it was observed that although various measures have been

undertaken for financial inclusion, the success is not found to be considerable. However, the study reports that not only supply side factor are responsible for financial exclusion whereas, demand side factors are also equally responsible for this.

Nalini and Mariappan (2012) in their work points out that financial inclusion becomes a major pre-requisite to poverty alleviation. India's vision for 2020 is to open nearly 600 million new customers' accounts and service them through a variety of channels by leveraging on information technology. However, improper repayment need for additional workforce, time consumption, high cost and illiteracy are continued to be a road block to financial inclusion in many areas. Consequently, many banks are not adopting fully fledged financial inclusion plans. The banks should step up to overwhelm all these problems and to disseminate its service to remote areas and should encourage the people to access banking services by ways of no frills account, financial inclusion campaign and business correspondents. Moreover, the government should encourage the banks to adopt financial inclusion by means of financial assistance, advertisement and awareness programmes.

Pal and Pal (2012) examined the income related inequality of financial inclusion and role of banks in this regard. The study covered the extent of financial exclusion and examines the role of banking services to foster financial inclusion across various income groups. Their work reveals that per-capita income is a major determinant of a household propensity to use formal financial services. It also shows that greater availability of banking services can foster financial inclusion. The study found that education, employment status and household size also significantly affect the probability of a household to be financially included. Further, it turns out that the gender of

household head and social groups do not have any significant effect on use of formal financial services. The study estimated that a household can be said to be fully financially included, if the need of that household for financial services is completely served by the formal financial services. Enquiries based on unique individual-level data from the perspective of the users of financial services helps to disaggregate financial inclusion by key respondent characteristics, such as gender, age, education, income, employment and such other characteristics (Allen, Demirguc-Kunt, Klapper and Martinez Peria, 2012) .

Bista, Kumar and Mathur (2012) in their evaluation about the performance of KCC scheme in Bihar recommended that to bring more farmers under the scheme, the process of opening bank accounts should be simplified. The farmers were reported to have the fear of being a defaulter. Similarly, expanding educational opportunities and organising training about improved techniques of farming could be helpful in encouraging the farmers to avail credit. The process of opening a bank account should be simplified to bring more farmers under the scheme. It was also suggested that the government should launch awareness generation programmes about the benefits of the scheme.

Sarkar and Phatowali (2013) used the available supply side data to analyse the trend and to measure the extent of financial inclusion in the country as well as in the State of Assam. Three basic dimensions of the banking system, viz, availability of banking services, banking penetration and use of the banking services are used to compute the financial inclusion index. The enquiry reveals that there is mixed contribution of individual attributes without any particular trend or pattern towards financial inclusion. He

suggests that thrust is to be given for improving of per capita credit availability.

2.3.5 Comprehensive Financial Inclusion

Leeladhar (2006) has examined the scope of financial inclusion in India and he points out that the present focus of the financial inclusion in India by confining to a bare access to a saving bank no frills account to all is inadequate and cannot be regarded as an accurate indicator of financial inclusion. Financial inclusion has to be viewed in a much wider perspective and there could be multiple levels of financial inclusion and exclusion. According to him, in between the 'super-included' and 'financially excluded', there are people with varying range of availability and use of financial services. Addressing the issue of financial inclusion require a holistic approach on the part of the banks in creating awareness about financial products, education, money management, debt counseling, savings and affordable credit. Banks need to redesign their business strategies incorporating specific plans to promote financial inclusion chasing the business opportunity while discharging the corporate social responsibility.

Claessens (2006) reviewed the evidence on the importance of finance for economic well-being. The work provides data on the use of basic financial services by households and firms across a sample of countries, assesses the desirability of universal access, and provides an overview of the macroeconomic, legal, and regulatory obstacles to access. Despite the benefits of finance, the data show that use of financial services is far from universal in many countries, especially developing countries. Universal access to financial services has not been a public policy objective in most countries and would likely be difficult to achieve. Countries can, however,

facilitate access to financial services by strengthening institutional infrastructure, liberalizing markets and facilitating greater competition, and encouraging innovative use of know-how and technology. Government interventions to directly broaden access to finance, however, are costly and fraught with risks, among others the risk of missing the targeted groups. The study concludes with recommendations for global actions aimed at improving data on access and use and suggestions on areas of further analysis to identify constraints to broadening access.

Rangarajan (2008) reports that there is exclusion and that poorer section of the society have not been able to access adequately financial services from the organised financial system. He recommended that there is an imperative need to modify the credit and the financial delivery system to achieve financial inclusion. He also emphasized the need to modify, particularly the credit delivery system of the banks and other institutions to meet the credit requirements of marginal and sub-marginal farmers in the rural areas in a fuller measure.

Rachana (2011) in her study suggests that having a current account / savings account on its own, is not regarded as an accurate indicator of financial inclusion. 'Financial Inclusion' efforts should offer at a minimum, access to a range of financial services including savings, long and short term credit, insurance, pensions, mortgages, money transfers, etc. and all this at a reasonable cost. The survey results reveal that 83% have bank accounts and 17% do not have an account. There was no significant impact of the gender on their having the bank account but, there is significance impact of occupation on having a bank account. It was observed that farmers, those who were doing job and those who have own business are having bank accounts but those who were land labourers and are doing lower level jobs do not have accounts.

There is significance impact of the education on the having the bank account. All respondents with HSC and graduation degree had a bank account. There is significant impact of annual income on having a bank account. Among the sample, 73% people have savings account and 5.5% have current account while 21% have fixed deposit accounts. Thus rural people use more services of the saving account and fixed deposits but they don't prefer current account for their occupations. The study also reveals that there is lot of opportunity for the commercial banks to explore the rural unbanked areas. Though RRBs and PACS have good coverage but most of them are running into losses. Again, the number of Kisan Credit Cards issued and the amount of credit granted under it is also showing a declining trend by them. Commercial banks should seize this opportunity rather than looking at it as a social obligation.

Rao (2011) studied about the use of BC/BF model to achieve comprehensive financial inclusion. Major challenges in the use of this model are low level of awareness, unavailability of qualified, competitive and capable technology vendors, inadequacy of rural base branches, lack of scope for scalability, cash management, initial high cost of account opening and maintaining, operational hindrances in the form of outsourcing operations, keeping the responsibility with bankers and limited use of accounts .

Morawczynski, Hutchful, Cutrell, and Rangaswamy(2011) examined the reasons for the under utilization of the majority of the bank accounts started as a part of the financial inclusion drive and also recommend ways to improve the financial inclusion drive. Despite the various strategies adopted by the Reserve Bank of India and the government in providing access to financial services, evidence suggested that access has not been translated into usage. They reported that the benefits of access can only be derived from

active engagement with formal financial services and not just access. The paper makes clear the importance of financial education and proposed that such education should be targeted towards poor individual as they have distinct financial needs and varied level of understanding.

Sharma and Kukreja (2013) in their report highlight the basic features of financial inclusion, and its need for social and economic development of the society. The study focuses on the role of financial inclusion, in strengthening the India's position in relation to other countries economy. Even today, the fact remains that nearly half of the Indian population doesn't have access to formal financial services and are largely dependent on money lenders. Mere opening of 'no-frills' bank account is not the purpose or the end of financial inclusion, while formal financial institutions must gain the trust and goodwill of the poor through developing strong linkages with community-based financial ventures and cooperatives. Financial Inclusion has not yielded the desired results and there is long road ahead but no doubt it is playing a significant role and is working on the positive side.

In Indian context, the initiatives done by CRISIL is praiseworthy as more operational suggestions were put forwarded by the same. CRISIL inclusix (2013 and 2015) measure the financial inclusion in India across the 632 districts. The report highlights importance of measuring the initiatives taken by the policy makers to tangibly identify the progress achieved and to align the policies in order to further the cause of financial inclusion. The report remarks that most of the measures of financial inclusion have focused on aggregate data in a particular region. The report suggest that the southern region is not only way ahead of the other regions, its score is also far above the national average, whereas, the other regions are either close to or below the national score. Pathanamthitta (Inclusix score of 96.2) in Kerala has the

highest CRISIL Inclusix score in the country, followed by Karaikal in Puducherry (91.6). The Inclusix (2015) affirms the supremacy of the South India in the inclusions scores. Six districts are from Kerala, namely, Pathanamthitta, Alapuzha, Ernakulam, Thiruvananthapuram and Thrissur scored the maximum Inclusix score of 100 out of nine districts with the maximum score. Moreover, 13 districts from Kerala were among the top 50 districts.

Ananth and Oncu (2013) in their study report on the challenges to financial inclusion and remarks that any attempt to expand financial inclusion is essentially a small step in a long journey. Thus, financial inclusion is by nature, incremental. This means that expanding financial inclusion requires, among other things, a paradigm shift that goes beyond opening bank accounts and facilitating direct cash transfers to the financially excluded. They argue that the banking sector, especially public sector banks, should lead efforts to expand inclusion, as private sector initiatives to do so are likely to be curtailed by their objective of maximizing shareholder profits. In addition to public banks, cooperative banks may also be brought into the effort to expand financial inclusion, as the shareholders of cooperative banks are also their stakeholders. This would, of course, require a substantial overhaul of governance in cooperative banks, especially to avoid their capture by crony capitalists and corrupt politicians. Their study concluded that the ultimate success of financial inclusion would depend on: (a) measures that expand the scope of the formal banking sector, (b) overcoming pervading information asymmetries, (c) expanding financial literacy through state programmes and neither the public nor private banks will be able to bear the costs, (d) mandating appropriate agencies to lead efforts that expand financial

inclusion; and (e) creating a relevant suite of financial products that meet the needs of the financially excluded populace.

. Chakrabarthy (2013) adds that a lot needs to be done to achieve the goal of financial inclusion and the focus should not only be on opening accounts, but also ensuring proper transactions. Among the accounts opened, only 20 percent of them are operational and the extremely low percentage of transactions per account is adversely impacting the viability of the financial inclusion efforts and would ultimately result in stakeholders losing interest in the exercise. He remarked that the banks need to identify the causes for the low transaction rates and urgently address them in order to be successful, sustainable and scalable.

Sarma (2015) reports that it is right time to achieve the target of meaningful financial inclusion. She remarks that in the first stage of progress towards financial inclusion, the basic focus was for the provision of access to affordable banking services to everyone. Recently, the government intensified its efforts by linking bank accounts with the direct benefit transfer programme. After nearly a decade of deliberate efforts among the bringing the poor to the financial mainstream, the government has presently acknowledged that there is still a long way to go. Having a basic bank account is the preliminary basic step in the process of financial inclusion. However, of late it is well understood that, having a bank account does not lead to successful comprehensive financial inclusion. This is because of the fact that only if there are transactions in the accounts, greater financial inclusion can be achieved.

The survey reported that 95 percent of the respondents are having bank accounts. All the bank accounts open as a part of financial inclusion drive was

for government assistance (83 percent) and for savings with a figure of 16.7 percent. Moreover, the savings in those accounts were negligible. Those who availed of loans formed 64 percent, Whereas, 36 percent did not take any loan. Almost 76 percent of the loans were for agricultural purposes. Most of the accounts remained dormant because most of the respondents were daily wage earners, farm labourers and small agriculturists with low and irregular income. Further lack of sufficient income compelled the individuals to use the loan amount for other purposes rather than what it was taken for.

2.3.6 Agriculture Sector and Financial Inclusion

Patel (1996) in his evaluation of role of commercial banks in priority sector lending reported that there is a clear tendency of the percentage of outstanding agricultural term loan repaid to decrease with the increase in the operational holding group of households. While the marginal farm households had repaid their entire amount of outstanding crop loan, the small holders had repaid the lowest proportion (54.70 percent) of their total outstanding loan amount. The amount of crop loan availed per borrower household and the size of operational holding group were found to be positively correlated. The amount outstanding per large holding group household was seven times more than that per marginal farm household. Sixty four per cent of the sample farm households considered their farm loan as adequate. Adequacy of loan was more in case of crop loan, than that of term loan. Moreover, adequacy of farm loan and operational holding group of household were positively related. The formal procedure to be observed while availing loan was found to be time consuming. Half of sample farm households considered the security norms of banks as stringent. The formalities to be observed in availing loan were also reported to be cumbersome.

Basu (1997) examined why institutional credit facilities remain unable to extend credit to the rural poor. The findings indicate that the poor peasants at best can offer an entitlement set as a mortgage, comprised only of future shares of their harvest, which itself is subject to risk. Consequently, lenders cannot advance loans without risking extensive loss of loanable funds. As the landlords' income is subject to the same risk as that of peasants, they advance loans to ensure that their own income is not affected by the peasants' financial situation. An extension of institutional credit to peasants results only in subsidization of landlords.

Malik (2002) has conducted a study in two villages of Ambala district of Haryana state, India, to review the credit experience of traditional rural financial institutions in respect of the small and marginal farmers. Particular focus was given to the role of the new generation credit institutions in meeting the credit needs of the vulnerable groups. The study was based on primary data collected from a sample of 51 rural households by using multistage stratified random sampling technique from the study area. It focused on the credit flow problems of not only the pure cultivating households, but also of other categories within rural households owning less than 2 hectares of land. It concentrates on the degree of dependence of rural households for credit on various sources, flexibility in usage of credit and rescheduling of repayment of loans. It also highlights the relative role and performance of self help groups (SHGs) in extending credit to rural households, particularly the landless households, and small and marginal cultivators. It is noted that about 30-35% of credit to rural households is obtained from informal sources like cooperatives and informal moneylenders. The SHGs being of recent origin, their network is extremely limited. They expressed great reluctance to shift away from the current source of borrowings as the help from nongovernmental

organizations to such institutions is virtually non-existent. Notwithstanding the limited domain of SHGs, they have been successful in meeting approximately 15% of the credit disbursed by the formal credit institutions.

Karmakar (2006) reported that the farmer's credit needs in order of performance are: (1) timely credit, (2) volume of credit, (3) Hassle-free credit without extensive documentation and (4) low interest rates. He suggested that the banks need to revisit their existing products both for deposits and for credit and then design appropriate client-friendly policies. Moreover, there is need to ensure that innovations and changes are done with almost speed and bankers should join hands with the state governments, district authorities and agricultural universities to bring about these changes in the rural economy. He highlighted the urgency to address demand side issues relating to rural credit rather than concentrate on supply side issues.

Kumar, Singh and Kumar (2007) in their study on institutional credit to agriculture have found that the effect of age on borrowing from institutional sources was significant and positive. The effect of gender was also positive, which implied that the households headed by males were able to get higher amounts of loan from the institutional agencies. Further, only 11 percent of the rural households in the study area were estimated to be headed by females. The larger farm-size and bigger household-size increased the probability of taking credit from the institutional sources. The credit requirement of larger farm-size was more because of its higher requirement of inputs and services. The large-farm size also enhanced the repayment capacity and thus facilitated credit disbursement from the institutional source. The results have reconfirmed the vulnerability of weaker sections in getting credit from the institutional sources. It was observed that the households belonging to scheduled castes, scheduled tribes and other backward castes could get less

credit from the institutional source than the general caste households. The effect of education on the use of credit outlet was interesting. The higher the level of education, the higher was the probability of having bigger loans from the institutional sources. Education makes the borrower wiser not to take credit from non-institutional sources at the higher rates of interest but also helps the farmers to have better access to credit. Moreover, they may appear to lenders to have less of a credit risk and are more likely to be aware of financial opportunities and it may be easier for them to visit financial institutions, do the required paper work for loan applications and interact with officials in the financing institutions. This suggests the need for simplification of credit disbursement procedure by the institutional sources so that even the illiterates could have increased access to institutional credit in the rural areas. The effect of major occupation of a household on the use of institutional credit was mixed. The households with self-employment in agriculture depicted higher probability of availing higher amounts of institutional credit while labour households obviously had fewer propensities to avail institutional credit. This seems to be rational as the households whose major occupation is agriculture, obviously need higher amounts of credit. The structure of the sources of credit has witnessed a clear shift and commercial banks have emerged as the major source of institutional credit to agriculture in the recent years.

NABARD (2009) in its study report on ‘doubling of agricultural credit’ has reported that in all the States, the commercial banks fared better than the RRBs and Cooperatives. The reason for preference of the Commercial Banks (CB) was the good/faster service and the good relationship they maintained with the clients. There was a general tendency of shifting from one bank to another and was observed mainly from co-operatives and

RRB's to Commercial Banks, because of the better services by CBs. In Madhya Pradesh, there was mixed response among the bankers regarding the recent loan waiver schemes. Some of the commercial bank managers were against this scheme saying that, it affected the basic morale among the farmers. It was felt that the recovery of the future loan may be low as most farmers may turn into defaulters, expecting further loan waivers in future. Suggestions from farmers include minimal documentation, lower interest rates, flexibility in repayments with rebates in case of crop failure, creation of awareness about KCC, etc. Further, the study has suggested that there is a need to orient agriculture credit policies in a manner that is more conducive for the marginal and small farmers, tenant farmers, share croppers and oral lessees in accessing credit from formal institutions.

According to Kelkar (2010), financial inclusion is a business strategy for growth. Financial inclusion will result in reduced farmers' indebtedness and better risk management for the farmers. By providing greater access to educational loans to all sections of society, improved financial inclusion will mean India becoming a more equal opportunity nation, a necessity for promoting inclusive growth; and enhanced financial inclusion will promote seminal innovations and business opportunities.

Government of India (2010) in its report of the task force on credit related issues of farmers has noticed that Commercial banks and RRBs offer schemes to finance farmers to payoff debts taken by them from non-institutional sources such as money lenders, pawn brokers, dealers of fertilisers and dealers of farm inputs. A review of the debt swap schemes of banks has revealed that these schemes had limited success: as farmers were reluctant to disclose the name of the money lenders, hesitant to make payment of existing debt to their lenders, apprehensive in disclosing debt and some had

even repaid the existing debt out of their KCC limits. In respect of loans taken by farmers from informal sources, measures have been taken for swapping the loan taken from money lenders, for redemption of debt from informal sources, private money lenders, and for making the farmer, village money lender free.

Samantara (2010) studied about the role of KCC's as a credit product to the farmers. The encouraging results include hassle free access to institutional loans, increasing productivity, etc. The report reflects few areas of concern such as duplicate recording of operational holdings, issue of multiple KCC's. Commercial banks issued most of the KCC's in terms of both number and total loan disbursed compared to RRB's and co-operative banks. Moreover, it was noticed that the level of awareness of co-operative bank beneficiaries were the lowest. Majority of 64.6% of small and marginal farmers opined that credit limit sanctioned was inadequate. About 78% of the total sample respondents responded that KCC was truly hassle free.

Gandhimathi and Vanitha (2010) in their work have indicated that the borrowers of commercial banks with higher landholding, family size, non-farm income, household expenditure per annum, utilisation of credit and cost of production were distinguished from the borrowers of co-operative banks. Small farmer's preferred co-operative banks for borrowing may be due to lowest acquisition cost of credit. It shows that farmers who borrow from the commercial banks have bigger size of landholdings and higher cost of production. The marginal farmers have availed comparatively less amount of investment loan. The financial institutions have neglected them due to fear of repayment. Hence, the repayment capacity of the farmers should be properly assessed, irrespective of the size of landholding. Further, adequate amount of investment loan should be provided to the marginal farmers.

Kaur and Silony (2011) in their work on ‘The role of public sector and private sector banks in priority sector lending’ have found that priority sector advances and agricultural advances of both the types of banks had improved manifold over the study period. But, they were still lacking behind to achieve the targets set for them by RBI in agriculture sector. It was observed that the performance of private sector banks in respect of all the parameters was better than that of public sector banks during the post reforms era and the priority sector advances of private sector banks grew faster than that of public sector banks. Both the public and private sector banks achieved the national target of priority sector but, not for agriculture sector during the study period. It is suggested to increase the attention of both the public and private sector banks on the priority sector of the economy.

Mangalamani and Jayasheela (2011) have made an attempt to analyse the credit needs of the farmers and highlighted the dimension of the credit problems and the need of credit. According to them, the problems involved in indebtedness of peasants have not merely quantitative or institutional aspects but also involve qualitative and human aspects. As per the observations of the study, the KCC scheme has helped the farmers in the cropping pattern, mechanization of farm sector, production, income from farm sector and other activities, investment patterns, pattern of unproductive expenditure, saving behavior of household assets, acquisition of land, consumption pattern, etc. The major constraints faced by farmers include too many intermediaries, loan amount, lack of information, short comings of insurance scheme and the availability of guarantors.

Devaraja (2011) in his working paper attempted to analyse the issues in institutional credit in India. The analysis revealed that the credit delivery to the agriculture sector continues to be inadequate. It appears that the

banking system is still hesitant on various grounds to purvey credit to small and marginal farmers. The situation calls for concerted efforts to augment the flow of credit to agriculture, exploring new innovations in product design and methods of delivery, and better use of technology and related processes. An assessment of agriculture credit situation brings out the fact that the credit delivery to the agriculture sector continues to be inadequate.

Sharma (2011) reports that half of the workforce is still engaged in agriculture for their livelihoods and employment and even though its share in the national gross domestic product has declined in recent years, agriculture continues to be a predominant sector of the Indian economy. Rapid growth of the non-agriculture sectors, particularly services, in post-reforms period has failed to accelerate agricultural growth or poverty reduction. Although flow of agricultural credit in India has increased significantly in recent years, there is need to address distributional aspects of agricultural credit including better access to small and marginal farmers, decline in rural branches, increase in the share of indirect credit and significant regional and inter-class inequalities in credit.

Singh, Kadiyan and Kodan (2011) in their study on agricultural credit in India have concluded that in the post WTO period, the share of agriculture credit as percent to total credit by Commercial Banks has reduced, The access of farmers to institutional credit has also been reduced and inter farmers (according to size of land holding) & inter-state inequalities of finance have emerged, posing a threat to sustainable inclusive growth in India. In this regard, they have made some valuable suggestions for boosting the financial inclusion in India. Firstly, proper financial education to farmers about new innovations and present policies of banking institutions; secondly, set-up credit counseling centres by the banks which would advise public on

gaining access to the financial system to get benefit thereof; and thirdly, the banks should implement low-cost financial products through the generalized use of electronic payment methods, which enable financial institutions to improve their efficiency ratios, facilitate the use of low-cost distribution channels and enable application of credit risk monitoring system that decrease the default rate, and finally banks should use alternative distribution networks of banks' branches, generating economies of scope and decreasing transaction costs.

. Planning Commission (2011) reviewed the institutional credit in the working group report on 'Outreach of Institutional Finance, cooperatives and Risk management' for the 12th Five Year Plan has noted that, despite significant reforms undertaken by rural financial institutions with regard to systems, processes and delivery, coupled with a sizable increase in the flow of institutional credit to agriculture, the sector continues to be characterised by a wide range of concerns. The working group believes that the achievement of quantitative 'credit flow' targets is necessary, but not sufficient for ensuring inclusive growth. Despite robust credit growth, nearly 8 crore farmers are still outside the institutional fold. The working group therefore, recommends that it is imperative to find ways, means, strategies and suggestions for widening credit consistent and deepening it, so that those outside the purview of institutional credit are covered as quickly as possible, if not in the 12th Five Year Plan itself. On credit flow to small and marginal farmers, the working group feels it necessary to look into the composition of their incomes which has crucial bearing on the flow and composition of credit. It was noted that one of the major reasons for small and marginal farm families pursuing a combination of agricultural and non-agricultural livelihood activities is the steadily diminishing size of household land holdings and the income

therefrom. With about 8 crore farmers still remaining outside the purview of institutional credit, desired outcomes can only be achieved with a thrust on credit widening. For achieving more inclusive growth encompassing the small and marginal farmers and the landless labourers, the working group is of the view that the existing policy needs to factor in the complexity of rural livelihoods and move from the "credit for agriculture" approach to a broader and more flexible, "credit for rural livelihoods" approach.

Mahendra (2012) in his study on small farmers in India assessed that small holdings need credit for both consumption and investment purposes. Increasing indebtedness is one of the reasons for indebtedness among these farmers in recent years. The overall indebtedness is not higher for small and marginal farmers compared to large farmers. However, the indebtedness for the small & marginal farmers from formal institutional sources is lower than large farmers and the reverse is true in the case of informal sources. The dependence on money lenders is the highest for sub-marginal and marginal farmers. The study shows that the share of formal source increases with the size of land. At all India level, the share of formal source varies from 22.6% to 58% for small and marginal farmers while it varies from 65 to 68% for medium to large farmers. Dependence of small and marginal farmers on informal sources is high even in states like Andhra Pradesh, Punjab and Tamil Nadu. For example, small and marginal farmers of Andhra Pradesh have to depend on 73% to 83% of their loans on informal sources. Financial inclusion is the need of hour. The Commercial banks are extending financial services to augment financial inclusion in rural areas, facilitating poverty alleviation in India.

Kanz (2012) conducted a survey among 2,897 households affected by the Indian debt waiver and debt relief program for small and marginal

farmers—one of the largest debt relief programs in history. Using a regression discontinuity design based on the program eligibility criteria, it was found that debt relief does not improve the investment or productivity of beneficiary households, but leads to a strong and persistent shift of borrowing away from formal sector lenders. The study also adds that strong effects of debt relief on beliefs about the seniority of debt and the reputational consequences of default. The results suggest that bailout programmes are of limited use in addressing problems of debt overhang, but have significant behavioural implications. Despite the substantial benefit to individual households, the bailout did not solve problems of debt overhang or increase productive investment among recipient households. Instead, bailout recipients increased their reliance on informal credit, reduced their investment relative to households and suffered a corresponding decline in productivity. Recipients of unconditional debt relief are significantly more concerned about their future access to institutional credit and exhibit investment behavior consistent with the anticipation of future credit constraints. According to this view, highly-indebted households face disincentives for investment, because the returns of any such investment will accrue largely to debt holders, rather than the household. Wage, income and animal farming are identified as the major ingredients of household income in marginal and small farm size groups and they have little access to proper non-farm jobs. In order to improve their lot, the capacity of the weaker sections of farmers to move into more remunerative, non-farm income generation activities has to be built up through provision of skills, credit etc. The access to credit by farmers as well as the mounting debt has been a major area of concern. As far as marginal and small farmers are concerned, the RBI does not maintain a separate record of their credit off-take but surveys as well as analyses bring out a dismal picture.

Government of India (2012) reports about the flow of institutional credit to agriculture and allied activities. It is reported that the commercial banks leads with a share of 69% followed by corporative banks with 20% and RRB's with 11% share respectively in this regard. Moreover, the commercial banks have been directed to provide banking facilities in all unbanked blocks by March 2012. Moreover, banks have been advised to transfer subsidies through Electronic Benefit Transfer (EBT), so that the benefit gets credited directly to the account of the beneficiaries.

2.3.7 Problems and Challenges of Financial Inclusion

Mohan (2006) reported that the demand for financial services, both for savings as well as production purposes, will be greater than that has been the case in the past, and there will be many new entrants in need of financial services who have not hitherto been served. At present India's financial depth is much lower than that of other Asian countries, though it has picked up in the recent past. While there is evidence of an increase in financial deepening, particularly during the present decade, as the increase in the breadth and coverage of formal finance has been less than adequate. Deepening the financial system and widening its reach is crucial for both accelerating growth and for equitable distribution, given the present stage of development of our country. The role of banking sector is poised to increase in the financing pattern of economic activities within the country. To meet the growing credit demand, the banks need to mobilise resources from a wider deposit base and extend credit to activities hitherto not financed by banks. The trend of increasing commercialisation of agriculture and rural activities should generate more avenues, and banks should examine the benefits of increasing penetration therein. Financial inclusion will strengthen financial deepening and provide resources to the banks to expand credit delivery. Thus, financial

inclusion will lead to financial development in our country which would ultimately help to accelerate economic growth.

Frost and Sullivan (2009) examined the critical success factors and challenges that exist in the delivery financial inclusion in India. Inclusive growth is challenged by such factors as availability of financial services, accessibility across the vast rural and urban landscape, awareness through education and literacy programmes (including financial literacy), and affordable cost points. The study remarks that the size of the unbanked and underserved population is too large and spread across too vast of geographies to be properly served by conventional channel alone. Self-service technology solutions are essential to address the scalability and sustainability challenges facing financial inclusion. It provides greater confidence, security, and ease of use for those people using financial services, including overcoming issue such as literacy and an affordable platform for the delivery of multiple financial products.

Chattopadhyay (2011) conducted a survey in West Bengal in order to gauge the financial inclusion in rural Bengal and the results revealed that around 38 per cent of the respondents feel that they do not have sufficient income to open an account in the bank. It is also revealed that money lenders are still a dominant source of rural finance despite wide presence of banks in rural areas. In a nutshell, it was observed that although various measures have been undertaken for financial inclusion, the success is not found to be considerable. However, only supply side factors are not only responsible for financial exclusion but also demand side factors are also equally responsible for the exclusion. Thus there is need to solve both these problems with the help of appropriate policies. A whole-hearted effort is needed from all the corners of the society, namely, banks, beneficiaries and regulators in order to

make financial inclusion more meaningful and effective. Moreover, the study examined the extent of financial inclusion in West Bengal. The survey has revealed that money lenders are still a dominant source of rural finance despite wide presence of banks and in about 66.5% cases finance was received from them at exorbitantly high rate of interest. Only in 28.17 percent cases, collateral security is required to be furnished by the borrowers. Around 95.8 per cent households place their faith in Indian Banking System and in 72.9 per cent of the cases, friends and relatives is still a dominant source of information in banking. Moreover, about 79.9 percent households seek simplification of procedures and documentation for getting loans and this has become a great reason for dominance of village money lenders. The study revealed that 32.2% of households are not aware of the opportunities of the bank loans at lower rate of interest and many of them do not know whether they can deposit their own money for saving in the bank accounts opened by them.

Demirguc-Kunt and Klapper (2012) in their report measuring financial inclusion estimates find sharp disparities in the use of financial services between high-income and developing economies and across individual characteristics. The study reports that the share of adults in high-income economies with an account at a formal financial institution is more than twice that in developing economies. Furthermore, around the world, men are more educated, wealthier, and older adults make much use of formal financial services. Worldwide, more than 2.5 billion adults do not have a formal account, most of them in developing economies. The variation in account ownership by individual characteristics is particularly large in developing economies. Among them, 46 percent of men have a formal account, only 37 percent of women do. Thus indeed, there is a persistent gender gap of 6-9 percentage points across income groups within developing economies.

Further, among all adults in the developing world, people in the richest quintile (the top 20 percent of the income distribution within an economy) are on average more than twice as likely as those in the poorest to have a formal account. In addition to this Debit Cards, Cheques, and Electronic Payments are also far more commonly used in high-income economies. Globally, 22 percent of adults report having saved at a formal financial institution in the past 12 months. Moreover, only 17 percent of adults in developing economies report having personally paid for health insurance, though their share are as low as 2 percent in low-income economies. Among adults working in farming, forestry, or fishing in developing economies, only 6 percent report having purchased crop, rainfall, or livestock insurance in the past year. Globally, the most frequently reported reason for not having a formal account is lack of enough money to use. This is the response given by 65 percent of adults without a formal account, with 30 percent citing this as the sole reason. This segment of the population is less likely to be bankable. Other reasons for not having an account are that banks or accounts are too costly or that another family member already has one, a response identifying indirect users. The above reasons are cited by about a quarter of adults without an account. The other reasons reported in the order of importance are banks being too far away, lack of the necessary documentation, lack of trust in banks, and religious reasons. In developing economies, seventeen percent of adults report having paid for health insurance. This share ranges as low as 3 percent in Sub-Saharan Africa and 4-5 percent in Europe and Central Asia and South Asia. The relatively high value for East Asia and the Pacific is driven by China, where 47 percent of adults report having personally paid for health insurance. The share of adults who report having purchased health insurance in East Asia and the Pacific drops to only 9 percent, except China.

Allen, Demirguc-Kunt, Klapper and Peria (2012) in the policy research working paper of world bank on understanding the ownership and use of formal accounts reported that greater financial inclusion is associated with a better enabling environment to access financial services, such as lower banking costs, greater proximity to branches, and fewer documentation requirements to open an account. Policies targeted to promote inclusion-such as government requirements to offer basic or low-fee accounts, exempting small or rural depositors from onerous documentation requirements, and the use of bank accounts for government payments are especially effective among rural residents and the poor. Overall, those who are financially excluded report lower barriers to account access in countries with lower costs of accounts and greater penetration of financial service providers. They also found that among those who report lack of money as the main barrier to account use, government policies to promote inclusion, can increase the likelihood that individuals' perception that financial services are within their reach. Overall, the results suggest a role for policy stance to expand the pool of eligible account users and increase account use to save and with higher frequency.

Siddaraju (2013) in his report on inclusive growth in India underlines the various constraints under which inclusive finance is to be achieved. He reports that high operating costs of banks to extend financial services in remote areas, high maintenance cost of the accounts as well as small size of transactions adds to the problem of inclusive finance. He also adds that problems in communication, loan product, collateral and assets of household poses challenges in this regard.

Thimmaiah and Anitha (2013) examined the measures taken for financial inclusion in the Indian context. They remarked that financial

inclusion is not an end but means to poverty reduction and economic growth. Provision of wider financial access in India will attract global market players to our country that will result in increasing employment and business opportunities. They highlight that the prominent barrier to use formal bank accounts is not the absence of low cost technology or documents but having ‘not enough money’ to save.

Reserve Bank of India (2013) in its study titled “How the poor manage their finances: A study of the portfolio choices of poor households in Ernakulam District, Kerala” reports that the challenges faced by the poor households in the sample are not only the insufficient income, but also irregular and unpredictable income flows. The poor households, on an average, had a cash inflow of Rs.15,553 during the one month of diary keeping, of which only 61 per cent was on account of income. The difference between outflows and income inflows was met mainly through loans. About one third of the total inflows during this month are in the form of loans per household. About 5 percent of the shortage was met from donations, hand loans returned by others, drawing from one's own savings and sale of assets/durables. On an average, there were three loan transactions per household in the month of diary keeping. Four out of five poor households have taken loan for meeting shortfalls. Though large majority of the poor had depended on friends/relatives/neighbours, such loans were small in quantity and therefore, were only one-fourth of the total loan amount. The biggest source of loans, however, was SHGs/MFIs. Though only 17 per cent had taken loan from SHGs/MFIs, 28 per cent of the loan amount was from these sources. Of these, majority have depended on SHGs under Kudumbashree, the State's Poverty Eradication Mission. One-fourth of the loans and the loan amount are from money lenders. Just two per cent had taken loan from cooperatives but

one-fifth of the loan amount was from these institutions. Outflows related to the purchase of food items formed only 22 per cent of the total outflow of the poor households. Non-food consumption expenditure is a much bigger component with a share of one-third of the outflows. But a major component of the cash outflows of the poor households in the sample, with a share of 17 percent, is the repayment of loans indicating the high debt service burden of these households. Savings mainly held at home, SHGs or in Chit funds, formed about one-tenth of the income inflow. Of the total outflows, 12 per cent have gone for assets/durables. None of the poor families in the sample has received loans from or saved money in commercial banks during the one month period. When the shortfall is for meeting daily expenses, the first option of the poor is to fall back on their social capital base which includes their friends, relatives, neighbours and neighbourhood. A never ending cycle of lending and borrowing small amounts among households was observed. The SHGs, mostly those under the Kudumbasree have emerged as an important agency for savings and credit requirements of the poor. Any meaningful involvement of the banks in the financial lives of the poor depends on the ability of banks to meet the credit requirements of the poor. The dependence on the money lenders on gold loans despite the lower interest rates in the banks indicates that more than the interest rates, it is the easy and timely availability which matters to the poor. Here, the co-operative societies and the money lenders score over commercial banks. Co-operative societies are seen by the poor as the most approachable among banks. Of the total cash inflows during the month, 61 per cent was on account of income. Loans formed the second most important inflow head of the households. One-third of the total inflows were through loans. On an average, there were three loan transactions per household in the month of the study. Four out of five poor

households have taken loan for meeting shortfalls in income. Nine-out of ten households which have taken loan had taken it from the friends, neighbours' or relatives.

The theoretical and empirical evidences discussed here for the present study support that a strong financial sector promotes economic growth. Moreover, it has been widely recognized that a well-functioning financial system is crucial to economic growth and development (McKinnon, 1973; Shaw, 1973). Financial development reduces the share of liquidity constrained households in the total population and thereby that of the economy. It is capable of promoting innovation and growth as predicted by Schumpeter, even under severe political and economic conditions. Moreover, financial development would increase the volume of investment by the greater mobilization of investible resources in an economy. Further, a robust and efficient financial system promotes growth by channeling resources to their most productive uses and fostering a more efficient allocation of resources. A stronger and better financial system can also foster growth by boosting the aggregate savings rate, investment rate and speeding up the accumulation of physical capital (Estrada, Park and Ramayandi, 2010).

Recent evidences suggest that access to finance has a direct nexus with that of innovation. Cross-country findings have found that finance promotes growth through increase in productivity (Ayyagari, Demirguc-Kunt, and Maksimovic, 2007). Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor households. Well-functioning financial systems serve a vital purpose, offering savings, credit, payment, and risk management products to people with a wide range of needs. Inclusive financial systems without price or non-price barriers to their use

particularly benefit poor people and other disadvantaged groups. Thus, access to finance is of utmost importance to the economy as a whole, since greater financial access not only promotes growth but promotes inclusive growth by fostering equality of opportunity.

As agricultural growth and economic development are directly correlated, agriculture finance is essential for economic growth in an economy. As most of the development literature argues, agricultural surplus is important for the structural transformation by accompanying economic growth. This is based on the view that the agricultural sector should transfer to the non-agricultural sector the 'surpluses of investible' resources generated in agriculture, which would not only removes financial constraints but also promote investment and adoption of technology necessary to spur desired economic growth. Evidence shows that access to credit by farmers as well as the mounting debt has been a major source of concern. As far as marginal and small farmers are concerned, the surveys as well as analyses of secondary data bring out a dismal picture. However, the overall indebtedness is not higher for small and marginal farmers compared to large farmers. But, there is cause for concern regarding high informal indebtedness of the small and marginal farmers than large farmers. The dependence on money lenders is the highest for sub-marginal and marginal farmers.

Most of the empirical results regarding the farmers access to and use of financial services reveal that the socio-economic variables such as size of land holdings, education, income, family size, assets holdings, capital expenditure, occupation and level of awareness have a positive relationship with financial inclusion. However, the major challenges faced in the process of financial inclusion include insufficient collateral, lack of awareness, documentation, procedural formalities, high rate of interest, too many intermediaries,

insufficient money to use, lack of product information, short comings of insurance scheme, availability of guarantors and the fear of being a defaulter. Therefore, financial inclusion, particularly that of the vast majority of the small and marginal farmers is the need of the hour as it is imperative for the socio-economic development of the society. The nature of financial inclusion is incremental. Mere opening of 'no-frills' bank account is not the purpose or the end of financial inclusion, rather it is only a small step in the long journey, surpassing various stages of financial inclusion towards achieving comprehensive financial inclusion. Thus financial inclusion is not only a socio-political imperative but also an economic issue which would strengthen India's position in relation to other economies.

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Chapter 3

METHODOLOGY OF THE STUDY

<i>Contents</i>	3.1	<i>Introduction</i>
	3.2	<i>Statement of the Problem</i>
	3.3	<i>Objectives of the Study</i>
	3.4	<i>Major Hypotheses of the Study</i>
	3.5	<i>Conceptual Framework of the Study</i>
	3.6	<i>Research Design</i>
	3.7	<i>Sampling Design</i>
	3.8	<i>Analysis Design</i>

3.1 Introduction

Over the past decade, financial inclusion has been a major concern of the development policies of most of the nations worldwide. World over, there has been a growing apprehension that sustainable growth and financial stability can only be achieved through greater financial inclusion. Achieving sustainable economic growth through advancements in financial inclusion has, of late, become one of the key motives of the regulators and policy makers across the globe (Chakrabarty, 2014). The policy makers in India too have been making concerted efforts to achieve equitable growth and development and have framed policies to further the process of financial inclusion. It is universally recognised that access to basic transaction services is an important milestone towards full financial inclusion, a world, where everyone has access and can use the financial services he or she needs to capture opportunities and reduce vulnerability (World Bank, 2013).

After achieving basic level of financial inclusion in various countries, most of the nations today, particularly the developing nations strive to achieve

comprehensive financial inclusion and our nation is not an exception to this. Even though, India has witnessed a staggering growth rate of around 7-9 percentage a year during the past few decades, its growth is, however, tested by the disproportionate distribution of income and the widening disparity between rich and the poor. About three quarters of population live in rural areas and dependent mainly on agriculture and it has been supporting the livelihood of about 60 percentage of the population, semi-skilled and semi-literate and at times unskilled and illiterate, paradoxically contributes only 13.9 percentages to GDP, having almost stagnant growth during the years. This uneven growth has resulted in the exclusion of a major segment of population from the basic financial services. Marginal farmers, landless labourers, self employed and unorganized sector enterprises, urban slum dwellers, migrant ethnic minorities and socially excluded groups are the prominent financially excluded groups in India (Rangarajan, 2008). The provision of uncomplicated, small, affordable products can help bring low-income families into the formal financial sector. Further, an inclusive financial system ensures the ease of access, availability and usage of a wide range of formal financial services for all members of the economy.

3.2 Statement of the Problem

Financial inclusion is a pre-requisite for inclusive development and is viewed as an important means to tackle poverty and inequality, and therefore, promote economic growth. Yunus and Weber (2007), reports that a small loan, a savings bank account and an insurance policy can make a great difference to the poor and a low income family. These financial services enable the poor to have better nutrition, housing, education and better health-care and improve standard of living. Financial inclusion as a policy measure

addresses the issue of financial exclusion ensuring more avenues of financial services for the poor to participate in the growth process.

The share of agriculture and allied activities in total GDP of the country declined from 15.2 per cent in the Eleventh Plan to 13.9 per cent in 2013-14. However, it still provides employment for more than half (54.6 percent) census of the population (Census, 2011). The peculiarity of this sector is evident from the fact that the sector last posted negative growth rate in 2002-03 and a notable growth rate of 4.1 percent in the Eleventh Plan period. During 2013-14 the growth rate has been 4.7 percent as per the provisional estimates (GOI, 2014). However, with regard to Kerala, the growth performance of the agriculture and allied sector has been fluctuating across the plan periods. It witnessed a positive growth of 1.8 percent in the Tenth Plan period but a negative growth rate of -1.3 percent in Eleventh Five Year Plan. In 2012-13, contrary to the quick estimate which showed a 4.39 percent growth rate, the provisional estimate indicates a downward revision of growth rates to 1.38 percent. In 2013-14 also, the performance of the sector has been weak, clocking a negative growth rate of -1.36 percent for agriculture and allied sectors together. With regard to share of the sector in total GSDP, it has declined from 9.51 percent in 2012-13 to 8.83 percent in 2013-14. However, the importance of the sector cannot be ruled out considering the agrarian nature of the State and the role that it plays in providing food and livelihood to the people (Kerala State Planning Board, 2014).

As per NSSO (2003) data, 51.4% of the farmer households in the country do not access credit, either from institutional or non-institutional sources. Only 27% of total farm households are indebted to formal sources. In other words, 73% of farm households do not have access to formal credit

sources. Viewed from the angle of indebtedness, nearly 49% of the farmer households in the country were indebted – of which, 27% to formal sources and 22% to informal sources. Of the remaining 51% of farm households who are not indebted at all, 78% were small and marginal farmers who would, definitely, welcome access to credit on reasonable terms (Rangarajan, 2008). In the state of Kerala, small holdings constitute 98.96 of the total holdings, while the small and marginal farmers constitute 77.31 % of the farmers. A large segment of the small and marginal farmers still continue to be deprived of the formal sources of credit and other essential financial services like insurance, savings and payment services. Commercial banks being the purveyor's of nation's credit has got a great deal of responsibility in extending the financial services to this sector in order to provide the fruits of economic development to this segment of Indian economy. Thus financial inclusion in the Indian agricultural sector particularly of the small and marginal farmers needs special emphasis. Therefore, the present study is an attempt made to assess the nature of inclusive financing and to identify the nature and extent of availability and use of financial services and issues in inclusive financing particularly that of the small and marginal farmers.

The basic stage of financial inclusion was fairly successful in Kerala when compared to other major states in India. Kerala is a state with high level of social development which is comparable to the developed countries of the world. The performance of the state is worth mentioning in executing various financial inclusion policies and plans in the state. Further, the financial inclusion initiatives were successful to a great extent in the state as compared to other states in India. The Reserve Bank of India in its working paper (Chattopadhyay, 2011) made a comparison of the Indian states regarding the level of financial inclusion achieved and the State of Kerala

tops the list in the index of financial inclusion, followed by Maharashtra and Karnataka. Moreover, Inclusix, the Financial Inclusion Index formulated by CRISIL has, based on data provided by the Reserve Bank of India, rated Kerala as the first among the states in India and accorded a score of 80.4 regarding financial inclusion. Five of the districts in Kerala found a place in the top ten districts in India in terms of financial inclusion. Later, in the succeeding year INCLUSIX (CRISIL, 2014), reported that among the various districts in the nation, Kerala State has the highest number of districts (13 out of 14) in the list of top 50 districts in India. The initial financial inclusion initiatives and the first level achievements are only the preliminary stages in the process of achieving the ultimate objective of comprehensive financial inclusion in Kerala. Assessing the level of financial inclusion achieved at different stages of its advancement, it is necessary to understand whether the process of financial inclusion is inclusive and all the sections of the population get due consideration and are taken care of. Therefore, it is appropriate to evaluate the level of financial inclusion in the State in the wake of the completion of first level of financial inclusion strategies.

Most of the studies found in the literature are focused on macro level measurements of financial inclusion. There are no serious efforts to empirically evaluate and analyse the extent and degree of financial inclusion in Kerala. Besides this, most studies on financial inclusion use macro level analysis that uses regional or national level data for investigation. Moreover, while these aspects of financial inclusion initiatives are important in the policy context, they do not offer considerable information about individuals' experience of using financial inclusion services and its impact on their life. Moreover, few have studied financial inclusion from the household

perspective and even fewer have paid attention to the predominant rural agricultural communities. This is the gap this research aims to fill in and is the main objective of this study. Hence, it would be most appropriate and important to focus and examine the nature, extent and degree of financial inclusion in the State, especially among the most vulnerable major segment of the economy, the small and marginal farmers of the agricultural sector.

3.3 Objectives of the Study

The following are the specific objectives of the study:

1. To examine the progress of the initiatives towards Financial Inclusion in Kerala.
2. To assess the nature and level of Financial Inclusion among the small and marginal farmers in Kerala.
3. To find out the determinants of Financial Inclusion among the small and marginal farmers in Kerala.
4. To identify the problems and impact of Financial Inclusion among the small and marginal farmers in Kerala

3.4 Major Hypotheses of the Study

1. There is association between Financial Inclusion and the selected socio-economic and demographic characteristics of small and marginal farmers.
2. There are differences in the level of Financial Inclusion in the various socio-economic and demographic categories of small and marginal farmers.

3.5. Conceptual Framework of the Study

Bringing every household within the grasp of the formal financial system has been an ongoing process of financial inclusion started a decade ago. Worldwide several policy regulations and concerted efforts have been made by the government and the regulators in fostering and furthering the process of financial inclusion. The literature on the definition for financial inclusion covering the various facets of financial inclusion indicates that the process of financial inclusion is incremental and the nature is context specific, depending on the stage of growth and level of financial inclusion achieved. The earlier understanding of the concept of financial inclusion was limited to ensuring a bare minimum access to savings bank account without frills, to all. In developed nations, the financial inclusion has been viewed in a much wider perspective. There, having a current or savings account is not regarded as an accurate indicator of financial inclusion. Therefore, 'Financial Inclusion' efforts should offer at a minimum, a range of financial services including savings, long and short term credit, insurance, pensions, mortgages and money transfers at a reasonable cost.

Most definitions commonly referring to financial inclusion relate it to the exclusion from financial products and/or services in terms of availability, access and use. The recent definitions of financial inclusion makes attempt to remedy these exclusions through more inclusive policies, practices and initiatives. Hence, the concept of financial inclusion can be understood as an evolving response to its changing disposition. The concept of financial inclusion is multi-faceted and there is no single widely agreed definition of financial inclusion. The European Commission identifies financial inclusion as the access and use of financial services and products in the mainstream market that are appropriate to their needs enabling them to lead a normal social life (European Commission, 2008).

A universally accepted definition of financial inclusion is found next to impossible. The Rangarajan Committee Report on Financial Inclusion (Rangarajan, 2008) identifies financial inclusion as the process of ensuring access to financial services and timely and adequate credit which are needed by vulnerable and low income people at a reasonable cost. Thus the essence of financial inclusion lies in ensuring a range of appropriate financial services to each and everyone from having a basic bank account for making and receiving payments, a savings product suited to the pattern of cash flows of a poor household, insurance, money transfer facilities, small loans and overdrafts for productive, personal and other purposes.

According to the Planning Commission of India (2009), financial inclusion means provision of universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. Again, former Reserve Bank of India Deputy Governor and academician, Chakrabarty (2011), defines financial inclusion as a process of ensuring access to appropriate financial products and services needed by all sections of society including vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by the mainstream institutional players. This definition acknowledges the vital role of the mainstream financial institutions in furthering financial inclusion in the sense that they are able to bring the people and communities into the fold of the formal financial system. Thus, after viewing the existing literature regarding the concept and meaning of financial inclusion, and having considered the stage of relevance for it in the present day context, the following working definition is fixed for financial inclusion for the present study: “Financial inclusion refers to the process of ensuring access and use of formal financial services needed by vulnerable and low income people at an affordable

cost”. This would mean that financial inclusion ensures the provision of a range of suitable financial services to each and everyone including a basic bank account for formal banking transactions, a savings product suited to the individual need of the household, insurance, money transfer facilities and provision for loans or advances needed for productive, personal or other purposes by the mainstream financial institutions.

Both access to financial services and usage of financial services are important to understand the level of financial inclusion. Access to financial services implies the absence of obstacles to the use of these services and the possibility to use it whereas, usage of financial services means actual use of financial services (World Bank, 2008). Access and use are differentiated in the sense that all those who have access need not necessarily use formal financial services (Demirguc-Kunt and Klapper, 2012).

The process of financial inclusion is a continuum beginning with having a basic formal account and advancing through several stages with the use of a variety of financial services and ultimately achieving comprehensive financial inclusion. Thus, full-fledged financial inclusion achieves its ultimate objective of sustainable growth and development with equity through the individual development of the masses of the nation.

The Rangrajan committee report (Rangarajan, 2008) remarks that having a bank account is only a basic stage in the process of financial inclusion. Thus in order to achieve a stage of full-fledged comprehensive financial inclusion, there must be accessibility and usage of a variety of financial services particularly among the vulnerable and low income classes of the populace. Hence, on the basis of these revelations, the present study attempts to measure the level and extent of financial inclusion and to identify the determinants and problems in this regard.

3.5.1 Measuring Financial Inclusion

The financial inclusion is measured on the basis of the access and usage of the major financial services such as the transaction banking services, type of formal account, savings, formal credit and insurance. In order to measure financial inclusion, a comprehensive index is constructed incorporating all the above mentioned critical parameters of the usage dimension of financial inclusion after giving due weights. The proposed Financial Inclusion Index (FII), takes relative values between 0 and 100; zero indicating lowest financial inclusion (complete financial exclusion) and 100 indicating complete financial inclusion. On the basis of the value of Financial Inclusion Index, three financial inclusion levels are identified, i.e., low inclusion (FII<30), medium inclusion (FII: 30-60) and high inclusion (FII>60) (Sarma, 2010). Depending on the value of the Financial Inclusion Index, the respondents are placed in one of the following three categories:

1. 60 FII = 100 – high financial inclusion
2. 30 FII < 60 – medium financial inclusion
3. 0 FII < 30 – low financial inclusion

The respondents are categorized in these three financial inclusion categories to understand the extent of progress made in the process of financial inclusion.

3.5.2 Determinants of Financial Inclusion: Multinomial Logistic Regression Model

Having identified the influence and dependence of the variables with regard to financial inclusion and assessing the extent of financial inclusion among small and marginal farmers, it would be appropriate to identify the quantitative relationship between these variables and the degree of financial

inclusion among them. The dependent variable of the present study is financial inclusion and it has three outcomes namely: low inclusion, medium inclusion and high inclusion. As there are several independent variables or predictors used in this study and the dependant variable or the outcome is more than two, the best fitting model in this situation is the multinomial logistic regression model. The statistical significance of the estimated coefficients for each explanatory variables are tested using 'Wald' Statistic, the standard for a logistic regression. The model summary provides the 'Pseudo R-Square' values obtained for the model. Pseudo R-Square in multinomial logistic regression is similar to R-square (coefficient of determination) used in ordinary linear regression. The value of Pseudo R-Square ranges from 0 to 1 and is an indication of the goodness of fit of the model. Regression coefficients, symbolized as β (beta), are the slope of the line, or the amount of change in the dependent variable based on a one-unit change in the predictor or independent variable (Abu-Bader, 2006; Dunn and Clark, 2001; Howell, 2002). In multinomial logistic regression model, both categorical and continuous independent variables can be incorporated as predictors (Stevens, 1996). An advantage of multinomial logistic regression model is its use of odds ratios as estimators for the predictor variables. Odds ratios are computed from the beta coefficients in multinomial logistic regression model using the exponent function (Hosmer and Lemeshow, 2000). While interpreting odds ratios, it is important to distinguish between the event or outcome variable, and the independent or the predictor variable.

As there are several independent variables or predictors used in this study and as the dependant variable (Financial Inclusion Index) or the outcome is more than two (low inclusion, medium inclusion and high inclusion) the best fitting model in this situation is the multinomial logistic

regression model. Normally, the multinomial logistic regression procedure makes the last category of the dependent variable as the reference category. Hence, the present study is modeled using the first category, i.e., 'low inclusion' as the reference category. At first, the 'medium inclusion' category of the dependent variable is regressed by taking 'low inclusion' as the reference category. Secondly, the 'high inclusion' category of the dependent variable is regressed by taking 'low inclusion' itself as the reference category. Thus, the multinomial logistic regression used in the present study takes the following two forms:

$$1. \text{Log} \frac{P(Y_2)}{P(Y_1)} = S_0 + S_1 X_1 + \dots S_{10} X_{10}$$

$$2. \text{Log} \frac{P(Y_3)}{P(Y_1)} = S_0 + S_1 X_1 + \dots S_{10} X_{10}$$

where:

Y_1, Y_2 , and Y_3 are the three different dependent (Financial Inclusion Index) variables

S is the multinomial logistic regression coefficient of the variables

$X_1 \dots X_{10}$ are the different independent variables

3.5.3 Impact of Financial Inclusion: Factor Analysis

Another objective of this study is to determine the impact of financial inclusion among the small and marginal farmers. For this, in the present study, the researcher has used exploratory factor analysis in order to estimate the latent relationship within the variables and in order to assess the impact of access and

use of financial services among small and marginal farmers. The analysis helps in condensing a large set of variables into a small number of basic components, which improved some related variables.

Bartlett's Test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy are conducted to analyze the applicability of factor analysis to the identified variables. The Bartlett's statistics tests the hypothesis whether the correlation matrix of chosen variables is an identity matrix. The KMO test indicates the proportion of variance in the variable which is the common variance that might be caused by underlying factors. Once the number of factors is known, the variables could be grouped into any of these factors so that the characteristics of the underlying factor may be determined. Towards this, rotated component matrices were calculated that give factor loadings for each of the variables. Factor loadings show the correlation between factors and the variables. Large values indicate whether that a variable and a factor are closely related. Based on the loadings, all the items are identified and segregated into the related factors.

3.5.4 Relationship between Impact Factors and Financial Inclusion- Regression Analysis

Having identified the major impact factors of financial inclusion, it would be advisable to understand the influence or the degree of relationship between these variables on the Financial Inclusion Index. For this purpose, regression analysis is conducted. The results of multiple correlations showing the coefficient of multiple correlations, R , would indicate whether the factors are found to be significant in the prediction of Financial Inclusion Index. The value of coefficient of determination, R^2 , confirms whether the model can be trusted and how far it is capable of being used for prediction (Hauck, Runger, and Montgomery, 1999). The regression result shows the p-values of all the factors

and would indicate whether the Financial Inclusion Index is significantly influenced by each of these factors. Ultimately, the degree of influence of the identified factors on the Financial Inclusion Index is estimated using multiple linear regressions. The regression model takes the following form.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

Where,

Y is the Financial Inclusion Index; and

X_1 , X_2 and X_3 are the different impact factors.

3.6 Research Design

The prime objective of this study is to analyze the extent of financial inclusion by examining the availability, access and usage of financial services among small and marginal farmers in Kerala. The State of Kerala, located in the south-western corner of India, has been different from that of the country with its unique features. The uniqueness in the process of development of the State is often referred to as the "Kerala model of development", which is characterized by high level of social development, quite disproportionate to the level of economic growth. In terms of almost all conventional indicators of physical quality of life, Kerala is way ahead of not only most of the other states in the India and many other middle income countries. Moreover, the per-capita State Domestic Product (SDP) is also the highest among the states in India. The State has also been ranked on the top among the major states in per-capita consumer expenditure (NSSO, 2011), a situation which has been prevailing for long. This study is conducted in the State of Kerala covering the various regional geographies is both descriptive and analytical in nature. The study is exploratory as it investigates the socio-economic situation of the subjects under the study. The quantitative methods employed in this study include the various tools of statistics; and they are

used to give explanations on the demographic and socio-economic characteristics of the subjects under study. The study is also analytical in the sense that the association between financial inclusion and the identified variables are analysed, the extent and degree of financial inclusion is assessed and the impact factors of financial inclusion is identified and estimated.

3.7 Sampling Design

The objectives of the study are examined through an exploratory study of the small and marginal farmers in the State of Kerala. Despite its uniqueness for the State of Kerala in its developmental scenario, multitude of challenges exist in its effectiveness of providing inclusive financial services to the vast majority of small and marginal farmers with their increasing fragmentation of landholdings.

The data required to examine the level of Financial Inclusion of the small and marginal farmers in the State of Kerala were collected through a primary survey. As the present study focuses on the extent of financial inclusion among the small and marginal farmers, respondents were selected from among those farmers who have a formal bank account with any of the SELECTED categories of banks. Thus, the population for the present study consists of all the small and marginal farmers who have achieved basic level of financial inclusiveness by having a formal bank account in the State of Kerala. Hence, the small and marginal farmers having a formal bank account constitute the sampling unit.

3.7.1 Sample Size and Selection

For the present study multi-stage random sampling technique is adopted. In the first stage, the State of Kerala is divided into three zones, viz:

North Zone, Central Zone, and South Zone. In order to represent the three Zones, one district each from the three zones has been selected. Thus, the three districts selected from the State are: Wayanad, Thrissur and Thiruvananthapuram. From the selected districts, four categories of Banks were identified namely, State Bank Group, Other Nationalized Banks, Kerala Grameen Bank and Co-operative Banks. From the four categories of Banks (fifty respondents from each bank group), two hundred respondents were selected from each district. Thus the primary data have been collected from two hundred respondents from each district in order to ensure equal representation. Thus, the total sample size fixed for the study becomes six hundred.

3.7.2 Data Collection

A pilot study was conducted among the small and marginal farmers in the study area for assessing the various aspects of financial inclusion. Moreover, advices of experts were also considered for validation and identifying the dimensions of usage of financial services among the small and marginal farmers in the study area. Thus, a pre-tested structured questionnaire was designed and administered on the respondents for collecting primary data. Several experts in the fields of banking, financial services and agriculture have been consulted and their suggestions were incorporated while preparing the questionnaire to ensure the content validity of the instrument. The survey has been conducted during the year 2014.

Initially, the available literature on the topic are collected and reviewed to appreciate and take stock of the concept under study. The various secondary sources to this thesis include publications, reports and working papers of International and National level organizations such as the World

Bank, ADB, IMF, NSSO, CSO, IIBF, National Institute of Bank Management (NIBM), National Institute of Rural Development(NIRD), IRDA, Planning Commission of India, Kerala State Planning Board, NABARD and SLBC apart from various books and journals - International and National. Sources also include libraries of national level organizations and universities in and out of the state of Kerala and the reliable internet sources as well.

3.8 Analysis Design

The first phase of the present study evaluates the progress made in the process of financial inclusion based on secondary evidences. For this purpose percentage and compound annual growth rate are used. In the second stage a composite Financial Inclusion Index is computed in respect of the respondents to estimate their level of inclusiveness. The Financial Inclusion Index is computed on the basis of assigning due weights to the twelve identified financial inclusion indicators. Thus Financial Inclusion Index becomes the dependent variable for subsequent analysis. After having computed the Financial Inclusion Index, the relationship between the level of financial inclusion and the socio-economic characteristics of the study group is enquired through the ten identified variables such as level of education, size of land holdings, primary occupation, religion, caste, age, domicile status, type of banker, major loan sources and income. The categorization of the Financial Inclusion Index into three groups, namely, high, medium and low, helps to identify the extent of financial inclusion among the study group.

In the final stage of analysis, the key determinants of financial inclusion are identified. Moreover, the influence of the variables on

financial inclusion is estimated. Further, the major impact factors through financial inclusion among the small and marginal farmers are identified and also the relationship between financial inclusion and impact factors of small and marginal farmers are estimated.

The statistical package SPSS 21.0 was used for data editing, coding and basic analysis. Chi-square test, one-way ANOVA and LSD Post Hoc test were used for hypothesis testing. To understand the degree and nature of relationship between Financial Inclusion Index and the inclusion variables, regression analysis is also used. Further, factor analysis is used to identify the impact factors of Financial Inclusion among farmers.

3.9 Importance of the Study

The concept of financial inclusion has a special significance for a developing economy like India as it is imperative to bring the vast segment of the unserved and the underserved sectors of the economy under the formal financial network. It could further their creative capacities besides augmenting domestic demand on a sustainable basis driven by income and consumption growth from such sectors. One of the important effects of financial inclusion is that the entire national financial system benefits by greater inclusion, especially when promoted in the wider context of economic inclusion. Financial inclusion efforts do have multiplier effect on the economy as a whole through higher savings pooled from the vast segment of the Bottom of the Pyramid (BoP) population by providing access to formal savings, resulting in expansion in credit and investment by banks. Deeper inroads to the unbanked and the under-banked population in the economy through the formal financial system could lead to improvement of their financial conditions and living standards, enabling them to create financial

assets, generate income and build resilience to meet macro-economic and livelihood shocks. Government also immensely benefits by way of efficient and leakage-proof transfer of vast amounts of welfare benefits to the targeted, disadvantaged groups of population. From the perspective of the Reserve Bank of India, greater participation by all the economic agents in the financial system makes monetary policy more effective and, thereby, enhancing the prospects of non-inflationary growth. It also reduces reliance on the informal sector which tends to curtail the impact of monetary policy decisions (Kahn, 2012). It is now widely acknowledged that financial exclusion leads to non-accessibility, non-affordability and non-availability of financial products. Limited access to funds in an underdeveloped financial system restricts the availability of their own funds to individuals and also leads to high cost credit from informal sources such as moneylenders. Due to lack of access to a bank account and other financial services, the individual pays higher charges for basic financial transactions. Absence of bank account also leads to security threat and loss of interest by holding cash. All these impose real costs on individuals. Moreover, prolonged and persistent deprivation of banking services to a large segment of the population leads to a decline in investment and has the potential to fuel social tensions causing social exclusion. Thus, financial inclusion is an explicit strategy for accelerated economic growth and is considered to be critical for achieving inclusive growth in the country.

As agriculture is the biggest private enterprise in our country, development of agriculture continues to remain critical for India's economic growth (Planning Commission, 2011). The 12th Five Year Plan Approach Paper highlights the significance of agriculture in achieving its basic objective of faster, sustainable and more inclusive growth. Agriculture growth is also crucial to generate jobs, check inflation, nutritional security

and providing raw materials for industrial growth besides easing pressures on urban areas. Therefore, the Twelfth Five Year Plan has provided for 9 per cent economic growth with 4 per cent growth in agriculture.

The agriculture and allied sectors contributed approximately 13.9% of India's GDP (at constant 2004-05 prices) during 2013-14 (Government of India, 2014). Even though there is declining trend in the share of agriculture and the allied sectors in the GDP, the sector continues to be an important segment of the economy with more than half of the country's population depending on it for a living and contributing. Moreover, it provides employment to nearly 1/3rd of the work force in the country. The Small and Marginal farmers constitute the most prominent segment among the farmers in India and are reported to be deprived of most of the financial services (Rangarajan, 2008). Despite the laudable achievements in the field of rural banking, issues such as slow progress in increasing the share of institutional credit, high dependence of small and marginal farmers on non-institutional sources, skewed nature of access to credit between developed regions and less developed regions appear larger than ever before. A large segment of the small and marginal farmers still continue to be deprived of the formal sources of credit and other essential financial services like insurance, savings and payment services. Therefore, the key issue now is to ensure that rural credit from institutional sources achieves wider coverage expanding the scope of financial inclusion. For achieving the current policy motive of achieving "inclusive growth" the focus on financial inclusion is not only essential but a pre-requisite and for achieving comprehensive financial inclusion, the first step is to achieve credit inclusion for the disadvantaged and vulnerable sections of our society. For achieving comprehensive financial inclusion, the first step is to achieve credit inclusion for the disadvantaged and vulnerable

sections of our society (Mehrotra, Puhazhendi, Nair, and Sahoo, 2009). Commercial banks being the purveyor's of nation's credit has got a great deal of responsibility in extending the financial services to this sector in order to provide the fruits of economic development to this segment of Indian economy. This work is an attempt made to assess the nature of inclusive financing from the supply side and to identify the nature and extent of availability and use of financial services and issues in inclusive financing particularly that of the small and marginal farmers in Kerala.

3.10 Limitations of the Study

The major limitation of the present study is that it does not cover all the Districts in Kerala. Among the fourteen districts in Kerala, the study has covered only three districts which are taken as a representative sample. Time and resources were sufficient to cover only the samples and hence an attempt is not made to cover all the districts in the State. Moreover, the study has attempted to assess the level of financial inclusion among farmers based on usage dimension of various financial services availed of by them. There would be inherent limitations on information on usage of financial services provided by the respondents. Thus, the inherent limitations associated with the responses generated from their memory might have affected the present study to a certain extent. Moreover, there are chances for 'under reporting' and 'over reporting' by the respondents in few of the cases. However, maximum care has been exercised to ensure accuracy of the responses through observation and cross verification of the responses.

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Chapter 4

TREND AND PATTERN OF FINANCIAL INCLUSION

<i>C o n t e n t s</i>	4.1	<i>Introduction</i>
	4.2	<i>Financial Inclusion: A Global Assessment</i>
	4.3	<i>Financial Inclusion in India</i>
	4.4	<i>Major Initiatives towards Financial Inclusion</i>
	4.5	<i>Progress in Financial Inclusion</i>
	4.6	<i>Financial Inclusion and the Agricultural Sector in India</i>
	4.7	<i>Financial Inclusion and the Agricultural sector in Kerala</i>

4.1 Introduction

Financial inclusion appears to have become the principal development concern of the present day times. There is a general consensus about the several benefits of expanding the financial markets to facilitate greater reach of credit, savings and payments services to newer and under-banked segments and to widen access to insurance and pensions. But, there are also concerns about the possible ill effects like over indebtedness of customers and the stability of financial markets. Most of the literature and discussion in this regard mainly focuses on increasing the extent of availability of banking and financial services to the unbanked rather than its quality or sustainability (Nair and Tanka, 2014). The appropriateness of financial services, especially for vulnerable segments of the population, needs special emphasis. Several measures aimed at enabling access to financial services of the poor have been undertaken during the past several decades in India. These efforts have

largely formed the initiatives to achieve the planned goals of balanced development.

Financial inclusion is recognized as critical in achieving inclusive economic growth. Financial inclusion is a means to an end rather an end in itself. There is growing evidence that it has substantial benefits for individuals. Empirical evidences show that when people participate in the financial system, they are better equipped on their own, able to invest in education, manage risk, and absorb financial shocks. Access to accounts and to savings and payment mechanisms increases savings and empowers people (Karlan and Zinman, 2011).

4.2 Financial Inclusion: A Global Assessment

Financial inclusion is widely regarded as the pre-condition for sustainable, long-term economic growth has been attracting the attention of central bankers and various global levels developmental and financial institutions world over. It is considered as the instrument by which the financial services are extended towards the vulnerable groups who are excluded from the formal financial systems. The global Policy makers have recognized the significance of financial inclusion due to the conviction that it can help poor households improve their lives and spur economic activity. The World Bank Group in October 2013 postulated the global goal of universal access to basic transaction services as an important milestone toward full financial inclusion a world where everyone has access and can use the financial services he or she needs to capture opportunities and reduce vulnerability (World Bank, 2013). Having understood the significance of financial inclusion in the global scenario, multilateral organisations, such as,

the World Bank, International Monetary Fund (IMF) and the Asian Development Bank are paying attention to the development of relevant database, besides focusing on the issue of financial inclusion through policy prescriptions and guidelines.

Recognizing the need for better data to support the financial inclusion agenda, the World Bank's Development Research Group, has constructed the global Financial Inclusions (Global Findex) database. The Global Financial Inclusion (Global Findex) database, launched by the World Bank in 2011, provides comparable indicators showing how people around the world save, borrow, make payments, and manage risk. The Global Findex (World Bank, 2012) database show sharp variations in the use of financial services between high income and developing economies and across individual characteristics. In April 2012 the Global Financial Inclusion (Global Findex) Database analysis a new set of indicators that measure how adults in 148 economies save, borrow, make payments, and manage risk.

Table 4.1 depicts the global indicators of financial services. The data shows that 50 percent of adults across the world have an account at a formal financial institution, when compared to only 35 percentages in India. In addition, 22 per cent of adults report having saved at a formal financial institution in the past 12 months, and 9 percent report having taken out a new loan from a bank in the past year. Dependence on informal sources was also reported and found that a major portion of the adults relied for loans from friends and family clocking a figure of 23 percent and 20 percent at the global and national level respectively. In addition to this, the working paper also presents a dismal picture for India in terms of usage of credit cards, health insurance and mobile money respectively. In India, the usage of credit cards,

formal health insurance, mobile money was only 2 percent, 7 percent and 4 percent respectively at the global level. Further, the report clarifies that though account penetration varies widely across regions, income groups and individual characteristics.

Table 4.1 Key Statistics on Global Financial Inclusion

Financial Inclusion Indicators	India	World
Formal Account Holders	35	50
Savings in formal accounts	12	22
Loans from formal institutions	8	9
Loans From family or friends	20	23
Adults with a credit card	2	15
Adults Having formal health insurance	7	17
Adults Using Mobile money	4	7

*Figures in percentages

Source: Demirguc Kunt and Klapper (April, 2012): '*Measuring Financial Inclusion*' Policy Research Working Paper No.6025, World Bank.

Further, globally, 50 percent of adults report having an individual or joint account at a formal financial institution. The Global Findex (World Bank, 2012) also reports that while account penetration is nearly universal in high income economies, with 89 per cent of adults reporting that they have an account at a formal financial institution, it is only 41 per cent in developing economies. Eventhough half of adults around the world remain unbanked, at least 35 percent of them report barriers to account use that might be addressed

by public policy. Among the most commonly reported barriers are high cost, physical distance, and lack of proper documentation, though there are significant differences across regions and individual characteristics.

Table 4.2 Key Statistics on Financial Inclusion in India: A Survey of Global Usage of Financial Services

Country	Formal Account	Using Mobile Money	Savings		Loan Sources		Credit Card	Health Insurance
			Formal	Community Based	Formal	Family and Friends		
India	35	4	12	3	8	20	2	7
Japan	96	-	51	7	6	5	64	-
Malaysia	66	3	35	7	11	20	12	16
China	64	2	32	2	7	25	8	47
France	97	-	50	8	19	5	38	-
Germany	98	-	55	4	13	9	36	-
Canada	96	-	53	7	20	16	72	-
US	88	-	50	6	20	17	62	-

*Figures in Percentages

Source: Demirguc - Kunt and Klapper : 'Measuring Financial Inclusion', Policy Research Working Paper, 6025, World Bank, April,2012.

Table 4.2 reveals that the Global usage of Financial Services among major countries. The Global Findex reveals that major disparities exist among major nations in the use of Financial Services. Among the usage of various financial services such as the Population with formal accounts, formal savings, formal credit, use of credit cards and health insurance, India lags far behind the major nations of the world.

The latest data of Global Findex database (Demirguc-Kunt, Klapper, Singer and Oudheusden 2015) of World Bank reveals that between 2011 and 2014, 700 million adults worldwide became account holders. The number of adults without an account, the unbanked, dropped by 20 percent to 2 billion. Globally, 62 percent of adults reported having an account in 2014, up from 51 percent in 2011. The share of adults with an account increased in almost every economy. Not surprisingly, however, the extent of account ownership continues to vary widely around the world. In high income OECD economies account ownership is almost universal: 94 percent of adults reported having an account in 2014. In developing economies only 54 percent did. There are also enormous disparities among developing regions, where account penetration ranges from 14 percent in the Middle East to 69 percent in East Asia and the Pacific. The 2014 Global Findex database shows great progress in expanding financial inclusion around the world. But large gaps remain. Many people around the world, particularly women and poorer adults, still do not have an account. Among adults in the poorest 40 percent of households within individual developing economies, the share without an account fell by 17 percentage points on average between 2011 and 2014 yet more than half (54 percent) remain unbanked. Among adults in the richest 60 percent of households, by contrast, 40 percent are unbanked.

4.3 Financial Inclusion in India

In India, while the use of the term Financial Inclusion in above context may be of recent origin, the efforts to bring poor under the fold of formal credit system have been going on since nationalisation or even earlier. The concept of financial inclusion can be traced back to the year 1904 when co-operative movement took place in India. It gained momentum in 1969, when

14 major commercial banks of the country were nationalized and lead bank scheme was introduced thereafter. The Reserve Bank of India and the Government of India has adopted a bank-led model in advancing financial inclusion in the country. Branches were opened in large numbers across the country and even in the areas which were hitherto being neglected.

Even after all these measures, a sizable portion of the population of the country could not be brought under the fold of banking system. In fact, there are large gaps in financial access which needs special attention. Studies have proved that lack of inclusion or rather exclusion from the banking system results in a loss of 1 percent to the GDP. Thus, financial inclusion is not just a socio-political imperative but also an economic one. Realising the gravity of the problem, Reserve Bank in its Mid Term Review of Monetary Policy (2005-06), urged the banks to make financial inclusion as one of their prime objectives.

A Financial Inclusion Survey was conducted by World Bank team in India between April-June, 2011 which included face to face interviews of 3,518 respondents. The sample representing approximately 10 percent of the total adult population. The results of the survey suggest that India lags behind developing countries in opening bank accounts, but is much closer to the global average when it comes to borrowing from formal institutions. In India, 35 per cent of people had formal accounts *versus* the global average of 50 percent and the average of 41 percent in developing economies. The survey also points to the slow growth of mobile money in India, where only 4 per cent of adults in the Global Findex sample reported of having used a mobile phone in the past 12 months to pay bills or sends or receives money.

Table 4.3 Accesses To and Use of Financial Services in India

Access indicators	Number
Commercial bank branches per 1,000 Sq.km	33.17
ATMs per 1,000 Sq.km	32.67
Deposit accounts with commercial banks per 1,000 adults	1,042.48
Household deposit accounts with commercial banks per 1,000 adults	892.49
Commercial bank branches per 100,000 adults	11.38
ATMs per 100,000 adults	11.21
Loan accounts with commercial banks per 1,000 adults	151.06
Household loan accounts with commercial banks per 1,000 adults	23.54

Source:: International Monetary Fund, Financial Access Survey, 2013.

The Financial Access Survey (FAS, 2013), the database of the International Monetary Fund (IMF) currently contains data on the financial access and use of financial services in India is presented in Table 4.3. The data provided by IMF for India highlights that there were on an average 892 deposit accounts and 23 household loan accounts for every 1000 adults with commercial banks for every adult. Moreover, the extent of financial exclusion in India was reported to be higher than many developed and some of the major emerging economies.

The Reserve Bank of India working paper (Chattopadhyay, 2011) has recently come up with a State-wise Index of Financial Inclusion. RBI considered three basic dimensions of an inclusive financial system, i.e.

banking penetration, availability of the banking services, and usage of the banking system. In the group of 23 states for which a 3-dimensional Index of Financial Inclusion (IFI) has been estimated by using data on three dimensions of financial inclusion, Kerala leads with the highest value of IFI followed by Maharashtra and Karnataka. Gujarat lagged behind at 11th place.

The Situation Assessment Survey (NSSO, 2003) indicated that out of the total 89.3 million farmer households in the country, 84 percent (750 million) households were small and marginal farmers and more than half (51.4 percent) of the total households were non-indebted. Further, out of the total 43.4 million indebted households, 20.3 million (46.8 percent) households had availed financial services from informal sources. The NSSO survey of farmer households for 2003 shows that 45.9 million farmer households in the country that is, 51.4 percent out of the total 89.3 million households do not access credit either from institutional and non-institutional sources. Further, only 27 percent of the total farm households are indebted to formal sources; in other words 70 percent of the farmhouses do not have access to formal credit sources (Rangarajan, 2007).

India has adopted a bank led model for financial inclusion by introducing a bouquet of products related to savings, payments and credit together. It is recognised that only the mainstream banking institutions have the ability to offer the suite of products required to bring in effective/meaningful financial inclusion. Other intermediaries and technology partners such as mobile companies have been allowed to partner with banks in offering services collaboratively. In this context, it is necessary to point out that MFIs/NBFCs/NGOs on their own may not be able to bring about financial inclusion, as the range of financial products and services which are considered

as the bare minimum for financial inclusion purposes, cannot be offered by them. But they play an extremely important role in furthering financial inclusion in the sense that they bring people and communities into the fold of the formal financial system (Chakrabarty, 2012). Further, the initiatives are technology driven so as to make the financial services deliverable in a cost effective manner, tailor-made by the market participants to best suit their requirements. Reserve Bank of India has encouraged the Information Communication and technology (ICT) model which would enable banks to overcome the barriers of geography and ensure efficient financial inclusion.

In the first phase of the journey towards financial inclusion, the focus was on establishing the basic right of every person to have access to affordable basic banking services and the banks were required to provide such banking services. Subsequently, the government intensified these efforts by linking the accounts to its Direct Benefits Transfer (DBT) programme. After nearly ten years of consistent efforts at bringing the poor to the banking mainstream, the government has now acknowledged that there is still a long way to go. Providing the basic banking right is the first essential step towards financial inclusion and this involves a bank account for every adult. However, mere opening of accounts does not lead to successful and meaningful financial inclusion. Having a no-frills account is not financial inclusion. Only when transactions take place in that no-frills account regularly that financial inclusion takes place. Both public and private sector banks play a huge role in achieving comprehensive financial inclusion. At the same time, bank accounts are a key measure of financial inclusion because essentially all formal financial activity is tied to bank accounts. The focus of financial inclusion efforts has to be about understanding the needs of the poor, creating

awareness among them and helping in their economic upliftment. Financial Inclusion should be about partnering the poor in their development and handholding them in their journey towards moving to the mainstream (Sarma, 2015).

4.4 Major Initiatives towards Financial Inclusions in India

India has, for a long time, recognised the social and economic imperatives for broader financial inclusion and has made an enormous contribution to economic development by finding innovative ways to empower the poor. Starting with the co-operatives banks, nationalization of banks, priority sector lending requirements for banks, lead bank scheme, establishments of Regional Rural Banks (RRBs), service area approach, self-help group-bank linkage programme etc., and multiple steps have been taken by the Reserve Bank of India over the years to increase access to the poorer segments of the society. The Reserve Bank of India has set up a high level committee in October, 2012 to ensure accessible financial service and to increase the speed of financial inclusion in India. The improvements in the Indian regulatory framework to enhance the scope and depth of outreach of the financial system have been carried out in a gradual and phased manner.

4.4.1 Microfinance and SHG- Bank Linkage Programme

The term Micro Finance refers to extending the whole range of financial services from saving to credit to micro insurance to micro enterprises and a lot more for the proper sections of society whose sale of operations are so small and hence are generally excluded from the purview of the existing service provident. The SHG-Banks linkage programme which commenced as a pilot programme during 1992 to link 500SHGs with Bank (NABARD,

2011). Microfinance evolution in India had evolved through several phases over the past decades and have resulted multiple institutional models. SHGs, JLGs, for-profit non-banking companies, non-profit NGOs, non-profit trusts, and thrift and credit societies and all part of the microfinance sector in the country. Together they have helped extend the reach of basic financial services to sector of population who were historically treated as outsiders to the mainstream financial markets. Recent data (NABARD, 2014) shows a substantial decrease of nearly 6 per cent in the number of SHGs with outstanding bank loans to 4.2 million at the end of March 2014 as compared to the previous year.

Inspite of significant growth (20.4 percent) in bank savings of SHGs to nearly Rs. 99 billion, the number of savings-linked groups increased only marginally over 2013–14 with a consequent increase in average savings. Among the financing agencies, commercial banks continued to have the leading share (54 percent) in the number of SHGs with savings accounts, followed by RRBs (28 percent) and cooperative banks (18 percent). There has been no significant change over the years in the relative share of these agencies. Moreover, the share of diverse agencies remained unchanged in the case of loan outstanding too. The amount of bank loan outstanding against SHGs was Rs. 429.30 billion as on 31 March 2014. Of this Rs. 293.9 billion was accounted for by commercial banks, Rs. 110.5 billion by RRBs and Rs. 24.9 billion by cooperative banks, representing 68 per cent, 26 per cent and 6 per cent, respectively. The dilution of the role of SHGs as important financial intermediaries appears to be carried over to the financial inclusion model. This is due to the fact that the recent initiatives for financial inclusion concentrate on individual access and use of financial services.

4.4.2 General Credit Card

General Credit Cards was introduced by the Reserve Bank of India in 2005 and the banks were asked to introduce a General Purpose Credit Card (GCC) facility as a means of easier credit facility to people with small means and low income. The objectives of GCCs are to increase flow of credit to individuals for entrepreneurial activity in the non-farm sector. As on 31, March 2015, 9.2 million GCCs were issued by the commercial banks and the amount disbursement in this regard stood at Rs.1301.6 million when compared to 1.4 million and Rs.35.1 million respectively during the year ending 31, March 2010 (RBI, 2015).

4.4.3 No-Frills Accounts

In November 2005, a new concept of basic banking 'no-frills' account with 'nil' or very low minimum balance was introduced to make such accounts accessible to vast sections of the population. In 2012 the nomenclature was changed to Basic Savings Bank Deposit Accounts (BSBDAs) for all individuals with zero minimum balance and facility of ATM card/ Debit card, there is no charge on deposits and up to four withdrawals in a month are allowed. Every person has the right to open a basic account and the banks were advised to provide small overdrafts in such accounts to meet emergency credit requirement in hassle free manner. In November 2005, RBI asked banks to offer a basic banking 'no-frills' account with low or zero minimum balances and minimum charges to expand the outreach of such accounts to the low income groups. As on 31st March 2015 there were 398.1 million BSBDAs in the country (RBI, 2015).

4.4.4 Simpler Know Your Customer (KYC) Norms

In order to ensure that people belonging to the low income groups, both in urban and rural areas, do not encounter difficulties in opening bank accounts, the 'Know Your Customer' (KYC) procedure for opening accounts was simplified for those accounts with balances not exceeding Rs 50,000 and credits thereto not exceeding Rs.100,000 in a year. Know Your Customer (KYC) requirements for opening bank accounts were relaxed for small accounts in August 2005, thereby simplifying procedure. To facilitate easy opening of accounts especially for small customers, Know Your Customer (KYC) guidelines have been simplified to such an extent that small accounts can be opened without any documentation by just giving a self certification in the presence of bank officials. Further, in order to leverage on the initiative of UIDAI, 'Aadhaar', the unique identification number being issued to all citizens of India and was permitted to be used as one of the eligible document for meeting the KYC requirement for opening a bank account. Recently in September 2013, banks were allowed to provide e-KYC services based on Aadhaar, thus paving the way for account opening of all the people.

4.4.5 Engaging Business Correspondents

In January 2006, the Reserve Bank permitted banks to engage Business Facilitators (BFs) and Business Correspondents (BCs) as intermediaries for providing financial and banking services. The BC Model allows banks to provide door step delivery of services especially to do 'cash in and cash out' transactions, thus addressing the 'last mile' problem. The list of eligible individuals/entities who can be engaged as BCs is being widened from time to time. We have adopted a test and learn approach to this process. In

September 2010, RBI has allowed for profit organisations excluding NBFCs to operate as BCs. Banks can now leverage on the penetrative network of mobile companies. Mobile network companies have joined hands with banks to make available banking services to India's unbanked population. The agents of mobile companies work as Customer Service Providers (CSPs) and provide BC services, thus expanding the outreach of banks. The BC Model ensures a closer relationship between poor people and the organized financial system. Reorganizing this, in 2006, RBI permitted banks to use the services of non-governmental organizations, micro-finance institutions, retired bank employees, ex-servicemen, retired government employees, Section 25 companies, and other civil society organizations as Business Correspondents in providing financial and banking services. In addition to the entities presently permitted, RBI has also permitted banks to appoint the following entities as BCs (i) Individual kirana/medical/fair price shop owners, (ii) individual Public Call Office (PCO) operators, (iii) Agents of Small Savings schemes of Government of India/Insurance Companies, (iv) Individuals who own Petrol Pumps, (v) Retired teachers, and, (vi) Authorised functionaries of well run Self Help Groups (SHGs) linked to bank.

4.4.6 Use of Technology

Recognising that technology has the potential to address the issues of outreach and credit delivery in rural and remote areas, in a viable manner, commercial banks were advised to implement CBS so as to enable them to make effective use of ICT, to provide door step banking services through Business Correspondent (BC) model wherein the accounts can be operated by even illiterate customers by using biometrics, thus, ensuring the security of transactions and enhancing confidence in the banking system. RRBs, due to

their proximity to rural areas, have the inherent strength to scale financial inclusion, they have been roped in by bringing them on the CBS platform. A robust payment system is an essential adjunct of Financial Inclusion and in order to facilitate this, the Commercial Banks including Regional Rural Banks were migrated to the Core Banking Platform.

4.4.7 Electronic Benefit Transfer (EBT) through Banks

To encourage banks to adopt Information and Communication Technology (ICT) solutions for enhancing their outreach, the RBI formulated a scheme to quicken the pace of adoption of the smart card-based Electronic Benefit Transfer (EBT) mechanism by banks and rolled out the EBT system in the States that are ready to adopt the scheme. As per the scheme, the RBI would reimburse the banks a part of the cost of opening accounts with biometric access/smart cards at the rate of Rs.50 per account through which payment of social security benefits, National Rural Employment Guarantee Act (NREGA) payments, and, payments under other Government benefit programmes would be routed to persons belonging to Below Poverty Line (BPL) families. The scheme was implemented in Andhra Pradesh. So far, seven banks have been paid Rs.1.8 crore for smart cards issued by banks in Andhra Pradesh during July-December 2008. The process is at different stages of implementation in other states, such as, Karnataka and Uttarakhand and the scheme of partial reimbursement by the Reserve Bank has been extended by one year up to June 30, 2010. Banks are advised to work in coordination with the respective government departments at the Central and state levels to ensure that all government benefits are delivered to individuals only through bank accounts within a specific timeframe.

4.4.8 Bank Branch and ATM Expansion Liberalized

Reserve Bank of India has totally freed the location of ATMs from prior authorization. Further, in October 2009, RBI took another big step by freeing branch opening in towns and villages with a population below 49,999. After examining the recommendations of the Working Group constituted to review the extent of Branch Authorization Policy, RBI has permitted Domestic Scheduled Commercial Banks (other than Regional Rural Banks) to open branches in Tier 3 to Tier 6 centres (with population up to 49,999 as per Census 2001) without having the need to take permission from RBI in each case. The detailed RBI circular is available in its website www.rbi.org.in. Domestic scheduled commercial banks (other than RRBs) are enjoined to ensure that at least one-third of such branch expansion happens in the under banked districts of under banked states. This will be one of the criteria in the Reserve Bank's consideration of proposals by banks to open branches in major city (Tier 1 and Tier 2) centres.

4.4.9 Project Financial Literacy

Financial literacy is a stepping-stone toward financial inclusion. Moreover, as financial markets are becoming increasingly complex with serious problems of information asymmetry, the need for financial literacy has become even more acute. The Reserve Bank of India has initiated a "Project Financial Literacy" with the objective of disseminating information regarding the central bank and general banking concepts to various target groups. RBI's 'Financial Education' web site link offers basics of banking, finance and central banking for children of all ages. In a comic book format, RBI

simplifies the complexities of banking, finance and central banking, with the goal of making the learning fun and interesting.

Financial Literacy is an important adjunct for promoting financial inclusion and the RBI adopted an integrated approach, wherein the efforts towards Financial Inclusion and Financial Literacy go hand in hand. Through Financial literacy and education, dissemination of information on the general banking concepts to the diverse target groups, including school and college students, women, rural and urban poor, pensioners and senior citizens to enable them to make informed financial decisions. To ensure that the initiatives on the supply side are supported by initiatives on the demand side, we have nearly 800 financial literacy centres set up by banks.

In addition to this, the RBI has leveraged the infrastructure created at the state level, comprising of State Level Bankers Committee (SLBC) at the Apex which is ably supported by the Lead District Managers (LDMs) at the District level. Further the RBI has designed a mass scale Financial Literacy Program with an objective to integrate the financially excluded population with low level of income and low literacy level with the formal financial system. Financial Literacy Centres organize Outdoor Literacy camps which are spread over a period of three months and delivered in three phases wherein along with creating awareness, accounts are also opened in the Literacy camps the program has been received well on the ground as an integrated approach of financial inclusion through creating awareness and providing access simultaneously.

4.4.10 Financial Literacy and Credit Counselling

RBI has advised the convenor-bank of each State Level Bankers' Committee (SLBC) to set up a financial literacy-cum-counselling centre in

any one district on a pilot basis, and based on that experience, to extend the facility to other districts in due course. So far, 154 credit counselling centres have been set up in various states of the country. These centres are expected to provide free financial education to people in rural and urban areas on the various financial products and services, while maintaining an arm's-length.

4.4.11 Simplified Branch Authorisation

To address the issue of uneven spread of bank branches, in December 2009 domestic scheduled commercial banks were permitted to freely open branches in Tier 3 to Tier 6 centres with population of less than 50,000 under general permission, subject to reporting. In the second quarter review of Monetary Policy Branch authorisation has been relaxed to the extent that banks do not require prior permission to open branches even in tier I centres, subject to reporting.

4.4.12 Opening of Branches in Unbanked Rural Centres

As a further step for opening of branches in rural areas, banks have been mandated to open at least 25 per cent of the branches in unbanked rural centres. Banks have been advised to open small intermediary brick and mortar structures between the base branch and the unbanked villages. The idea is to create an eco-system for ensuring efficient delivery of services, efficiency in cash management, and redressal of customer grievances and closer supervision of BC operations. In order to encourage the banks to pursue this mandate, banks have been advised to consider front-loading (prioritizing) the opening of branches in unbanked rural centres over a three year cycle co-terminus with their FIPs. This is expected to facilitate quicker branch expansion in unbanked rural centres with a population more than 2000.

4.4.13 Roadmap for Banking Services in Unbanked Villages

With financial inclusion gaining increasing recognition as a business opportunity and with all banks geared to increase presence, we adopted a phase-wise approach to provide banking services in all unbanked villages in the country. On completion of the first phase where nearly 74000 villages with population more than 2000 were provided with a banking outlet, we are now in the second phase where the remaining unbanked villages, numbering close to 4, 90,000, are identified in villages less than 2000 population and allocated to banks, for opening of banking outlets by March 2016.

4.4.14 Direct Benefit Transfer

In the first phase of the journey towards financial inclusion, the focus was on establishing the basic right of every person to have access to affordable basic banking services and the banks were required to provide such banking services. Subsequently, the government intensified these efforts by linking the accounts to its direct benefit transfer scheme. Direct Benefit Transfer (DBT) means that monetary benefits will be directly transferred to the accounts of the common man, who is the beneficiary in the concerned. DBT aims to transfer funds directly from centre to beneficiaries, doing away with multiple layers of administration and leakages and delays. The introduction of Direct Benefit Transfer validating identity through Aadhaar will facilitate delivery of social welfare benefits by direct credit to the bank accounts of beneficiaries. Government proposes to route all social security payments through the banking network using Aadhaar as the based platform. In order to ensure smooth roll out of the Government's Direct Benefit Transfer (DBT) initiative, banks have been advised to open accounts of all eligible individuals in camp

mode with the support of local Government authorities, feed the existing and new accounts with Aadhaar numbers and thus creating an effective mechanism to monitor and review the progress in implementation of DBT.

4.4.15 Financial Inclusion Plan of Banks

Recently, the Government have encouraged banks to adopt a structured and planned approach to financial inclusion with commitment at the highest levels, through preparation of Board approved Financial Inclusion Plans (FIPs). Banks are encouraged to adopt a structured and planned approach to financial inclusion with commitment at the highest levels, through preparation of approved Financial Inclusion Plans (FIPs). The first phase of FIPs was implemented over the period 2010-2013. The Reserve Bank has used the FIPs to gauge the performance of banks under their FI initiatives. In this direction, the RBI have put in place a structured and comprehensive monitoring mechanism for evaluating banks' performance vis-à-vis their targets. A snapshot of the progress made by banks under the 3 year Financial Inclusion Plan (April 10 - March 13) for key parameters during the three year period indicates that banking outlets increased to nearly 2,68,000 banking as on March 13 as against 67,694 banking outlets in villages in March 2010. During the above 3 years 7400 rural branches have been opened . Nearly 109 million Basic Savings Bank Deposit Accounts (BSBDAs have been added taking the total no of BSBDA to 182 million. Share of ICT based accounts have increased substantially. The Percentage of ICT accounts to total BSBDA has increased from 25% in March 10 to 45% in March 13. About 4904 lakh transactions have been carried out in ICT based accounts through BCs during the three year period. Having completed the first plan period, it is revealed that there is a Access-Usage mismatch and a large banking network has been created along with the opening of large number of bank accounts. So, it is

observed that simply creating the banking infrastructure and opening bank accounts will not fulfill the ultimate objectives of achieving comprehensive Financial Inclusion. To take the process forward, banks have been advised to put forward fresh three year Financial Inclusion Plans for the period 2013-16. The focus under the new plan is to ensure that the large banking network created is utilized for extending varied products which will help making the business more viable for banks. This would also ensure that the large number of accounts opened results in an equally large volume of transactions taking place and people reap the benefits of getting linked to the formal financial institutions.

4.5 Progress in Financial Inclusion

In India, the regulators have adopted a bank-led model for financial inclusion, which seeks to be powered by technology. The Indian experience has shown that the goal of financial inclusion can be best served through mainstream banking institutions as only they have the ability to offer the entire suite of products necessary for effective financial inclusion. In fact, the mainstream financial players, i.e., banks have the ability to cross-subsidise across various products/services and offer the Financial Inclusion (FI) products in most efficient and cost-effective manner (Joshi, 2014). Progress of financial inclusion since the launch of financial inclusion plans clearly indicates that banks are progressing in areas like opening of banking outlets, deploying BCs, opening of BSBD accounts, grant of credit through KCCs and GCCs. Detailed trends are furnished below.

4.5.1 Select Banking Sector Developments in India

The banking sector developments such as Population per Office, Per Capita Deposit , Per Capita Credit , Share of Priority sector Advances in Total

Advances and Credit Deposit Ratio are some of the developments having their implication on financial inclusion. Hence, such banking sectors developments influencing the financial inclusion drive in India are given Table 4.4.

Table 4.4 Banking Sector Developments in India

Year ending March	Population per Office (in thousands)	Per Capita Deposit (Rs.)	Per Capita Credit (Rs.)	Share of Priority sector Advances in Total Advances (percent)	Credit Deposit Ratio (percent)
2005	16	16281	10752	32.2	62.6
2006	16	19130	13869	33.8	70.1
2007	15	23382	17541	33.1	73.5
2008	15	28610	21218	31.6	74.6
2009	15	33919	24617	30.3	73.8
2010	14	39107	28431	31.2	73.7
2011	13	45505	34187	30.6	76.5
2012	13	50183	38874	29.5	78.6
2013	12	56380	44028	28.8	79.1

Source: Reserve Bank of India .: Trend and progress banking in India, Various years

Table 4.4 shows that there has been a considerable decline in the population per office of commercial banks in India over the years. The per-capita deposit and per capita credit also shows remarkable progress during the recent period. Moreover, the credit deposit ratio of commercial banks continues to be in the higher levels during these years. But, the share of priority sector advance in the total advances of commercial banks continue to remain short of the statutory requirement target of forty percent over the years and it shows a negative trend during the past three years.

4.5.2 Usage of Banking Services in India

The Central Statistical Organisation (CSO, 2011) of the Government of India as a part of the National Census compiles the data on the usage of banking services among rural and urban households in India.

Table 4.5 Position of Households Availing Banking Services

Nature of Households	As per Census 2001	As per Census 2011	Percentage decadal increase
Rural	30.1	54.4	80.73
Urban	49.5	67.8	36.96
Total	35.5	58.7	65.91

*Figures in Percentage

Source: Government of India, Central Statistical Organization, 2011.

Table 4.5 reveals that there is remarkable (65.91 percent) increase in the total households availing banking services in 2011 when compared to the previous decade. The percentage increase in the usage of banking services among households was more (80.73) in the rural segment when compared to the urban (36.96) category.

4.5.3 Spread of Commercial Bank Offices and ATMs in India

As part of the financial inclusion policy of the Government and the Reserve Bank of India in India, physical as well as virtual expansion for banking through mobile banking, internet banking, tele-banking, mobile ATMs are taking place. To extend of the reach of banking to outside of formal banking system, the Government and Reserve Bank of India has taken various initiatives from time to time.

Table 4.6 Offices of Scheduled Commercial Banks in India

Year Ending March	Number of Bank Offices in India				
	Rural	Semi-urban	Urban	Metropolitan	Total
2004	32227	15288	11806	9750	69170
2005	30790	15325	12419	11839	70373
2006	30251	15991	13232	12598	72072
2007	30409	16770	14202	13272	74653
2008	30927	18027	15566	14267	78787
2009	31598	19337	16726	15236	82897
2010	32529	21022	18288	16364	88203
2011	33868	23299	19046	17806	94019
2012	36130	25931	20321	18879	101261
2013	39439	28691	21720	19961	109811
CAGR	2.04	6.50	6.29	7.43	4.73

Source: RBI, Trend and progress banking in India, Various years.

Table 4.6 shows the spread of commercial bank offices in India. The trend of bank offices shows positive growth rate during the past decades with a compounded growth rate of 4.73 percent. The table reveals that in all the cases of metropolitan, urban, semi urban, except in the rural segment, the growth rate of bank offices has been well above the national average of 4.73 percent. This would indicate that the commercial banks including the Regional Rural Banks prefers to open their offices in semi urban, urban and metro areas discarding the rural segment were the majority of the population is concentrated .

The advancement and progress of the Automated Teller Machines (ATM) as a means of banking transaction is widely appreciated. The growth

in the ATMs in India is depicted in Table 4.7.

Table 4.7 Growth in Number of ATMs in India

Year	Number of ATMs	Percentage change
2008	34789	0.00
2009	43651	124.47
2010	60153	172.91
2011	74505	214.16
2012	95686	275.04
2013	114014	327.73
2014	160055	460.07

Source: Reserve Bank of India, Statistics relating to commercial banks at a glance, Various Years.

Table 4.7 reveals that the number of ATMs increased by more than four and a half times as on 31st March 2014 when compared to 2008. This would indicate that ATMs are getting much popularity as a mode of banking transaction among the people.

4.5.4 Reach of Financial Inclusion in India

During 2011, the then Government launched the ‘Swabhimaan’ campaign to bring millions of unbanked people within the fold of formal banking. The entire financial institutional architecture was spearheaded by the banking sector and they were required to open new ultra small branches in every village with more than 2,000 populations, appoint banking correspondents, and open no-frills savings bank accounts. The government

would have felt that several entitlements through direct benefit transfers were expected to flow into these accounts, and it was expected that a large population of unbanked people would come into the mainstream financial system. Given the size, scale, and scope of the programme, it did become important to access and expand the ambit of its attention to the larger financial inclusion ecosystem unlike the earlier efforts like MFIs and SHGs which were slow in outreach (Nair and Tankha, 2014). The extent and reach of financial inclusion among the Indian population is represented in Table 4.8.

Table 4.8 Reach of Financial Inclusion in India

Population particulars	Percentage
Habitations in the country with a commercial bank branch	5
Bank accounts (savings)	57
Life insurance	10
Non-life insurance	0.6
Debit cards	13
Credit cards	2

Source: Reserve Bank of India Bulletin, April, 2011, p.486.

The table shows that only five percent of the habitations in the country have a commercial bank branch. Only fifty seven percent of the populations have a savings bank account. The use of insurance as a means of risk mitigation is found not widely acknowledged. The table reveals that only a small percent of the population uses insurance services. Merely a few percent of the population avail Life Insurance (ten percent) and

similarly at the same time a very low usage (0.6 percent) of non life insurance is found among the public. Further, among the population only thirteen percent uses debit cards and the credit cards are availed by a mere two percent of the population.

4.5.5 Financial Inclusion Plan Summary Progress of Banks

As part of the sustained effort to make advancements in the process of financial inclusion, the RBI decided to frame a conducive and enabling environment for accessing to financial services by extending door step banking facilities in all the unbanked villages in a phased manner.

Table 4.9 Banking Outreach in Villages in India

Year	Banking Outlets in Villages - Branches	Banking Outlets in Villages - BCs	Banking Outlets in Villages - TOTAL
2010	33,378	34,174	67,694
2011	34,811	80,802	1,16,208
2012	37,471	1,41,136	1,81,753
2013	40,837	2,21,341	2,68,454
2014	46126	337678	383804
2015	49571	504142	553713
CAGR	6.81	56.61	41.95

Source: Reserve Bank of India, Annual Report and The Trend and Progress of Banking in India, Various Issues.

For this, a structured and planned approach to financial inclusion was designed and a part of it, during January 2010, the Reserve Bank advised all

public and private sector banks to submit a three-year Financial Inclusion Plan (FIP) starting in April 2010. They were advised to devise FIPs congruent with their business strategy and comparative advantage and to make FIPs integral part of their corporate plans. The implementation of these plans was closely monitored by the Reserve Bank on a monthly basis through a quantitative reporting format. The qualitative aspects of the FIPs were monitored through a qualitative report submitted by banks every quarter. A snapshot of the progress made by banks under the two 3-year FIPs (April 2010-March 2015) on key parameters are given in table 4.9.

Table 4.9 shows that the total banking outlets in villages have increased to nearly 553713 from 67,694 outlets in March 2010 with a compound annual growth rate of 41.95 percent. The data reveals that there has been considerable improvement in the operation of Business Correspondents and during the five year period their performance has multiplied almost fifteen times in villages. This would indicate that the conscious efforts towards extending financial services to the villages are showing a positive trend.

The existing 'no-frills' accounts were converted to Basic Savings Bank Deposit Accounts (BSBDA) which will offer a variety of facilities; such as ATMs, no minimum balance, electronic transactions, no levy for non-operative accounts, etc. Table 4.10 highlights that 398.10 million Basic Savings Bank Deposit Accounts (BSBDAs) have been added as on 31st March, 2015, showing an impressive growth rate of 32.54 percent over the years. Basic savings bank deposit accounts opened through business correspondents also shows a remarkable increase during the period showing a

higher growth rate than those through the branches. But, the overdraft facility availed through basic savings bank deposit accounts show a dismal picture.

Table 4.10 Progress in Basic Savings Bank Deposit Accounts:

Year ending March	BSBDA through branches (No. in millions)	BSBDA through branches (In ₹.billions)	BSBDA through BCs (No. in millions)	BSBDA through BCs (In ₹.billions)	BSBDA Total (No. in millions)	BSBDA Total (In ₹.billions)	OD in BSBDA (No. in millions)
2010	60.19	44.33	13.27	10.69	73.45	55.02	0.18
2011	73.13	57.89	31.63	18.23	104.76	76.12	0.61
2012	81.20	109.87	57.30	10.54	138.50	120.41	2.71
2013	100.80	164.69	81.27	18.22	182.06	182.92	3.95
2014	126.00	273.30	116.90	39.00	243.00	312.30	5.90
2015	210.30	365.00	187.80	74.60	398.10	439.50	7.60
CAGR	23.18	42.10	55.53	38.24	32.54	41.39	86.61

Source: Reserve Bank of India, Trend and Progress of Banking in India and Annual Report, Various Issues

The table shows that in percentage terms the CAGR of overdraft availed in BSBD accounts shows good progress. But, the reality is far from satisfactory. Out of a total 398.1 million BSBD accounts, only 7.6 million accounts has availed overdraft facility which comes to a meagre two percent of the total. This indicates the gravity of the demand side challenges existing in the process of financial inclusion.

4.6 Financial Inclusion and the Agriculture Sector in India

Growth in agricultural sector is crucial for achieving an equitable and inclusive growth in India as a sizable proportion of its rural population still lives below the poverty line and around 53% of the population is engaged in agricultural and allied activities (Government of India, 2012). About 55% of the total land mass of 328.73 million hectare in the country is used for agricultural purposes (Government of India, 2013). Despite the fact that the economy witnessed a robust growth in the same period, the gap between agriculture and non-agriculture sector has further widened. As more than one half of the population depends upon agricultural and allied activities for a living in India, the agriculture sector is regarded as the key sector in which the financial inclusion initiatives are to be centered around. Several initiatives has been taken by the Government of India and RBI providing financial services to this large hitherto unserved population of the country to unlock its growth potential.

4.6.1 Sources of Agricultural Credit in India

The source of agriculture credit in India includes both institutional and non institutional means. In fact, the institutional credit has been able to play a pivotal role in the agricultural development of the nation. The Indian agricultural sector itself has become more complex, heterogeneous and also more credit intensive. If agricultural credit policy has to become inclusive, it has to move away from conventional lending practices and to adopt a more progressive stance taking into account the regional variation of this activity, the role of technologies, innovation, extension services and after all the various private players in this sector. The Government is trying its level best to expand the reach of the institutional credit to the farming

community. Recently, it has initiated the Kisan Credit Card (KCC) Scheme which has been successful to some extent. However, studies show that there are regional disparities in the issuance of this. A large number of institutional agencies are involved in the disbursement of credit to agriculture. However, the persistence of moneylenders in the agricultural sector is still a major concern.

Table 4.11 Sources of Agricultural Credit in India

Source	Government	Co-operatives	Commercial Banks	Money lenders	Others	Total
1951-1952	3.3	3.1	0.9	90.9	1.8	100.0
1961-1962	2.6	15.5	0.6	67.4	13.9	100.0
1970-1971	3.6	22.7	4.0	68.4	1.3	100.0
1981-1982	4.0	28.6	28.0	38.8	0.6	100.0
1991-1992	6.1	21.6	33.7	32.7	5.9	100.0
2002-2003	3.0	26.0	27.0	41.0	3.0	100.0
2010-2011	4.0	24.9	43.1	21.9	6.1	100.0
2012-2013	6.0	26.4	32.3	30.7	4.6	100.0

*Figures in percentages.

Source: Report of the all India rural credit review committee 1969, RBI bulletin and Economic Survey, various years.

Table 4.11 represents the various institutional and non institutional supply of finance to agriculture in India over the years. The credit requirement to agriculture has increased during the past four decades and the structure of sources of credit has witnessed a clear shift and commercial banks have emerged as the major source of such credit to agriculture in recent years. The table further, reveals that the major source of finance towards agriculture is provided by commercial banks. But, the co-operative sector and the money lenders also play a major role in this regard. Over the years the share of

commercial banks shows an increasing trend whereas, the co-operative banks were unable to increase their share of financing towards agriculture particularly during the past 3 decades. But, the sourcing by the money lenders is showing a diminishing trend over the years since independence. It would have been due to the initiatives taken by the government and the banking regulators towards provision of greater financial access by formal sources of finance. Further, the role of the Government in extending finance to agriculture continues to remain subdued over the years.

4.6.2 Agricultural Credit by the banking sector in India

In order to realise prosperity in the Indian economy, the financial services are to be extended towards the farming sector. As the co-operatives credit societies were unable to meet the credit needs of the farmers, commercial banks were called upon to support farmers by nationalizing commercial banks together with Regional Rural Banks.

Table 4.12 shows the agriculture credit disbursed by the banking sector in India since 2005. The table shows that there is an aggregate growth rate of 14.90 percent towards agriculture during the past eight years. The share of commercial banks continue to be at a higher rate of over seventy per cent during these years and compound growth rate is at 14.99 per cent, higher than the aggregate figure for the banking sector. The table further, reveals that Regional Rural Banks (RRBs) show a much better performance with their annual compound growth rate at the rate of 20.2 percent much above the rate of the banking sector. The table further reveals that RRBs were able to continue to marginally increase their share during these years. The co-operative sector showed only a moderate growth rate of 11.97 percent much below the growth rate of banking sector. Even though the credit disbursed to

agriculture by the co-operative segment showed increase in absolute terms, their relative share has marginally reduced during these years.

Table.4.12 Bank-Wise Credit Disbursed to Agriculture in India

Bank Year	1. Cooperative		2. RRBs		3. Commercial		Total (1+2+3)
	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)	
2005-2006	39404	22	15223	8	125859	70	180486
2006-2007	42480	18.52	20435	8.91	166485	72.57	229400
2007-2008	48258	18.95	25312	9.94	181088	71.11	254658
2008-2009	46192	15.30	26765	8.87	228951	75.83	301908
2009-2010	63497	16.51	35218	9.16	285799	74.33	384514
2010-2011	78121	16.68	44293	9.46	345877	73.86	468291
2011-2012	87963	17.21	54450	10.65	368616	72.13	511029
2012-2013	97356	17.75	66350	12.09	384715	70.15	548421
CAGR	11.97%		20.20%		14.99%		14.90%

*Figures in ₹ Crores

Source: Commercial bank data-IBA, Reserve Bank of India, various years.

Thus the table would indicate that commercial banks continue to be the major vehicle of agriculture credit in India and there by their capacity to participate in the financial inclusion programme is well recognized.

4.6.3 Prevalence Rate of Indebtedness among farmers in India

The Government of India task force on credit related issues of farmers (GoI, 2010) reports that it is a matter of great concern that while credit has doubled over the past few years, very large numbers of small and marginal farmers, especially, tenant farmers, oral lessees, share croppers and among these, woman continue to have difficulty in accessing agricultural credit from formal sources and their dependence on money lenders has disturbingly been on the increase. Moreover, the Task Force is of the view that the laws have become archaic and their implementation ineffective. Further, the benefit of the doubling of agricultural credit did not reach the large proportion of the small and marginal farmers who are the critical contributors to the food security of the nation, forming the major segment of the farming community. The prevalence of indebtedness among various farmer groups is presented in Table 4.13.

Table 4.13 Prevalence of Indebtedness among Farmers in India

Land Size (Ha)	Formal	Informal	Both	Total
<= 0.40 (Sub- marginal)	12.7*	30.3	03.5	46.5
0.40– 1.00 (Marginal)	18.8	21.7	04.6	45.0
1.0 – 2.00 2.0 (Small)	25.9	17.9	07.0	50.8
> 2.00 (Medium and Large)	34.7	14.4	08.6	57.8
Total	20.4	23.0	05.3	48.6

*Figures are in percentages.

Source: Computed using NSS unit level data 59th Round on Situation Assessment Survey of farmers, 2003.

The Table shows that the prevalence of indebtedness among farmers is in a progressing pattern according to the size of land holdings. The table

reveals that the rate of indebtedness to formal sources is at the very low of 12.7 percent in the case of the lowest land size category of farmers when compared to 34.7 per cent among the medium and large farmers. In addition to this, the informal source of indebtedness is more among farmers with less land holdings. Moreover, at the aggregate level, the indebtedness to informal sources (23 percent) is more than formal indebtedness (20.4 percent) among all the categories of farmers. Thus, the data on indebtedness would indicate that the formal sources are not able to meet the credit requirements of the farmers in general and the small and marginal farmers in particular.

4.6.4 Indebtedness among Farmer Categories by Size of Holdings

Indebtedness among farmer households is much prevalent among the small and marginal farmers, when compared to the semi medium, medium and large farmers (Rangarajan, 2008).

Table: 4.14 Status of Financial Inclusion in India among Farmers

Farmer Category	Size class (in Hectares)	Non-indebted farmer households (₹ in lakhs)	Exclusion by both formal and non formal source (%)	Proportion of non-indebted households (%)
Marginal	< 1	324.04	55.0	70.6
Small	1.01-2.0	78.68	49.0	17.1
Semi-Medium	2.01-4.0	39.10	41.8	8.5
Medium	4.01-10	14.84	34.9	3.2
Large	>10.0	02.60	33.6	0.6
All sizes		459.26	51.4	100

Source: Government of India, Report of the Expert group on Agricultural Indebtedness, 2010.

Table 4.14 reveals that the incidence of exclusion is much higher as regards the small and marginal farmers are concerned. The marginal farmers who account for 66% of all farm holdings remain by and large excluded from the these households access credit from formal banking sources. Thus, these segments of the farming community who constitute more than 80% of the farmers are deprived of the formal credit facility from the institutional sources. The declining trend of formal credit services among the lower size-classes of farmers would make the plight of this under privileged category even worse. Moreover, reports show that their dependence on informal sources has been disturbingly on the increase

4.6.5 Sources of Outstanding Loans by Farm Size in India

The objectives of agricultural policy in India are to make credit easily accessible to the all regions and classes of farmers on an equitable basis. Despite this, a skewed distribution of sources of credit across farmer groups has been found to persist. In view of glaring disparities in the distribution of agricultural credit across regions, it was observed that the benefits of institutional credit have largely accrued to the relatively prosperous regions and richer sections within each region (Kumar, Singh and Sinha, 2010). Further, there are variations in the distribution of credit among the different farmer groups.

The dependence on both institutional and non institutional loan sources of farmers is presented in Table 4.15. The table shows that the institutional sources of financing of farmers increases with increase in size of land holdings. Majority of the semi medium, medium and large farmers (66.8 percent) have institutional sources as their source of finance. Among the farmers, the institutional source of finance reduces with the reduction in the

farmers land holding. The table further reveals that the the farmers having lower level of land holdings namely; the sub-marginal (< 0.40 Ha), marginal (0.41-1.00 Ha) and the small farmers (1.01-2.00 Ha) have comparatively lower level of outstanding loans from the institutional sources and are more indebted to non-institutional sources. Thus the small and marginal farmers have lower access to institutional finance, whereas, the non institutional financing of farmers is more prevalent among smaller marginal farmers.

Table 4.15 Outstanding Loans by Farm Size and Sources in India

Source of loan	Size Class of Land Possessed (in Hectares)			
	< 0.40	0.41-1.00	1.01-2.00	> 2.00
Government	3.90	3.80	1.70	1.40
Co-operative society	14.10	17.00	20.50	22.80
Bank	24.40	32.00	35.40	42.60
Total: Institutional	42.40	52.80	57.60	66.80
Agricultural/professional Money lenders	32.40	30.80	25.90	20.00
Traders	4.90	4.60	4.20	6.00
Relatives & friends	15.20	9.10	8.80	5.20
Doctors, lawyers & other professionals	1.40	0.70	0.80	0.80
Others	3.60	2.00	2.60	1.20
Total: Non-Institutional	57.60	47.20	42.40	33.20

*Figures are in percentages.

Source: Government of India, Report of the Expert group on Agricultural Indebtedness, 2010.

Therefore, the table indicates that the source of institutional finance for farmers is influenced by the size of land holding and the vulnerable sections of the farming community, the small and marginal farmers have to depend more on non-institutional sources which would make their plight further worse.

4.6.6 Performance of Kisan Credit Cards in India

Realising the importance of enhancement of credit flow to the rural sector and reduction of the dependence of farmers on non-institutional sources of credit, NABARD introduced Kisan Credit Card (KCC) scheme in August 1998, with the objective of providing adequate, timely or without any delay, cost effective and hassle free credit support to farmers. The scheme was implemented across the country by the public sector commercial banks, RRBs and cooperative banks. This is a widely recognized initiative of the Government in providing short term credit to the farmers. The credit under the KCC scheme is sanctioned in proportion to the size of owned land, but there is flexibility provided for the farmers cultivating in leased land, in addition to their owned holding

The scheme has made a rapid progress and the growth in distribution of KCCs has been phenomenal. Remarkable progress was made by the commercial banks, cooperatives and the RRBs regarding the issuance of the KCCs. The performance of the credit cards in India is given in Table 4.16. The table reveals that the commercial banks are the highest providers of credit in the banking sector towards agriculture. They have a major share of 80.05 percent in the advances made under this scheme, followed by RRBs and Co-operative Banks with a share of 10.50 and 9.44 respectively as on 31st March 2013.

Table 4.16 Performance of Kisan Credit Cards in India

(*Amount in ₹ crores)

YEAR	Credit Flow to KCC							
	Cooperative Banks		Regional Rural Banks		Commercial Banks		Total	
	Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent
2000-01	9412	57.30	1400	8.52	5615	34.18	16427	100
2001-02	15952	61.69	2382	9.21	7524	29.10	25858	100
2002-03	15841	60.28	2955	11.25	7481	28.47	26277	100
2003-04	9855	45.24	2599	11.93	9331	42.83	21785	100
2004-05	15597	45.62	3833	11.21	14756	43.16	34186	100
2005-06	20339	42.64	8583	17.99	18780	39.37	47702	100
2006-07	13141	32.61	7373	18.30	19786	49.10	40300	100
2007-08	19991	41.10	8743	17.98	19900	40.92	48634	100
2008-09	13172	28.22	7632	16.35	25865	55.42	46669	100
2009-10	7606	13.19	10132	17.57	39941	69.25	57678	100
2010-11	10719	14.76	11468	15.79	50438	69.45	72625	100
2011-12	10640	11.61	11520	12.57	69510	75.82	91680	100
2012-13	11920	9.44	13260	10.50	101090	80.05	126280	100
CAGR	1.83%		18.88%		24.90%		16.99%	

Source: Reserve Bank of India, Annual Report, various years; Samantara , 2010; and NABARD, various issues.

The financing under KCC shows a compound annual growth rate (CAGR) of 16.99 percent. The commercial banks show the highest compound annual growth rate of 24.90 per cent followed by RRBs and Co-operative banks with compound annual growth rates of 18.88 percent and 1.83 per cent respectively. The Co-operative bank shows a dismal performance in the

provision of KCCs with their share in total advances steadily declining in the years. This would further indicate that the commercial banks have a major role to play in agricultural financing in India.

4.7 Financial Inclusion and the Agriculture Sector in Kerala

Financial inclusion in the agricultural sector needs no special emphasis. This segment of the economy is regarded as one of the most major vulnerable group due to its inherent limitations. The relatively unrewarding nature of this profession and progressive fragmentation of land holdings make the condition worse and necessitates conscious attempt to promote financial inclusion in this sector.

4.7.1 Households availing Banking Services in Kerala.

The latest census data (Census, 2011) reveals that out of the total 21 million households in the country, only 11.2 million come under the fold of the formal banking system. The overall percentage of households availing banking services in India was at 59 percent, signaling that nearly more than 40 percent of the population in India still remains unbanked. However, the figures for the State of Kerala differ widely. The status of households availing banking services in Kerala State is presented in Table 4.17. The table shows that 75.26 percent of households in Kerala are availing banking services. Thus, the percentage of households availing banking services in the State is much above the national figure of 59 percent. This would indicate that high levels of financial inclusion would prevail in the state due to greater coverage of mainstream banking services.

Table 4.17 Households availing Banking Services in Kerala.

Districts	Percentage of households availing banking services		
	Rural	Urban	Total
Thiruvananthapuram	64.51	69.92	67.37
Kollam	69.17	69.89	69.48
Pathanamthitta	77.70	79.40	77.88
Alappuzha	70.26	66.61	68.31
Kottayam	79.70	80.00	79.80
Idukki	76.38	81.41	76.61
Ernakulam	78.00	78.55	78.37
Thrissur	71.68	76.16	74.67
Palakkad	74.38	78.70	75.42
Malappuram	68.98	67.16	68.19
Kozhikode	71.70	72.71	72.37
Kannur	86.44	86.70	86.60
Kasaragod	83.32	81.05	82.46
Wayanad	75.59	74.00	75.53
Kerala Total	74.72	75.85	75.26

*Source: Government of India, Census, 2011.

4.7.2 Bank-Wise Flow of Credit to Agriculture in Kerala

The institutional finance support to the agricultural sector in Kerala is provided by in the commercial banks, Regional Rural Banks and the Co-operative banks.

Kerala has an extensive bank network and accounts for 4.2 percent of the total scheduled Commercial banks operating in the country on par with larger states like Bihar and Punjab (GoK, 2012). The financing of agriculture by banking sector is shown in Table 4.17.

Table.4.18 Bank-Wise Flow of Credit to Agriculture in Kerala

Year	Commercial bank		RRB's		Co-operatives		Total	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
2003-04	2579	56.45	775	16.96	1215	26.59	4569	100
2004-05	3884	56.67	1066	15.55	1904	27.78	6854	100
2005-06	4988	54.51	1290	14.10	2873	31.40	9151	100
2006-07	6618	55.59	1690	14.19	3598	30.22	11906	100
2007-08	9924	62.18	1931	12.10	4105	25.72	15960	100
2008-09	11796	62.68	2081	11.06	4941	26.26	18818	100
2009-10	14741	61.11	3090	12.81	6292	26.08	24123	100
2010-11	18857	65.82	2785	9.72	7008	24.46	28650	100
2011-12	22347	64.34	3976	11.45	8412	24.22	34735	100
2012-13	30412	68.07	4452	9.96	9816	21.97	44680	100
CAGR	27.99%		19.10%		23.24%		25.61%	

*Amount in ₹ crores. Source: Economic Review, Govt. of Kerala, Various years.

The table shows that the bank-wise flow of credit to agriculture in Kerala during the ten year period. Moreover, the table highlights that the compound annual growth rate of the whole banking sector in financing agriculture is 25.61 percent during the decade. Within the banking sector the commercial banks shows a higher compound annual growth rate of 27.99 percent of followed by RRBs and co-operative sector. In the total flow of

credit towards the agricultural sector over the years, the predominant progressive role of the commercial banks is well recognised. Whereas, the RRBs performance was not impressive, particularly during the later part of the decade with their share in the total credit flow registering less than ten percent during the final year. The rate of growth in advances by the commercial banks was found much better than the RRBs and commercial banks and is much above the aggregate growth rate of the aggregate banking sector in the state confirming their prominent role in serving the agriculture sector.

4.7.3 Priority Sector Credit by the Banking Sector in Kerala

Advances to the agriculture sector come under the priority sector advances as per the Reserve bank of India guidelines.

Table 4.19 Priority Sector Credit by the Banking Sector in Kerala

Sl.No	Year ending March	Priority sector (Target 40)	Agriculture (Target 18)	Weaker section (Target 10)	CD Ratio (Target 60)
1	2004	43.94*	15.41*	7.44*	53.81
2	2005	51.05	14.17	11.79	59.01
3	2006	53.47	15.91	12.40	66.84
4	2007	55.52	17.70	13.01	70.09
5	2008	58.53	21.23	12.91	71.39
6	2009	58.42	19.27	14.78	63.54
7	2010	60.01	22.46	16.16	67.63
8	2011	58.32	22.49	18.39	75.50
9	2012	57.34	24.25	19.33	75.57
10	2013	56.72	25.73	19.94	76.41

*figures are in percentages to net bank credit.
Source: SLBC, Kerala.

Out of the total advances, commercial banks are to lend 40 per cent to the priority sector and out of this, 18 per cent are to be advances to agriculture. Moreover, among the priority sector advances, twenty five percent is earmarked towards weaker sections, among whom the small and marginal farmers are included. Table 4.19 shows that the banking sector in Kerala was able to meet the priority lending targets and sub targets during the past decade. But regarding the share of agricultural credit, the banks failed to meet the stipulated target of eighteen percent in the earlier years and since 2008, they were able to meet the statutory requirement. Similarly, weaker section advance to the total credit also shows improvement since 2005 and except during the year ending March 2004, the banking sector maintained the targets well above the statutory requirement of 10% of their credit. Moreover, the CD ratio of the banking sector was found to be in a consistently improving manner. Thus, during the recent years the banks were able to meet the statutory requirements of targeted credit lending as desired by the Reserve Bank of India and the Government of India.

4.7.4 Number and Area of Operational Holdings in Kerala

The agriculture census compiled in every five years provides the state level and the national level developments in the agricultural sector. The number and area of operational holdings as per the latest agricultural census of the Kerala state is presented in Table 4.20. The table reveals the pattern of number and area of operational holdings among various size groups. The table reveals that majority of the operational holdings in Kerala are marginal (96.32 percent) followed by small holdings comprising of 2.64 percent. Large and medium holdings are comparatively very low with large holdings accounting for only 0.03 percent.

Table 4.20 Number and Area of Operational Holdings in Kerala

Sl. No	Size class (Hectares)	Number of operational holdings*	Area operated* (Hectares)
1	Marginal (Below 1.00)	6579692 (96.32)	885643.80 (58.62)
2	Small (1.00-1.99)	180171 (2.64)	282305.13 (18.69)
3	Semi-medium (2.00-3.99)	57028 (0.83)	159075.15 (10.53)
4	Medium (4.00-9.99)	12044 (0.18)	64063.02 (4.24)
5	Large (10.00&above)	1854 (0.03)	119728.65 (7.92)
6	All sizes	6830789 (100)	1510815.75 (100)

*Figures in paranthesis indicate the respective percentages
Source: Government of Kerala, Agricultural Census, 2011.

The table also reveals the disparities in the area operated by various categories of farmers. The combined small and marginal size class who constitute nearly 98.96 percent occupies only about 77 percent of the area operated, whereas, large medium and semi-medium farmers who constitute only one per cent has a 23 percent share in the area operated. Thus, there is wide disparity in the area operated among the various size groups in Kerala.

4.7.5 District-wise Operational Holdings of Farmers in Kerala

The distribution of operational holdings among farmers belong to various categories based on the size of holding is given in Table 4.21.

Table 4.21 District-Wise Operational Holdings by Size Class in Kerala

Sl. No	District	Marginal	Small	Medium and Large	Total
1	Thiruvananthapuram	98.99	0.79	0.22	100.00
2	Kollam	98.75	1.05	0.21	100.00
3	Pathanamthitta	96.95	2.48	0.57	100.00
4	Alappuzha	98.43	1.11	0.47	100.00
5	Kottayam	93.53	4.46	2.02	100.00
6	Idukki	87.98	8.88	3.15	100.00
7	Ernakulam	96.85	2.30	0.86	100.00
8	Thrissur	98.14	1.44	0.43	100.00
9	Palakkad	93.89	3.81	2.30	100.00
10	Malappuram	97.07	2.10	0.83	100.00
11	Kozhikode	97.43	1.95	0.71	100.00
12	Wayanad	88.79	7.65	3.56	100.00
13	Kannur	95.14	3.54	1.32	100.00
14	Kasargod	92.41	5.51	2.07	100.00
State Total		96.32	2.64	1.04	100.00

*figures are in percentages

Source: Government of Kerala, Agricultural Census, 2011.

Table 4.21 shows the percentage of farmers belonging to various size-classes in the various districts. In all the districts in Kerala, the marginal holders with less than one hectare of land forms the major group. The share of large holding is comparatively very low in all the districts of which the state average comes to only a meagre figure of only 1.04 percent and in all the districts there is a general uniform pattern of share of operational holdings

with higher share belonging to lowest size class and the lowest share by the highest size class.

4.7.6 Spread of Area Operated among Districts in Kerala

The district-wise distribution of area of operational holdings held by various size classes is given in Table 4.22.

Table 4.22 Spread of Area Operated among Districts in Kerala

Sl. No	District	Marginal	Small	Medium and Large	Total
1	Thiruvananthapuram	82.25	10.24	7.52	100.00
2	Kollam	74.50	10.20	15.3	100.00
3	Pathanamthitta	74.20	16.96	8.84	100.00
4	Alappuzha	74.70	12.23	13.07	100.00
5	Kottayam	48.82	23.83	27.34	100.00
6	Idukki	35.18	21.15	43.68	100.00
7	Ernakulam	59.12	19.70	21.20	100.00
8	Thrissur	74.75	15.47	9.77	100.00
9	Palakkad	44.59	20.80	34.62	100.00
10	Malappuram	65.09	17.09	18.82	100.00
11	Kozhikode	70.12	17.76	12.12	100.00
12	Wayanad	37.53	23.32	39.15	100.00
13	Kannur	61.30	21.58	17.13	100.00
14	Kasargod	50.44	23.59	25.97	100.00
State Total		58.62	18.69	22.69	100.00

*figures are in percentages.

Source: Government of Kerala, Agricultural Census, Agricultural Census, 2011.

Table 4.22 shows that unlike in the case of number of operational holdings there exist differences in the share of area operated among different size-classes of holdings. The maximum percentage of area operated was found in Thiruvananthapuram District (82.25 percent) and the lowest was found in Idukki District with a share of 35.18 percent. The percentage of medium and large holdings was high in Idukki and Wayanad districts with their share of 43.68 and 39.15 percent respectively. Thus even though there is similarity in the percentage of number of operational holdings, there is considerable variation in the area of operational holdings, among various size class in different districts in Kerala.

4.7.7 Credit Flow to Agriculture in Kerala

The share of agricultural sector in the Kerala's GSDP has been falling steadily over the years. There has been negative growth in this sector in all the years of the XIth plan except in the year 2008-2009. The performance of the agriculture sector has been volatile and fluctuated across the Plan Periods. It witnessed a negative growth rate of 1.3 per cent in XIth Five Year Plan while that of a positive growth of 1.8 per cent in the Xth Plan Period. The crippling growth rate in agriculture as against a reasonably robust annual growth rate of GSDP of the state is a cause of concern. Reviving the agricultural sector is essential as a large share of rural population in the state is dependent on agriculture for employment and livelihood (Government of Kerala, 2013). The commercial banks, the co-operatives and the RRBs were actively involved in financing this segment of the Kerala Economy. The annual credit flow to the agricultural sector is given in the following Table 4.23. The table reveals that the commercial banks continue to have the major share in

extending the credit flow to the agriculture sector in Kerala; whereas, the co-operative sector and the RRBs were unable to maintain their share in the credit flow to the agriculture sector.

Table 4.23. Credit Flow to Agriculture in Kerala

Banks	1999-00	2004-05	2011-12	2012-13	2013-14
Commercial Banks	1318.55	3884	25918	45054	48811
	(54.22)	(56.66)	(79.84)	(85.55)	(91.67)
Regional Rural Banks	331.06	1066	2849	3687	4811
	(13.61)	(15.55)	(8.77)	(7.00)	(9.03)
Co-operatives	782.11	1904	3695	3917	4433
	(32.16)	(27.77)	(11.38)	(7.43)	(8.32)
Grand Total	2431.72	6854	32462	52658	53245

*Figures in ₹ crores. *Figures in brackets shows percentage of total advances
Source: SLBC, Kerala State, various years.

The table shows the prominent role of commercial banks in extending credit to the agriculture sector and this would reaffirm the status of commercial banks to act as a catalyst in furthering financial inclusion particularly in the agricultural sector in Kerala and India.

4.7.8 Spread of Commercial Bank Branches in Kerala

Availability of adequate and affordable finance is a key determinant for the performance of an economy. Kerala has an extensive bank network and accounts for 4.2 per cent of the total scheduled commercial banks operating in

the country on par with larger states like Bihar and Punjab (KSLBC, 2012). All leading commercial banks have their presence in Kerala, with State Bank of India and State Bank of Travancore being the most dominant players. The spread of the commercial banks branches in Kerala for the period 2005-2014 is given in Table 4.24.

Table.4.24 Commercial Bank Branches in Kerala Since 2005

Year	Rural	Semi-Urban	Urban	Total
2005	653	2289	711	3653
2006	638	2369	726	3733
2007	516	2577	733	3866
2008	541	2663	860	4064
2009	514	2778	915	4207
2010	467	2878	965	4310
2011	474	3070	1029	4573
2012	484	3339	1088	4911
2013	499	3640	1140	5279
2014	433	3956	1299	5688
CAGR	-4.03	5.62	6.21	4.53

Source: SLBC, Kerala State, Canara Bank, Thiruvananthapuram.

The Table 4.24 reveals that the compound annual growth rate of commercial bank branches during the past decades shows a growth rate of 4.53 per cent. Regarding the spread of the bank branches, the rural branch shows a negative compound annual growth rate of -4.03 percent. Whereas, the semi urban and urban branches has grown during this period with a compound annual growth rate of 4.62 percent and 6.21 percent respectively

showing a growth rate well above the aggregate rate of the growth. This would indicate that the banks are neglecting the rural segment and are concentrating and promoting the semi urban and urban areas.

4.7.9 Progress of Self Help Groups in Kerala

One of the earliest efforts at enabling greater financial inclusion in India and in Kerala has been through the linking of informal self help groups (SHGs) with the formal banking system. In this process, Kerala has been a model for other states with its flagship bank linkage programme called 'Kudumbasree'. It provides high quality financial services to the poor, either individual or as part of a group, with the aim of helping them out of poverty. The SHG- Bank Linkage Programme has been accepted as an effective tool for inclusive growth by extending various financial services to the hitherto excluded category of poor rural households.

Table.4.25 Number of Self Help Groups Maintaining Savings Bank Account with Banking Sector in Kerala

Year	Women SHGs		Total SHGs	
	Number	Amount	Number	Amount
2009	276733	29751	307113	33814
2010	255524	34135	298997	41627
2011	321513	89639	367472	102468
2012	382593	44939	440104	62550
2013	369227	224182	426634	239797
2014	448732	87375	508305	109139
CAGR	8.39%	19.67%	8.76%	21.57%

*Amount in ₹ lakhs .

Source: SLBC, Kerala, NABARD, Annual Report, various years.

Table 4.25 shows the progress of SHGs and their association ship with the banking sector in Kerala. It is revealed that the number of SHGs maintaining savings bank account with banking sector shows a moderate increase over the years. The compound annual growth rate of the total number of SHGs showed a modest growth rate of 8.76 percent and the number of women SHGs also showed a relative progress of 8.39 percent. However, in terms of amount outstanding of these SHGs, the table shows a commendable growth of 21.57 percent. This would indicates that even though there is only a moderate increase in the number of SHGs linked with the formal banking sector, there is reasonable progress and growth in the amount outstanding in these accounts.

4.7.10 Progress of No-Frills (BSBD) Accounts and General Credit Cards in Kerala

No-Frills accounts were introduced by the Reserve Bank of India during the year 2005 to provide the financially excluded population an entry point to the formal financial system in furthering its initiatives to promote financial inclusion. Later during the year 2012, the Reserve bank of India renamed these types of accounts as basic bank deposit accounts. The general credit cards were also introduced as another tool to foster financial inclusion. Table 4.26 shows the progress in the BSBD accounts and General Credit Cards in Kerala. The above table reveals that there is considerable progress in the number of BSBD accounts opened during these years. Both the number and amount outstanding in the BSBD accounts shows remarkable progress during the period registering a compound annual growth rate of 41.83 per cent and 33.86 per cent respectively. Further, considerable improvement is also

noticed in the number and amount of overdraft issued on BSBD accounts. Regarding the GCCs, there is only moderate increase in the number of issued and the amount disbursed compared to the BSBD accounts.

Table.4.26 Growth in BSBD Accounts and GCCs in Kerala

Year	BSBD Account		Overdraft in No-Frills Account		GCC	
	Number	Amount	Number	Amount	Number	Amount
2012	1636941	27317.86	125	2.10	108069	20393.82
2013	3065381	36978.40	12564	121.74	111551	21244.87
2014	4670269	65526.00	24377	143.00	129909	65322.00
CAGR	41.83%	33.86%	479.90%	308.36%	6.33%	47.41%

*Amount in ₹ lakhs .

Source: SLBC, Kerala, various years.

Thus, BSBD accounts, the transformed No-Frills accounts which were introduced by the Reserve Bank of India as the basic step towards achieving financial inclusion shows commendable progress.

4.7.11 Progress of Kisan Credit Cards in Kerala

Implementation of the KCC scheme in the agricultural credit delivery system has been the watershed development in the history of agricultural credit in the post-independence period. In the domains of agricultural credit, the KCC scheme has been well received by the farmers as it has cost effectiveness and multiple benefits. Table 4.27 reveals the pattern of progress of the issuance of Kisan Credit Cards in Kerala, a successful weapon for financial inclusion among farmers in Kerala. The banking sector showed

reasonable progress in promoting Kisan Credit Cards with a compound annual growth rate of 8.64 per cent. The table shows the predominant role of commercial banks in the issue of Kisan Credit Cards in Kerala.

Table 4.27 Kisan Credit Cards issued by the Banking Sector in Kerala

Year	Bank Groups						
	Commercial Banks		Regional Rural Banks		Co-operative Banks		Total
	Number	% Share	Number	% Share	Number	% Share	Number
2009	1389455	43.66	443957	13.95	1348839	42.39	3182251
2010	1479576	41.68	474280	13.36	1595738	44.96	3549594
2011	1573220	41.85	501381	13.34	1684404	44.81	3759005
2012	1656919	41.25	550801	13.71	1808979	45.04	4016699
2013	2642542	54.87	635078	13.19	1538142	31.94	4815762
CAGR	13.72%		7.42%		2.66%		8.64%

Source: SLBC, Kerala.

The commercial banks account for more than one half of the share of KCCs issued in the State. Moreover, they are showing much progress in promoting KCCs with a compound growth rate of 13.72 percent which is well above the aggregate compound growth rate of 8.64 percent of the banking sector. RRBs showed a moderate growth rate of 7.42 per cent, whereas, the co-operative sector showed a dismal performance with a CAGR of only 2.66 percent. The Table 4.28 explains the financing of Kisan Credit Cards by the banking sector in Kerala. The commercial banks were able to share the major proportion of the financing under the KCC scheme in Kerala with their share increasing to 62.23 percent in the year ending March 2013.

The RRBs maintained their share in the total banking sector over the years, whereas, the co-operative banks failed to maintain their share as in the previous year's and are showing a negative trend in KCC financing during the years.

Table 4.28 Financing KCCs by the Banking Sector in Kerala

Year	Amount outstanding						Total
	Commercial Banks		Regional Rural Banks		Co-operative Banks		
	Amount	% Share	Amount	% Share	Amount	% Share	
2009	591477	50.87	154256	13.27	417038	35.87	1162771
2010	688798	51.84	176549	13.29	463264	34.87	1328611
2011	982576	54.64	225056	12.52	590575	32.84	1798207
2012	1184722	57.07	266026	12.82	625105	30.11	2075853
2013	1477437	62.23	321082	13.52	575779	24.25	2374298

*Amount in Rupees lakhs .

Source: SLBC, Kerala, NABARD, various years.

The data reveals that in aggregate terms there is considerable progress in promoting Kisan Credit Cards and it also highlights the lead role of commercial banks in promoting financial inclusion. in the Indian agricultural sector.

Thus, in this chapter, the trend and pattern of the initiatives towards financial inclusion by the banking sector in India and Kerala is presented. India has adopted a bank-led model for financial inclusion by introducing a bouquet of products related to savings, payments and credit together. It is

recognised that only the mainstream banking institutions have the ability to offer the suite of products required to bring in effective/meaningful financial inclusion. Progress of financial inclusion since the launch of financial inclusion plans clearly indicates that banks are progressing in areas like opening of banking outlets, deploying BCs, opening of BSBD accounts, grant of credit through KCCs and GCCs. Census data shows that 75.26 percent of households in Kerala are availing banking services which is much above the national figure of 59 percent. This would indicate that higher levels of financial inclusion would prevail in the state due to greater coverage of mainstream banking services. Further, the commercial banks are way ahead in promoting financial inclusion and their predominant role in this regard is well recognized.



Chapter 5

PROFILE OF THE SMALL AND MARGINAL FARMERS IN KERALA

<i>contents</i>	5.1	<i>Introduction</i>
	5.2	<i>Socio-economic Characteristics of Farmers</i>
	5.3	<i>Transaction Banking Services among Farmers</i>
	5.4	<i>Savings / Deposit Services among Farmer Groups</i>
	5.5	<i>Credit/Loan Services among Farmer Groups</i>
	5.6	<i>Insurance Services among Farmer Groups</i>

5.1 Introduction

The availability and use of financial services and assessing the level of financial inclusion of small and marginal farmers in Kerala forms the core of the theme of this study. The present study is conducted on the basis of selecting a representative sample from among the selected districts in Kerala. Accordingly, three districts in Kerala were subjected to detailed analysis; namely, Thiruvananthapuram, Thrissur and Wayanad during the year 2014. Sampling was done in such a way to represent the three geographical zones in Kerala, namely the south, central and the north zone. In this regard, the sampling plan was finalized to cover Thiruvananthapuram in the southern zone and Thrissur from the central and Wayanad from the northern zone.

Agriculture is a way of life and continues to be the single most important livelihood of the masses. Kerala's agricultural economy is characterized by its inherent vulnerability and a high degree of volatility. Despite, the fact that agriculture in Kerala has undergone significant structural changes and decline in share of GSDP from 26.9 Percent in 1990-91 to 9.1

percent in 2011-12, more than half of the population depends on agriculture and small and marginal holdings accounts for 98.96 percentage of operational holdings in the state. The basic stage of financial inclusion was highly successful in Kerala when compared to other major states in India. Further, the financial inclusion initiatives were successful to a great extent in the state as compared to other states in India. Hence, this study is conducted to understand the level of financial inclusion among small and marginal farmers in Kerala, who constitute the major vulnerable segment of the State. So, it is important to understand the demographic and economic features of small and marginal farmers in each district before proceeding with a detailed analysis regarding their availability, extent and utilization of financial services. Farmers are the primary unit of analysis under this study. A brief profile of socio-economic demographic indicators of small and marginal farmers surveyed in the study area is discussed in this chapter.

5.2 Socio-economic Characteristics of Farmers

Earlier studies have found that the major determinants of institutional source of finance for farmers include size of land holdings, caste, education, and their major occupation Kumar and Singha (2010). Moreover, their study found that socio-economic and demographic factors would determine the choice of agricultural credit among the farmers.

5.2.1 District-wise Distribution of Farmer Groups

The sample farmers are grouped into four categories; namely, Landless farmers, Sub-marginal farmers, Marginal farmers and Small farmers respectively according to their size of land holdings. The distribution is given in Table 5.1. The table reveals that majority of the farmers (41.17 percent)

belong to the sub-marginal category followed by marginal (25.33 percent), landless (17.83 percent) and small (15.67 percent) farmer categories respectively.

Table: 5.1 District-wise Distributions of Farmer Groups

Districts	Farmer Groups				
	Landless (< 0.1 Ha)	Sub- marginal (0.1- 0.4 Ha)	Marginal (0.4-1.0 Ha)	Small (1.0-2.0 Ha)	Total
	Number	Number	Number	Number	Number
Thiruvananthapuram	56 (28)	91 (45.5)	41 (20.5)	12 (6)	200 (33.33)
Wayanad	13 (6.5)	75 (37.5)	58 (29)	54 (27)	200 (33.33)
Thrissur	38 (19)	81 (40.5)	53 (26.5)	28 (14)	200 (33.33)
Total	107 (17.83)	247 (41.17)	152 (25.33)	94 (15.67)	600 (100.00)

Source: Primary Survey.*Ha refers to Hectares.

*Figures in parenthesis indicates percentages to row totals.

Sub-marginal farmers are found maximum in Thiruvananthapuram District (45.5 Percent) followed by Thrissur (40.5 Percent) and Wayanad Districts (37.5 Percent). Similarly landless farmers are found most in Thiruvananthapuram District (28 Percent) followed by Thrissur (19 Percent) and Wayanad Districts (6.5 Percent). Marginal farmers are found more in Wayanad (29 Percent) followed by Thrissur (26.5 Percent) and Thiruvananthapuram Districts (20.5 Percent). Similarly, small farmers are also found most in Wayanad District (27 Percent) followed by Thrissur (14 Percent) and Thiruvananthapuram Districts (6 Percent). Thus, the table

reveals that the farmer categories with increasing size of land holdings are found in Wayanad District when compared to Thrissur and Thiruvananthapuram districts.

5.2.2 Age-wise Classification of Farmer Groups

Age-wise distribution of farmer groups in Table 5.2 shows that majority of the farmers belong to the age group of 40-50 (38.50 Percent) followed by those belonging to the age group of 50-60 (28.67 Percent). Only 13.67 percent of farmers belong to the age group of below thirty years of age. The table reveals that within the age group of 40-50, majority belong to sub-marginal category (38.10 Percent), followed by marginal farmers with a share of 30.74 per cent.

Table: 5.2 Age-wise Distribution of Farmer Groups

Age (Years)	Farmer Groups									
	Landless		Sub-marginal		Marginal		Small		Total	
	No	Percent	No	Percent	No	Percent	No	Percent	No	Percent
<30	11 (13.41)	1.83	36 (43.90)	6	20 (24.39)	3.33	15 (18.29)	2.50	82	13.67
30-40	23 (21.10)	3.83	51 (46.79)	8.5	22 (20.18)	3.67	13 (11.93)	2.17	109	18.17
40-50	44 (19.05)	7.33	88 (38.10)	14.67	71 (30.74)	11.83	28 (12.12)	4.67	231	38.50
50-60	27 (15.70)	4.50	70 (40.70)	11.67	38 (22.09)	6.33	37 (21.51)	6.17	172	28.67
>60	2 (33.33)	0.33	2 (33.33)	0.33	1 (16.67)	0.17	1 (16.67)	0.17	6	1.00
Total	107	17.83	247	41.17	152	25.33	94	15.67	600	100.00

Source: Primary Survey *Figures in parenthesis indicates percentages to row totals.

5.2.3 Religion-wise Classification of Farmer Groups

Religion- wise classification of farmer categories is significant in this context, particularly considering the Sachar Committee recommendations which revealed that on many indicators Indian Muslims are even behind SC/ST communities particularly in the case of financial inclusion.

Table .5.3 Religion-wise Distribution of Farmer Categories

Religion	Farmer Groups									
	Landless		Sub-marginal		Marginal		Small		Total	
	No.	Percent to Total	No.	Percent to Total	No.	Percent to Total	No.	Percent to Total	No.	Percent to Total
Hindu	68 (17.39)	11.33	177 (45.26)	29.5	92 (23.53)	No.	54 (14)	9	391	65.17
Christian	17 (12.88)	2.833	43 (32.57)	7.167	45 (34.09)	15.3	27 (20)	4.5	132	22
Muslim	20 (26.67)	3.333	27 (36)	4.5	15 (20)	7.5	13 (17)	2.17	75	12.5
Others	2 (100)	0.333	0 (0)	0	(0)	2.5	(0)	0	2	0.333
Total	107	17.83	247	41.17	152	0	94	15.7	600	100

Notes: .Figures in Parentheses indicates the percentage to the row totals.

Source: Primary Survey.

Table 5.3 shows that majority of the farmers belong to the Hindu community (65.17 percent) followed by Christians with a share of 22 percent and the Muslims with a meagre 12.5 Percent. Majority of the Hindu's and the Muslim's are sub-marginal farmers aggregating to 45.26 percent and 36 percent respectively; whereas, marginal farmers are found more (34.09 percent) among Christian community. Thus the table indicates that higher size

of land holdings are found among the Christian community when compared to the Hindus and Muslims. Moreover, it can be inferred from the table that the second prominent religious group in Kerala, the Muslim community with the lowest proportion in the sample lags far behind in availing the financial services in the State.

5.2.4 Major occupation-wise Classification of Farmer Groups

Studies across the world have found that the type of occupation is one of the important determinants of access to credit and savings (Peachy and Roe, 2006). In another study to assess the progress of financial inclusion in the State of West Bengal, occupation has also been given focus among the socio-economic indicators which also covered literacy, landholding pattern in rural areas, rural indebtedness and people's opinion about banking services in India (Chattopadhyay, 2011).

The farmers are classified according to their major occupations and presented in Table 5.4. The table shows that agriculture is the major occupation of farmers (57 per cent) followed by employment, agricultural labours and tenant farmers, service and small industry with the shares of 19.16 percent, 12.34 percent, 6.16 percent, and 5.34 percent respectively; whereas, majority of the farmers (66 percent) having agriculture as their major occupation are small farmers and only small segment among them are landless. A major portion (71.62) of the agricultural labours and tenant farmers belong to landless category. Thus, landless category farmers are mostly agriculture labors constituting a proportion of 8.83 percent followed by those with agriculture (6 percent) as their main occupation.

Table 5.4 Major Occupation-wise Classification of Farmer Groups

Occupation	Farmer Groups				
	Landless	Sub-marginal	Marginal	Small	Total
	Percent	Percent	Percent	Percent	Percent
Agriculture	6.00 (5.263)	24.83 (43.567)	18.16 (31.87)	66 (19.298)	57.00 (100)
Small Industry/Rural Artisans	1.33 (25)	1.83 (34.375)	1.16 (21.88)	6 (18.75)	5.34 (100)
Service	1.83 (29.73)	2.00 (32.432)	1.16 (18.92)	1.16 (18.919)	6.16 (100)
Employment	2.83 (14.78)	10.00 (52.174)	3.83 (20)	2.50 (13.043)	19.16 (100)
Agriculture. labourers & Tenant farmers	8.83 (71.62)	2.50 (20.27)	1.00 (8.108)	0.00 (0)	12.34 (100)

* 1. The figures represent the percentage of total sample size.

2. Figures in Parentheses indicate the percentage to the row total.

Source: Primary Survey.

Farmers with their main occupation as employment, small industry and service are mostly sub marginal farmers with their share of 52.17 percent, 34.37 percent and 32.43 percent respectively.

5.2.5 Education-wise Classification of Farmer Groups

One of the key contributors for financial exclusion is reported to be the low level of education (Devlin, 2009). Education is the path through which the process of financial inclusion is achieved. In fact, a testimony to India's progress to this is the improvement of India's Human Development Index and the prominent legislations such as the 83rd Constitution Amendment Bill, which upholds the right to primary education as a fundamental right. Such

foresighted enactments enacted in recent years would validate the case that India is a country well on the highway to progress (UNDP, 2008).

Table 5.5 shows that the majority of farmers have secondary education (38.5 percent) followed by primary education (26.67 percent), higher secondary (23.50) and graduation (11.33) levels. Moreover, the aggregate figures show that majority of the farmers belong to sub-marginal farmer with secondary and higher secondary level of education with a share of 17.83 percent and 10.33 percent respectively.

Table 5.5 Education-wise Distribution of Farmer Groups

Education	Farmer Groups				
	Landless	Sub-marginal	Marginal	Small	Total
	Percentage	Percentage	Percentage	Percentage	Percentage
Primary and below	10.83 (40.63)	9.83 (36.88)	4.50 (16.86)	1.50 (2.17)	26.67 (100)
Secondary	3.67 (9.52)	17.83 (46.32)	10.17 (26.41)	6.83 (17.75)	38.50 (100)
Higher Secondary	2.33 (9.93)	10.33 (47.33)	6.33 (26.95)	4.50 (19.15)	23.50 (100)
Graduation and above	1.00 (8.82)	3.17 (27.94)	4.33 (38.24)	2.83 (25.00)	11.33 (100)
Total	17.83 (100)	41.17 (100)	25.33 (100)	15.67 (100)	100.0 (100)

Note: 1. The figures represent the percentage of total sample size.

2. Figures in Parentheses indicate the percentage to the row total.

Source: Primary Survey.

The table further indicates that within the different education categories, those with primary level of education are mostly landless farmers (40.63 percent) followed by sub-marginal farmers with a share of 36.88

percent. Those with secondary level of education are mostly sub-marginal farmers with a share of 46.32 percent followed by marginal farmer with a share of 26.41 percent. Similarly, among the farmers with higher scrutiny level of education, majority belong to sub-marginal farmers with a share of 47.33 percent followed by marginal farmers with a share of 26.95 percent. Among the farmers with the education level of above graduation, a major share are marginal farmers followed by sub-marginal and small farmer with their proportion of 3.24 percent, 27.94 percent and 25 percent respectively. However, those farmers with primary and below primary level of education, most belong to landless category with their share of 40.63 percent. This would indicate that more size of land holdings are found among farmers with higher levels of education.

5.2.6 Age-wise Classification of Farmer Customers among Different Bank Groups

Table 5.6 reveals the age wise distribution of farmers according to the type of the bank with which they are associated. Table 5.6 shows that majority (37 percent) of the respondents belong to the age group of 40-50. Further, majority of the farmer customers of Kerala Gramin Bank (8.83 percent) and Co-operative Banks(11.66 percent) belong to the age group of 40-50. However, a majority of the farmer customers of the State Bank Group and Nationalised Banks stands in the age group of 50-60. Moreover, the table highlights that an overwhelming share of Farmers (68 per cent) having formal bank accounts belong to the age between 40 and 60. This would indicate that among most of the small and marginal farmers belong to the age groups of 40-50 and 50-60.

Table 5.6 Age-wise Distribution of Farmers among Bank Groups

Age Group	Bank				Total
	State Bank Group	Nationalized Banks	Gramin Bank	Co-operative Bank	
<30	3.50	3.66	3.66	3.34	14.17
30-40	3.84	3.66	4.34	5.84	17.66
40-50	8.66	7.84	8.83	11.66	37.00
50-60	9.00	9.67	8.17	4.16	31.00
>60	0.00	0.17	0.00	0.00	0.16
Total	25.00	25.00	25.00	25.00	100.00

*Figures are in percentages. Source: Primary Survey.

5.3 Transaction Banking Services among Farmer Groups

The World Bank (2006) has suggested financial inclusion indicators regarding service for individuals and households. These were regarded as core components of service of individuals and households in the use of financial services. Transaction of financial services refers to use of cash or other means such as cheques, debit cards or credit cards to make or receive payments. At a basic level it means obtaining cash for personal use, the withdrawals and converting cheques to cash at a broader perspective, Transactions also include payments and receipts through financial networks both at domestic and international level.

Table 5.7 shows the usage of transaction services among the various farmer groups. The data reveals that among the transaction banking services,

ATMs are the most widely used mode of transacting banking services. A vast majority of farmers (81.83 percent) use this mode of transaction. Among the farmer groups more use of ATMs are found among the small farmers (96.81 percent) followed by sub-marginal farmers and marginal farmers with their respective shares of 91.5 percent and 87.5 percent respectively. However, among the landless farmer group, only a considerably small percent of 38.32 persons use the methods. Mobile banking is not found popular among the small and marginal farmers.

Table 5.7 Use of Transaction Banking Services among Farmers*

Farmer Group	Transaction banking services									
	ATMs		Mobile Banking		Internet Banking		Cheque/DD		Pension Through Banks	
	No	%	No	%	No	%t	No	%	No	%
Landless	41 (107)	38.32	4 (107)	3.74	1 (107)	0.93	17 (107)	15.89	6 (107)	5.61
Sub-marginal	226 (247)	91.50	11 (247)	4.45	3 (247)	1.21	86 (247)	34.82	16 (247)	6.48
Marginal	133 (152)	87.50	8 (152)	5.26	5 (152)	3.29	76 (152)	50	11 (152)	7.24
Small	91 (94)	96.81	9 (94)	9.57	7 (94)	7.45	77 (94)	81.91	17 (94)	18.09
Total Users	491 (600)	81.83	32 (600)	5.33	16 (600)	2.67	256 (600)	42.67	50 (600)	8.33
Total Non-Users	109 (600)	18.17	568 (600)	94.67	584 (600)	97.33	344 (600)	57.33	550 (600)	91.67
Total Users and Non-users	600	100	600	100	600	100	600	100	600	100

Source: Primary Survey.

*Notes: 1. Figures in parenthesis along rows shows the respective totals of farmer categories.

2. Figures in percentages do not add up due to the probable mutual inclusiveness of the service users.

Only 5.33 percent among them are found to be using this method. Among the various farmer groups, mobile banking is found more in use among small farmers (9.57 percent), followed by marginal, sub-marginal and landless farmers among whom the usage is reported to be 5.26 percent, 4.45 percent and 3.74 percent.

Moreover, the internet banking mode of transacting banking business is found to be not much popular among the small and marginal farmers. Only a mere 2.67 percent of them used this method for banking transaction. Moreover among the various groups, this method is more used among small farmers (7.45 percent) followed by marginal, sub-marginal and landless farmers with their respective shares of 3.29 percent, 1.21 percent and 0.93 percent respectively. Among farmers, use of Cheques and Demand Drafts were found to be used by less than half (42.67 percent) among the small and marginal farmers. Moreover, Cheques and DDs were found most popular among the small farmers (81.91 percent), followed by marginal, sub-marginal and landless farmers among whom the usage is reported to be 50 percent, 34.82 percent and 15.89 percent respectively. Routing social security and other pension through banks is being promoted by the government recently. The analysis reveals that only 8.33 percent of the small and marginal farmers use this system for receiving pensions. Moreover, this is more popular among small farmers (18.09 percent), followed by marginal, sub-marginal and landless farmers among whom the usage is reported to be 7.24 percent, 6.48 percent and 5.61 percent respectively. Thus the analysis of the use of transaction banking services reveals that wider use of such services are found among the small farmers followed by marginal, sub-marginal and landless farmers respectively. This would indicate that farmers having more land

holdings are more capable in using the traditional as well as the modern means of banking transactions.

5.4 Savings / Deposit Services among Farmer Groups

Saving helps to safeguard and accumulate wealth by the individual for future use. Various forms of savings such as savings bank deposits, recurring deposits and fixed deposits are considered for the present study. Financial inclusion envisages savings products according to the specific requirements of the individuals (Rangarajan, 2008). The vulnerable groups of the population require savings /deposits products suitable to their varied needs; such as, for meeting lifecycle needs, creating assets, repaying high cost borrowings and also for emergencies. Savings can smooth irregular income patterns and meet basic individual needs. Once a savings culture is established, the need for the safety of a formal financial institution becomes a necessity. Hence, savings offer a stable spring board for the individuals. A recent study on India emphasized for greater domestic savings from the households sector. This surplus would go to the deficit private and public sectors and would clearly highlight the potentially positive use of savings to support economic growth (Singh, 2010).

Table 5.8 shows the deposit services utilized by the various categories of small and marginal farmers. Most of the farmers (86.33%) have savings bank deposit accounts. The fixed deposit and recurring deposit accounts together accounts for a mere 9% among the farmers. Among the various categories of farmers, savings bank deposit accounts were found most among marginal farmers (94.08 percent) followed by small farmers, sub-marginal farmers and landless farmers with the percentages of 91.49, 87.45 and 68.22

respectively. But, fixed deposit and recurring deposit accounts are found mostly among small farmers (27.66) followed by marginal (8.55), sub-marginal (4.55) and landless farmers (3.74) respectively.

Table 5.8 Savings/Deposit Services among Farmers*

Farmer Group	Savings/Deposit Services			
	Savings Bank Deposit		Fixed Deposit/ Recurring Deposit	
	No	Percent	No	Percent
Landless	73 (107)	68.22	4 (107)	3.74
Sub-marginal	216 (247)	87.45	11 (247)	4.45
Marginal	143 (152)	94.08	13 (152)	8.55
Small	86 (94)	91.49	26 (94)	27.66
Total Users	518 (600)	86.33	54 (600)	9.00
Total Non Users	82 (600)	13.67	546 (600)	91.00
Total Users and Non - users	600	100	600	100

Source: Primary Survey.

*Notes: 1. Figures in parenthesis along rows shows the respective totals of farmer categories.
2. Figures in percentages do not add up as the probable mutual inclusiveness of the service users.

Thus, the savings/deposits modes adopted by small and marginal farmers indicate that they do not command the capacity to have fixed means of investment through formal means.

5.5 Credit/Loan Services among Farmer Groups

Credit is another aspect having prime importance in the process of financial inclusion. It refers to availing funds from a third party with a repayment together with interest and other charges. Table 5.9 shows the

different types of credit services availed by different farmer groups. Most of the farmers (88.33) have availed short term loans. Among the different farmer groups, short term loans were taken mostly by the small farmers followed by marginal farmers, sub-marginal farmers and landless farmers respectively with their respective shares of 91.49 percent, 89.47 percent, 87.85 percent and 85.05 percent respectively.

Table 5.9 Credit/Loan Services among Farmers*

Farmer Group	Credit/Loan Services					
	Short term		Medium term		Long term	
	No	Percent	No	Percent	No	Percent
Landless	91 (107)	85.05	7 (107)	6.54	3 (107)	2.80
Sub-marginal	217 (247)	87.85	13 (247)	5.26	11 (247)	4.45
Marginal	136 (152)	89.47	15 (152)	1.87	17 (152)	11.18
Small	86 (94)	91.49	21 (94)	22.34	17 (94)	18.09
Total Users	530 (600)	88.33	56 (600)	9.33	48 (600)	8.00
Total Non Users	70 (600)	11.67	544 (600)	90.67	552 (600)	92
Total Users and Non-users	600	100	600	100	600	100

Source: Primary Survey.

- *Notes: 1. Figures in parenthesis along rows shows the respective totals of farmer categories.
2. Figures in percentages do not add up as the probable mutual inclusiveness of the service users.

Thus, the table reveals that the pattern of credit facilities utilized by small and marginal farmers would indicate that higher order credit facilities were availed of by the farmers having higher levels of land holdings.

5.6 Insurance Services among Farmer Groups

Insurance is another key element of the financial inclusion. It helps to restrict the chances of losses, particularly of poor households. Agriculture is an uncertain business in India, leaving over 120 million farmer households vulnerable to serious hardship. By providing timely claim payments to farmers in the event of losses, agricultural insurance can establish the welfare of risk averse farmers. In India, more than 80 percent of 'small and marginal' Indian farmer households are operating in less than two hectares of land. (World Bank, 2014). Affordable agricultural insurance would act as collateral against loans, enhancing the creditworthiness of farmers and allowing them the opportunity to invest in most appropriate inputs to raise agricultural productivity (Hazell, 1992). The insurance segment consists of both micro insurance and formal insurance. Both these elements of insurance are considered for the analysis.

Table 5.10 shows the different types of insurance services availed by different farmer groups. Most of the farmers (44 percent) have availed micro insurance. Among the different farmer groups, micro insurance coverage is mostly utilized by the small farmers (67.02 percent) followed by marginal farmers, sub-marginal farmers and landless farmers respectively with their respective shares of 44.08 percent, 43.32 percent, and 25.23 percent respectively. Only a small percent of farmers (21.67 percent) have a formal insurance coverage. Among the different categories of farmers groups, formal insurance coverage is availed mostly by the small farmers with their share of 45.74 percent. Low coverage of formal insurance persist within the farmer categories of the marginal farmers, sub-marginal

farmers and landless farmers with the respective proportions of 25 percent, 13.36 percent and 14.95 percent respectively.

Table 5.10 Insurance Services among Farmers*

Farmer Group	Insurance Services			
	Micro Insurance		Formal Insurance	
	No	Percent	No	Percent
Landless	27 (107)	25.23	16 (107)	14.95
Sub-marginal	107 (247)	43.32	33 (247)	13.36
Marginal	67 (152)	44.08	38 (152)	25
Small	63 (94)	67.02	43 (94)	45.74
Total Users	264 (600)	44	130 (600)	21.67
Total Non Users	356 (600)	56	470 (600)	78.33
Total Users and Non - users	600	100	600	100

Source: Primary Survey.

*Notes: 1. Figures in parenthesis along rows shows the respective totals of farmer categories.

2. Figures in percentages do not add up as the probable mutual inclusiveness of the service users.

Thus, the pattern of insurance coverage among the small and marginal farmers would indicate that the risk mitigation strategies through insurance coverage are found more among farmers with increasing size of land holdings.

To sum up, the present chapter gives an overview of the profiles of the respondents belonging to the different categories of small and marginal farmers in Kerala. Various socio-economic and demographic summarisations of farmers are given in this chapter. Farmers with increasing size of land

holdings are found in Wayanad District. Majority of the farmers belong to the age group of 40-50. Among the prominent religious groups in Kerala, the percentage of Muslims was comparatively low among the respondents. Agriculture is reported to be the major occupation of the farmers and majority of them have secondary level of education. The use of ATMs (81.83 percent) is found to be the popular mode of transaction banking. Among the investment methods adopted by farmers, savings bank (86.33 percent) usage is found quite popular. The pattern of credit facilities indicate that long term credit facilities were availed by farmers having higher levels of land holdings. Likewise, insurance services were also not found adequately utilised by farmers as a risk mitigation tool. The detailed analysis and results regarding financial inclusion of the small and marginal farmers by the banking sector in Kerala are explained in the forth coming chapters.



Chapter 6

FINANCIAL INCLUSION OF SMALL AND MARGINAL FARMERS IN KERALA

<i>Contents</i>	6.1	<i>Introduction</i>
	6.2	<i>Financial Inclusion: The Analytical Framework</i>
	6.3	<i>Distribution of Financial Inclusion Index among selected variables</i>

6.1 Introduction

The present chapter examines the extent of financial inclusion in Kerala, based on the data derived from the sample survey among the small and marginal farmers in the State. Financial inclusion has been the key philosophy for sustainable growth and development with equity. The increased attention towards financial inclusion is due to the fact that empirical evidences exhibit a gamut of benefits, both at the individual micro-level and at the broad macro-level, ultimately promoting all-round well being. Most of the earlier financial inclusion studies were based on aggregate macro-level data making it impossible to estimate the impact of policy measures across individual socio-economic characteristics. As the process of financial inclusion is a continuum with a wide range of scope between the extremities and as the initiatives towards greater financial inclusion has been on the move for several years in India, it would be appropriate to assess the degree of inclusiveness achieved within the sectoral and sub-sectoral segments of the economy. These type of enquiries

based on unique individual-level data from the perspective of the users of financial services helps to disaggregate financial inclusion by key respondent characteristics including gender, age, education, income, employment and such other characteristics (Allen, Demircuc-Kunt, Klapper and Martinez Peria, 2012). The primary level assessment of financial inclusion initiatives by the regulators necessitates the individual household level estimation of the extent of financial inclusion. For this purpose, households' access to formal financial service providers has been quantified using usage dimension variables representing Transaction Services, Savings/Deposits, Credit/ Loan, and Insurance Services (Mylenko and Park, 2015).

6.2 Financial Inclusion: The Analytical Framework

6.2.1 Financial Inclusion Index

Constructing a quantified value for financial inclusion of the study group would be of much help to assess the extent of financial inclusion among the subjects under study in an objective manner. Therefore, in order to measure the extent of financial inclusion, it would be most appropriate to construct a Financial Inclusion Index. The Index would provide a composite measure to assess the extent of financial inclusion among the study group, taking into account the different indicators of financial inclusion. This would not only help to assess the extent of financial inclusion, but also play a key role in the national efforts to achieve greater financial inclusion. In the present day context in which the government and the regulators pursue various financial inclusion efforts, there is much relevance to measure the level of financial inclusion among one of the major vulnerable segments of our economy, the small and marginal farmers. Such measures would help the regulators to further the process of financial inclusion by executing future

oriented initiatives with the adoption of latest technology to extend the reach of financial services among the much needed marginalized segments of the economy.

6.2.2 Selection of Variables and Assigning Weights

The extent of financial inclusion among the small and marginal farmers in the State of Kerala is assessed by constructing a Financial Inclusion Index. The Financial Inclusion Index is the scale to measure the extent of financial inclusion among the small and marginal farmers in Kerala. While constructing the index, it was decided to go for a single composite index which includes the inclusion variables considering the different recognized modes of financial services such as Transaction services, Savings/Deposits, Credit/ Loan and Insurance services. The present study, while constructing the composite index of financial inclusion, appropriate weights were given to different financial usage indicators according to their relative importance identified through the pilot study and relevant empirical findings.

Transaction Services: Transaction services refer to use of cash or other means such as cheques, debit cards or credit cards to make or receive payments. At a broader perspective, transactions include payments and receipts through financial networks. At a basic level it means obtaining cash for personal use, the withdrawals and converting cheques to cash. Financial transactions are reported to be helpful to individuals and businesses in managing their daily financial affairs (World Bank, 2015). A few of the World Bank working papers also report about the assessment of financial transactions at the individual level to assess the grass root level percolation and extent of financial inclusion initiatives within and across nations. The present study considers the usage of transactions by the small and marginal

farmers such as cheques, Demand Draft, ATM/Debit cards, Mobile Banking, Internet Banking and also Government payments.

Credit/Loan: Credit is another aspect having prime importance in the process of financial inclusion. It refers to availing funds from a third party with a repayment together with interest and other charges. Advanced credit services would be for medium to longer durations. The Committee on Financial Inclusion, (Ragarajan, 2008) observes in the working definition of financial inclusion that, access to timely and adequate credit at an affordable cost to weaker sections and low income groups in particular as a key constituent of financial inclusion. Sufficient access to affordable formal credit is to be ensured to each low income household and offer them a full-range of “suitable” credit products, at an “affordable” price (Reserve Bank of India, 2013). The present study relies on micro-data collected at the individual level on the different formal credit services used by the farmers such as short term, medium term and long term facilities which are given due consideration by assigning weights.

Savings/Deposit: The vulnerable groups of the population require savings /deposits products suitable to their varied needs such as for meeting lifecycle needs, creating assets, repaying high cost borrowings and also for emergencies. Savings can smooth irregular income patterns and meet basic individual needs. Once a savings culture is established, the need for the safety of a formal financial institution becomes a necessity. Emphasis for greater domestic savings from the household sector results in supply to the deficit private and public sectors that would clearly highlight the potentially positive use of household savings to support economic growth (Singh, 2010). Hence savings offer a stable spring board for growth and development. Financial

inclusion envisages savings products according to the specific requirements of the individuals (Rangarajan, 2008). Saving is concerned with safeguarding and accumulating wealth by the individual for future use. Various forms of savings such as savings bank deposits, recurring deposits and fixed deposits are considered for the present study.

Insurance: Insurance is another key element of the financial inclusion efforts. Insurance is well suited to protect against the adverse shocks and it has a potential to increase financial inclusion and agricultural production. (Cai, Cherny, and Milbourn, 2010). Another study, found that increased insurance induces farmers to substitute production activities toward high-return high-risk cash crops (Cole, Gine, Tobacman, Townsend, Topalova, and Vickery, 2013). The evaluation further reports that the insured farmers utilize more expensive capital inputs and the insurance products can substantially restrict the chances of losses, particularly of poor households. The insurance segments consist of both micro insurance and formal insurance. Both these elements of insurance are considered for constructing the index.

The responses were collected regarding the usage of various identified financial inclusion indicator variables. Index is calculated by aggregating responses in each variable. The calculation of index is based on the mathematical concept of weighted average index numbers. The variables were selected based on extensive literature available on the subject and assigned appropriate weights by using judgments method. The weight distribution was evaluated by a panel of 25 experts from among the fields of banking, insurance, academicians and researchers. An acceptable weight distribution was arrived by incorporating different weighing schemes using arithmetic average. Standardization of the variables is not required as they are rated on the same scale. The values assigned to each variable are either 1 or 0.

Value ‘one’ implies respondent having association with the use of indicator and value ‘zero’ implies having no association with the specified indicator. The Financial Inclusion Index calculation model is as follows:

$$FII = \sum_{i=1}^n a_i w_i = a_1 * 5 + a_2 * 5 + a_3 * 5 + a_4 * 5 + a_5 * 5 + a_6 * 10 + a_7 * 15 + a_8 * 10 + a_9 * 10 + a_{10} * 10 + a_{11} * 10 + a_{12} * 10$$

where, a₁, a₂, ..., a₁₂ are the weights of the various financial inclusion indicators and w_i is the corresponding weight.

Table 6.1 Financial Inclusion Index: Indicators and Weights

Indicators	Components		Weight	Total
Transaction Services	a ₁	ATM	5	25
	a ₂	Mobile Banking	5	
	a ₃	Internet Banking	5	
	a ₄	Cheque/DD	5	
	a ₅	Pension through banks	5	
Formal Savings/Deposit	a ₆	Savings Bank Deposit	10	25
	a ₇	Fixed Deposit/ Recurring Deposit	15	
Formal Credit/loan	a ₈	Short Term Credit	10	30
	a ₉	Medium Term Credit	10	
	a ₁₀	Long Term Credit	10	
Insurance	a ₁₁	Micro insurance	10	20
	a ₁₂	Formal insurance	10	
Total			100	100

The constructed Financial Inclusion Index varies between '0 and 100'. Value '100' implies full financial inclusion and value '0' implies complete financial exclusion. Value of 'less than 30' implies low financial inclusion, value between '30-60' implies medium financial inclusion and '60 and above' implies high level financial inclusion

6.3 Distribution of Financial Inclusion Index among variables

6.3.1 Education and Financial Inclusion

The World Bank policy research working paper has highlighted the individual characteristics that influence the level of financial inclusion. The study found that level of education as a key determinant in the degree and extent of financial inclusion. Higher levels of education are suggested to increase the scope for greater financial inclusion (Demirguc-Kunt and Klapper, 2012). The distribution of Financial Inclusion Index among various educational groups of farmers is given in Table 6.2. This enables to identify the extent of inclusion among various levels of education groups among the small and marginal farmers.

Table 6.2 shows the distribution of farmers among various levels education. The table reveals that out of the total respondents, 38.5 percent of them have secondary level of education followed by primary and higher secondary levels of education with a share of 26.67 percent and 23.50 percent respectively. Among the various education groups, higher levels of inclusion are found among the graduates with 82.35 percent and 13.24 percent among them are in the medium and high inclusion categories respectively. The above table further reveals that among the total respondents, a majority share of them (23.17 percent) belong to medium inclusion segment with secondary level of education, followed by higher secondary and primary and below level of

education with their respective shares of 17.67 percent and 17.50 percent respectively. However, 53.13 percent of the farmers with primary and below level of education have low level of inclusion whereas only 4.41 percent of the farmers who are graduates belong to this category.

Table 6.2 Financial Inclusion Index among Various Education Levels of Farmers

Level of Education	Financial Inclusion Index						Total	
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)			
	No.	%	No.	%	No.	%	No.	%
Primary and below	85 (53.13)	13.00	73 (45.63)	17.50	2 (1.25)	0.33	160 (100)	26.67
Secondary	65 (28.14)	10.33	157 (67.97)	23.17	9 (3.90)	1.50	231 (100)	38.50
Higher Secondary	29 (20.57)	4.83	106 (75.18)	17.67	6 (4.26)	1.00	141 (100)	23.5
Graduate and above	3 (4.41)	1.67	56 (82.35)	6.33	9 (13.24)	1.00	68 (100)	11.33
Total	182 (30.33)	30.33	392 (65.33)	65.33	26 (4.33)	4.33	600 (100)	100.00

Source: Primary Survey

*figures in parenthesis indicate percentages of row totals.

Moreover, the Secondary and the Higher Secondary education groups of farmers also indicate that lower levels of inclusion is found more with lower levels of education. Thus, the education-wise distribution of Financial Inclusion Index of the small and marginal farmers would indicate that higher the educational level, higher would be the level of inclusion and lower the educational level, lower would be the level of inclusion. This would mean that the level of financial inclusion would progress with increase in the level of education.

The analysis was continued to find the dependence of financial inclusion on the level of education and the results are given in Table 6.3.

H_{1a} : There exists significant association between financial inclusion and education

Table 6.3 Chi-Square Test of Independence of Financial Inclusion Index

Category	Chi-square value	p-value
Education and Financial Inclusion	23.05	0.001*

*Significant at 5 percent level of significance
Source: Primary Survey

Table 6.3 shows the relationship between various levels of education and financial inclusion. The result of analysis reveals that there is significant association ($p\text{-value}=0.001<0.05$) between financial inclusion and the different levels of education at 5 percent level. Thus, the hypothesis that there is significant association between financial inclusion and education of farmers is confirmed.

The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different education groups of the Small and Marginal Farmers are tabulated and presented in table 6.4. Table 6.4 reveals that the mean Financial Inclusion Index is only 30.60 percent among those farmers with primary and below level of education; whereas, the mean values of financial inclusion is found high among higher education groups of secondary, higher secondary and graduation and above levels. Their mean level of financial inclusion is reported to be 34.13, 38.41 and 41.47 respectively. However, the standard deviation was high among graduates (12.63) and primary and below level of education (11.09). The mean and standard deviation of Financial Inclusion

Index among small and marginal farmers would indicate that there are differences in the financial inclusion among various educational categories.

Table 6.4 Mean and Standard Deviation of Financial Inclusion Index among Various Education groups of Farmer Households

Level of Education	Financial Inclusion Index	
	Mean	SD
Primary	30.60	11.09
Secondary	34.13	10.59
Higher Secondary	38.41	11.44
Graduate	41.47	12.63

Source: Primary Survey

Thus, in order to confirm that whether these differences in financial inclusion are significant, one-way ANOVA is conducted and the results are shown in table 6.5.

H_{1b}: There exist significant differences in the mean Financial Inclusion Index among various education groups of farmers

Table 6.5 Analysis of Variance of Financial Inclusion Index in Various Education Groups of Farmers

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Education	3	1018.88	584.33	5.79	0.001*
Error	596	60117.94	100.86		
Total	599				

*Significant at 5 percent level of significance

Source: Primary Survey

The above ANOVA results confirm that there exist significant differences (F=5.79 and p=0.001<0.05) in the mean Financial Inclusion Index

among various education levels of farmers. The result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion among various education levels of farmer households is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in various education groups of farmers. Hence, Post Hoc test is conducted for further analysis and the results are reported in Table 6.6.

Table 6.6 Post Hoc Test for Comparing Financial Inclusion Index among Education Groups

Education level (i)	Education level (j)	Mean Difference (i-j)	Std. Error	Significance p-value
Primary and below	Secondary	-3.53	0.5342	0.001*
	Higher secondary	-7.81	0.6124	0.000*
	Graduate	-10.81	0.6432	0.000*
Secondary	Primary	3.53	0.5342	0.001*
	Higher secondary	-4.28	0.5567	0.001*
	Graduate	-7.28	0.6432	0.000*
Higher secondary	Primary	7.81	0.6124	0.000*
	Secondary	4.28	0.5567	0.001*
	Graduate	-3.00	0.5041	0.001*
Graduation and above	Primary	10.81	0.6432	0.000*
	Secondary	7.28	0.6432	0.000*
	Higher secondary	3.00	0.5041	0.001*

*Significant at 5 percent level of significance.
Source: Primary Survey.

The result of the Post Hoc test indicates that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level in the mean Financial Inclusion

Index among all the education groups. Higher mean difference in financial inclusion is found among the Primary and below and Graduation and above education groups. This would indicate that the level of financial inclusion differs widely between these two education groups. However, lowest mean difference is found in Graduation and above, and Higher secondary education levels. Thus, further evaluation using Post Hoc test confirms that there exists significant differences in the mean Financial Inclusion Index among all the comparing education groups and further indicating that higher the level of education higher would be the level of financial inclusion.

6.3.2 Size of Land Holdings and Financial Inclusion

The size of land holdings is reported to be another factor that influences the ability to access and use the financial services. A major determinant of institutional source of finance for farmers is reported to be their size of land holdings (Kumar and Singha, 2010). The Reserve Bank of India (2008) in its report on agricultural growth in India has warned the shrinking farm size and its consequence on agricultural growth in India. Hence, it would be appropriate to evaluate whether the size of land holdings is a significant variable influencing the extent of financial inclusion among small and marginal farmers. Hence, in the process of analysis, the Financial Inclusion Index is distributed among various size-classes of landholdings of farmers and is shown in Table 6.7. The table indicates that majority of the farmers belong to sub-marginal categories followed by marginal farmers with a share of 41.17 percent and 25.33 percent respectively. The farmers with less than 1 hectare of land, that is the marginal, sub-marginal and the landless altogether comprises of 84.33 percent among the small and marginal farmers.

Table 6.7 Financial Inclusion Index among Various Size-Classes of Land Holdings among Farmers

Size of land holdings	Financial Inclusion Index							
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)		Total	
	No.	%	No.	%	No.	%	No.	%
Landless	50 (46.73)	8.33	56 (52.34)	9.33	1 (0.93)	0.17	107	17.83
Sub-marginal	78 (31.58)	13.00	165 (66.80)	27.50	4 (1.62)	0.67	247	41.17
Marginal	39 (25.66)	6.50	106 (69.74)	17.67	7 (4.61)	1.17	152	25.33
Small	15 (15.96)	2.50	65 (69.15)	10.83	14 (14.89)	2.33	94	15.67
Total	182	30.33	392	65.33	26	4.33	600	100.00

Source: Primary Survey. *figures in parenthesis indicate percentages of row totals.

At the aggregate level most of the farmers have medium level of financial inclusion and belong to sub-marginal category with a 27.5 percent share followed by marginal farmers with a share of 17.67 percent. Low inclusion is found more prevalent among landless farmers with 46.73 percent among them belonging to this level of inclusion; whereas, high level of inclusion is more prevalent among small farmers with a share of 14.89 percent and 2.33 percent at the aggregate level belonging to this category. Thus, the distribution of Financial Inclusion Index according to the size of land holding recognizes that the different levels of inclusion increases with the size of land holdings. Thus, it can be inferred that there would be association between size of land holdings and financial inclusion. The analysis was continued to find the dependence of financial inclusion on the size of land holdings and the results are given in Table 6.8.

H_{2a} : There exists significant association between financial inclusion and size of land holdings of farmers

Table 6.8 Chi-Square Test of Independence of Financial Inclusion Index on Size of Land Holdings of Farmers

Category	Chi-square value	p-value
Size of land holdings and Financial Inclusion	22.18	.001*

*Significant at 5 percent level of significance.

Source: Primary Survey.

The chi-square test of independence is found significant (p-value =0.001 < 0.05) at 5 percent level. Hence, the hypothesis, stating that there is significant association between financial inclusion and size of land holdings of farmers hold good and the dependence of level of financial inclusion on the size of land holdings is confirmed. The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different farmer groups of the small and marginal farmers is tabulated and presented in Table 6.9

Table 6.9 Mean and Standard Deviation of Financial Inclusion Index among Various Farmer Groups

Occupational groups	Financial Inclusion Index	
	Mean	SD
Landless	27.20	10.36
Sub marginal	31.33	10.80
Marginal	38.33	11.99
Small	46.44	11.47

*Significant at 5 percent level of significance.

Source: Primary Survey.

Table 6.9 shows that the mean financial inclusion was high among small farmers, figuring the mean value of 46.44 and the lowest among landless

category with the mean value of 27.20. The standard deviation was the highest among marginal farmers and the least among the landless category. Thus, the above table reveals that the mean and standard deviation varies among various occupation groups of farmers. As the mean and standard deviation of Financial Inclusion Index among small and marginal farmers shows differences, it is to be confirmed whether these differences are significant. Hence, in order to confirm whether these differences are significant, one-way ANOVA is conducted and the results are shown in Table 6.10.

H_{2b}: There exist significant differences in the mean Financial Inclusion Index among various size-classes of farmer groups

Table 6.10 Analysis of variance of Financial Inclusion Index in various farmers categories

Size-class	d.f	Sum of squares	Mean sum of squares	F-value	p-value
Size-class	4	3556.89	889.222	6.914	0.002*
Error	595	76523.70	128.611		
Total	599				

*Significant at 5 percent level of significance.

Source: Primary Survey.

Table 6.10 indicating the ANOVA results reveal that the result (F=6.914 and p=0.002<0.05) is significant at 5 percent level. Hence, it is inferred that there exists significant difference in the mean Financial Inclusion Index among various size-classes of farmers. Hence, the hypothesis that there exist significant differences in financial inclusion among various farmer groups is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial

inclusion among different farmer groups. The results of the ANOVA indicate that there are significant differences in the mean Financial Inclusion Index in the different farmer groups. Hence, Post Hoc test is conducted for further analysis and the results are reported below.

Table 6.11 Post Hoc Test for Comparing Financial Inclusion Index among Farmer Groups

Size-classes (i)	Size-classes (j)	Mean Difference(i-j)	Std Error	p-value
Landless	Sub-marginal	-4.13	0.4325	0.000*
	Marginal	-11.13	0.5823	0.000*
	Small	-19.24	0.6243	0.000*
Sub-marginal	Landless	4.13	0.4325	0.000*
	Marginal	-7.00	0.5723	0.000*
	Small	-15.11	0.5987	0.000*
Marginal	Landless	11.13	0.5823	0.000*
	Sub-marginal	7.00	0.5723	0.000*
	Small	-8.11	0.3219	0.000*
Small	Landless	19.24	0.6243	0.000*
	Sub-marginal	15.11	0.5987	0.000*
	Marginal	8.11	0.3219	0.000*

*Significant at 5 percent level of significance.

Source: Primary Survey.

The results of the Post Hoc test indicate that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing size-class of farmer groups. Higher mean difference in financial inclusion is found among the landless and small farmer groups. This would indicate that the level of

financial inclusion differs widely between these two farmer groups. However, lowest mean difference is found in sub-marginal and landless farmer groups. Thus, further evaluation using Post Hoc test confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing size-class of farmers. Moreover, the results indicate that higher the size of land holdings, higher would be the extent of financial inclusion.

6.3.3 Occupation status and Financial Inclusion

Several previous studies have reported that the major occupation status influences the level of financial inclusion. A study on financial inclusion in west Bengal conducted by Kuri (2011) indentified several socio-economic factors that influence the level of financial inclusion. Among other socio-economic factors, the study has reported that the occupation status of the individual influences their financial inclusion. In order to understand the relationship between the type of occupation and the financial inclusion, the Financial Inclusion Index is distributed among various occupation groups.. The occupation-wise distribution of Financial Inclusion Index is depicted in Table 6.12. The table shows the major occupation-wise distribution of Financial Inclusion Index among farmer groups. It is found that majority of farmers have agriculture as their main occupation, followed by employment with 57 percent and 19.17 percent share respectively. A large proportion of farmers with agriculture as their major occupation belong to the medium inclusion category with a share of 37.17 percent followed by those with low inclusion with a share of 18.67 percent. Whereas, high inclusion was more found among farmers having employment as their main occupation among the various farmer groups.

Table 6.12 Financial Inclusion Index among Various Occupation Groups of Farmer Households

Occupation groups	Financial Inclusion Index							
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)		Total	
	No.	%	No.	%	No.	%	No.	%
Agriculture	112 (32.75)	18.67	223 (65.2)	37.17	7 (2.05)	1.17	342	57
Small industry/ Rural Artisan	22 (68.75)	3.67	8 (25.0)	1.33	2 (6.25)	0.33	32	5.33
Service	8 (21.62)	1.33	25 (67.57)	4.17	4 (10.81)	0.67	37	6.17
Employment	13 (11.30)	2.17	90 (78.26)	15.00	12 (10.43)	2.00	115	19.17
Agri. Labourers/ Tenant Farmers	27 (36.49)	4.50	46 (62.16)	7.67	(1.35)	0.17	74	12.33
Total	182	30.33	392	65.33	26	4.33	600	100

*Significant at 5 percent level of significance.

Source: Primary Survey. *figures in parenthesis indicate percentages of row totals.

In addition to this, 78.26 percent of the employed are those with medium inclusion and high inclusion is found among this group both in absolute terms and percent of the total respondents. Thus, the table indicates that financial inclusion is more found among farmers having employment followed by services sector as their major occupations. The analysis was continued to check the dependence of Financial Inclusion Index on the type of occupation of farmers. The results of the chi-square test of independence is given in Table 6.13.

H_{3a}: There exists significant association between financial inclusion and various occupation categories of farmers.

Table 6.13 Chi-Square Test of Independence of Financial Inclusion Index on Various Occupation Groups of Farmers.

Category	Chi-square value	p-value
Occupation and Financial Inclusion	21.14	.006*

*Significant at 5 percent level of significance.
Source: Primary Survey.

The chi-square test of independence is found significant (p-value = 0.006 < 0.05) at 5 percent level of significance. Hence, the hypothesis, stating that there exists significant association between financial inclusion and occupation levels of farmer groups hold good and the dependence of level of financial inclusion on the type of occupation is confirmed.

Table 6.14 Mean and Standard Deviation of Financial Inclusion Index among Various Occupation Groups of Farmer House Holds

Occupational groups	Financial Inclusion Index	
	Mean	SD
Agriculture	35.20	11.56
Small Industry/Rural Artisan	28.33	10.20
Service	38.74	15.99
Employment	41.42	8.68
Agri. Labourers/Tenant Farmers	29.71	11.47

Source: Primary Survey .

The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in

different occupation groups. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different occupation groups of the small and marginal farmers is computed and presented in Table 6.14. It shows that the mean financial inclusion was high among employed, figuring the mean value of 41.42 and the lowest having Small Industry/Rural Artisan as their main occupation with the mean value of 28.33. The standard deviation was the highest among service occupations and the least among the employed category. In order to confirm whether these differences are significant, ANOVA was conducted and the results are shown Table 6.15.

H_{3b} : There exist significant differences in the mean Financial Inclusion Index among various occupation groups of farmers

Table 6.15 Analysis of Variance of Financial Inclusion Index in Various Occupation Groups among Sample Farmer House Holds

Source	d.f	Sum of squares	Mean sum of squares	f-value	p-value
Occupation	4	3556.89	889.222	6.914	0.001*
Error	595	76523.70	128.611		
Total	599				

*Significant at 5 percent level of significance.

Source: Primary Survey.

The ANOVA results confirm that there exist significant differences (F=6.914 and p=0.001<0.05) in the mean Financial Inclusion Index among various occupation groups of farmers. The result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion among occupation groups of farmer households is confirmed.

As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is

appropriate to find the significance of differences in financial inclusion in various occupation groups of farmers. The result of the ANOVA ($F=6.914$ and $p=.001 < 0.05$) indicates that there exist significant differences in the mean Financial Inclusion Index, in the different occupation groups. Hence, Post Hoc test is conducted for further analysis and the results are reported below.

Table 6.16 Post Hoc Test for Comparing Financial Inclusion Index among Occupation Groups of Farmers

Occupational group(i)	Occupational group(j)	Mean Difference(i-j)	Std Error	Sig
Agriculture	Small industry	6.87	0.6132	0.000*
	Service	-3.51	0.5143	0.001*
	Employment	-6.21	0.5894	0.000*
	Agriculture Labours	5.49	0.6234	0.000*
Small industry	Agriculture	-6.87	0.6132	0.000*
	Service	-10.41	0.7243	0.000*
	Employment	-13.11	0.7451	0.000*
	Agriculture Labours	-1.41	0.9342	0.164
Service	Agriculture	3.51	0.5143	0.001*
	Small industry	10.41	0.7243	0.000*
	Employment	-2.71	0.4123	0.001*
	Agriculture Labours	9.00	0.6000	0.000*
Employment	Agriculture	6.21	0.5894	0.000*
	Small industry	13.11	0.7451	0.000*
	Service	2.71	0.4123	0.001*
	Agriculture Labours	11.70	0.5999	0.000*
Landless Agriculture Labourers	Agriculture	-5.49	0.6234	0.000*
	Small industry	1.41	0.9342	0.164
	Service	-9.00	0.6000	0.000*
	Employment	-11.70	0.5999	0.000*

*Significant at 5 percent level of significance.

Source: Primary Survey.

The results of the Post Hoc test indicates that there exists significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean

Financial Inclusion Index among all the comparing size-class of farmer groups except in the case of landless agriculture labourers and the small industry category. Higher mean difference in financial inclusion is found between the employment and small industry category with a mean difference of 13.11, followed by between the employment and agricultural labourers. However, lowest mean difference is found in between the agricultural labourers and small industry categories and the result ($p\text{-value} = 0.164 > 0.05$) indicates that there is no significant difference in the financial inclusion among these occupation categories. Thus, further evaluation using Post Hoc test confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing occupation groups of farmers except in between landless agriculture labourers and the small industry category. Hence, it can be inferred that farmers having employment as their major occupation would have higher level of financial inclusion.

6.3.4 Religion and Financial Inclusion

The relationship between religion and financial inclusion has been considered by several earlier studies (McDuie-Ra, and Rees, 2010; Beck, Demirgüç-Kunt, and Honohan, 2009). The distribution of Financial Inclusion Index among various religious groups of farmers enables to identify the pattern of inclusion among different religious groups of farmers

Table 6.17 shows the distribution of farmers according to various religious groups. It reveals that majority of the respondent are Hindu followed by Christians with their share of 65.17 percent and 22 percent respectively. The table further reveals that medium level of inclusion are found most (45.17 percent) among Hindu's followed by low inclusion of

18.33 percent among farmers of the Hindu community itself. Religion-wise financial inclusion further reveals that among the Hindus, Christians and Muslims, medium level of inclusion is prevalent among all classes with a share of 69.31 percent, 56.06 percent and 62.67 percent respectively.

Table 6.17 Financial Inclusion Index among Various Religious Groups of Farmers.

RELIGION	Financial Inclusion index						Total	
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)			
	No.	%	No.	%	No.	%	No.	%
Hindu	110 (28.13)*	18.33	271 (69.31)	45.17	10 (2.56)	1.67	391	65.17
Christian	44 (33.33)	7.33	74 (56.06)	12.33	14 (10.61)	2.33	132	22.00
Muslim	26 (34.67)	4.33	47 (62.67)	7.83	2 (2.67)	0.33	75	12.50
others	2 (100)	0.33	0 (00)	0.00	0 (100)	0.00	2	0.33
Total	182	30.33	392	65.33	26	4.33	600	100.00

Source: Primary Survey.

*figures in parenthesis indicate percentages of row totals.

The table shows that low inclusion is found most among Muslims (34.67 percent) followed by Christians (33.33 percent). Further it is noticed that high level of inclusion is found among Christians with a share of 10.61 percent. As the distribution of Financial Inclusion Index is found different among various religious groups, the dependence of religion on financial inclusion inclusions is checked with the help of Chi-square test of independence. The result of the Chi-square test of independence of religion on financial inclusion is presented in Table 6.18. The chi-square test of

independence is found significant ($p\text{-value} = 0.003 < 0.05$) at 5 percent level. Hence, the hypothesis, stating that there exists significant association between financial inclusion and religion of farmer groups hold good and the dependence of level of financial inclusion on the type of religion is confirmed.

H_{4a} :There exists significant association between financial inclusion and various levels of education.

Table 6.18 Chi-Square Test of Independence of Financial Inclusion Index on Religion of Farmer Households

Category	Chi-square value	p-value
Religion and Financial Inclusion	19.13	.003*

*Significant at 5 percent level of significance.

Source: Primary Survey.

The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different religion groups. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different religious groups of the small and marginal farmers is computed and presented in Table 6.19.

Table 6.19 Mean and Standard Deviation of Financial Inclusion Index among Various Religious Farmer Households.

Religion	Financial Inclusion Index	
	Mean	SD
Hindu	38.53	10.73
Christian	41.48	12.46
Muslim	33.29	12.20
others	17.50	10.60

Source: Primary Survey.

As it is found that the average level of inclusion varies among various religious groups, the significance of the differences are ascertained. Thus in order to confirm whether these differences are significant ANOVA was conducted and the results given in Table 6.20.

H_{4b} : There exist significant differences in the mean Financial Inclusion Index among various religious groups of farmers

Table 6.20 Analysis of Variance of Financial Inclusion Index in Various Religious Groups of Farmer Households

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Religion	3	3987.89	1329.297	10.412	0.000*
Error	596	76092.703	127.672		
Total	599				

*Significant at 5 percent level of significance.
Source: Primary Survey.

The above ANOVA results confirms that there exist significant differences ($F=10.412$ and $p=0.000<0.05$) in the mean Financial Inclusion Index among various educational levels of farmers. The result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion among religious groups of farmer households is confirmed.

As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in various education groups of farmers. The result of the ANOVA ($F =10.412$ and $p =.000<0.05$) indicates that there exists significant differences in the

mean Financial Inclusion Index in the different religious groups. Hence, Post Hoc test is conducted for further analysis and the results are reported below.

Table 6.21 Post Hoc Test for Comparing Financial Inclusion Index among Religious Groups

Religion(i)	Religion(j)	Mean Difference(i-j)	Std Error	Sig
Hindu	Christian	-2.95	0.5342	0.003*
	Muslim	5.24	0.6135	0.001*
	Others	21.03	0.6742	0.000*
Christian	Hindu	2.95	0.5342	0.003*
	Muslim	7.19	0.6812	0.001*
	Others	22.98	0.6799	0.000*
Muslim	Hindu	-5.24	0.6135	0.000*
	Christian	-7.19	0.6812	0.001*
	Others	15.79	0.5598	0.000*
Others	Hindu	-21.03	0.6742	0.000*
	Christian	-22.98	0.6799	0.000*
	Muslim	-15.79	0.5598	0.000*

*Significant at 5 percent level of significance.

Source: Primary Survey.

The results of the Post Hoc test indicate that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing religious groups of farmer groups. Higher mean difference in financial inclusion is found among the landless and small farmer groups. This would indicate that the level of financial inclusion differs widely between these two farmer groups. However, lowest mean difference is found in sub-marginal and landless farmer groups.

Further evaluation using Post Hoc test confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing religious of farmers groups. Among the specific religious groups, higher mean difference is found between Christians and Muslims followed by Christians and Muslims with the mean difference values of 7.19 and 5.24 respectively. However, lower mean difference (2.95) in financial inclusion is found among Hindus and Christians. Thus, it can be inferred that higher level of financial inclusion exists in the Christian community followed by Hindus and Muslims.

6.3.5 Caste and Financial Inclusion of farmers

Among the socio-economic variables, the social strata of the individuals are reported to be associated with financial inclusion. This relationship has been confirmed in several studies on financial inclusion (Taylor, 2012). The present study consists of respondents belonging to different social castes. Therefore, the relationship between the caste status of respondents and their level of financial inclusion is assessed in the present study. The distribution of Financial Inclusion Index among various caste groups of farmers is given in Table 6.22. This enables to identify the extent of inclusion among various categories of caste of the Small and Marginal Farmers.

The classification of farmers according to various caste groups shows that 49.83 percent belong to OBC, followed by upper caste and SC/ST with proportions of 34.67 percent and 15.5 percent respectively. The caste-wise distribution of financial inclusion shows that majority of the farmers are with medium inclusion among the OBC (31.5 percent) followed by upper caste

(25.5 percent). Among the various caste categories low inclusion was found most among SC/ST (45.16 percent) followed by OBC (34.45 percent) and upper caste (17.79 percent).

Table 6.22 Financial Inclusion Index among Various Religious Groups of Farmers.

Caste	Financial Inclusion index							
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion Index >60)		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Upper Caste	37 (17.79)*	6.17	153 (73.56)	25.5	18 (8.65)	3	208	34.67
OBC	103 (34.45)	17.17	189 (63.21)	31.5	7 (2.34)	1.17	299	49.83
SC/ST	42 (45.16)	7.00	50 (53.76)	8.33	1 (1.07)	0.17	93	15.5
TOTAL	182	30.33	392	65.33	26	4.33	600	100

Source: Primary Survey. *figures in brackets indicate percentages of row totals.

Further, caste-wise distribution shows that medium inclusion was found most among the upper castes followed by OBC and SC/ST with of their proportion 73.56 percent, 63.21 percent and 53.76 percent respectively. Again, it was found that in the high inclusion Category, upper caste were followed by OBC and SC/ST with their shares of 8.65 percent, 2.35 percent and 1.07 percent respectively. Thus, the above table reveals that there would be higher levels of inclusions among higher caste categories. The analysis was continued to check the dependence of financial inclusion on the type of caste of farmers. The results of the chi-square test of independence given in Table 6.23.

H_{5a} : There exists significant association between financial inclusion and various caste categories.

Table 6.23 Chi-Square Test of Independence of Financial Inclusion Index on Caste of the Farmer Households.

Category	Chi-square value	p-value
Caste and Financial Inclusion	16.128	.002*

*Significant at 5 percent level of significance.
Source: Primary Survey.

The chi-square test of independence is found significant (p-value =0.002< 0.05) at 5 percent level. Hence, the hypothesis, stating that there exists significant association between financial inclusion and caste categories of farmer groups hold good and the dependence of level of financial inclusion on the type of occupation is confirmed. The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different caste categories of farmer groups. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different caste categories of the small and marginal farmers is computed and presented in Table 6.24:

Table 6.24 Mean and Standard Deviation of Financial Inclusion Index among Various Caste Groups of Farmers

Caste	Financial Inclusion Index	
	Mean	Standard Deviation
Upper Caste	42.933	10.73
OBC	36.084	12.20
SC/ST	30.657	12.46

Source: Primary Survey

The table reveals that the mean Financial Inclusion Index was only 30.657 percent among SC/ST category; whereas, it was 42.923 among the upper caste and 36.084 percent among the OBC categories. Thus, it is revealed that the average level of financial inclusion was much higher among the upper caste and there is wide variation in the average levels of financial inclusion among various caste groups.

Further the dispersion in the mean values of inclusion is found high among SC/ST followed by OBC and upper caste with values of 12.46, 12.29 and 10.73 respectively. The mean and standard deviation of Financial Inclusion Index among various caste categories of small and marginal farmers indicates that there are differences in the Financial Inclusion among various caste categories and to confirm this, ANOVA is conducted and the results are given in Table 6.25.

H_{5b} : There exist significant differences in the mean Financial Inclusion Index among various caste categories of farmers

Table 6.25 Analysis of Variance of Financial Inclusion Index in Various Caste Categories among Sample Farmer House Holds

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Caste	2	3550.864	1775.432	13.84	0.000*
Error	597	76529.730	128.191		
Total	599				

*Significant at 5 percent level of significance
Source: Primary Survey

The results of the ANOVA (F=13.84 and p=.001<0.05) indicate that there exist significant differences in the mean Financial Inclusion Index in the different caste categories. Hence, Post Hoc test is conducted for further

analysis. The results of the Post Hoc test indicate that there are significant differences (p-value<0.05) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing caste categories of farmer groups. Higher mean difference in financial inclusion of 12.276 is found among the Upper caste and SC/ST groups. However, lower mean difference (5.427) is found in the SC /ST and OBC farmer groups. This would indicate that the level of financial inclusion differs widely between these two farmer groups. Thus, the Post Hoc results indicate that the caste of the farmers play a great role in the process of financial inclusion among small and marginal farmers.

Table 6.26 Post Hoc Test for Comparing Financial Inclusion Index among Caste Categories

Caste(i)	Caste(j)	Mean Difference(i-j)	Std Error	Sig
Upper caste	OBC	6.849	0.6324	0.000*
	S C /S T	12.276	0.6842	0.000*
OBC	Upper caste	-6.849	0.6324	0.000*
	S C /S T	5.427	0.6128	0.000*
S C /S T	Upper caste	-12.276	0.6842	0.000*
	OBC	-5.427	0.6128	0.000*

*Significant at 5 percent level of significance

Source: Primary Survey

Therefore, further evaluation using Post Hoc test confirms that there exists significant differences in the mean Financial Inclusion Index among all the comparing caste categories of farmers. This would indicate that higher the caste, higher would be the extent of financial inclusion.

6.3.6 Age and Financial Inclusion

Among the key drivers of financial inclusion, the age of the households are identified to be a major factor to determine the level of financial inclusion (Demirguc-Kunt, and Klapper, 2012; Clamara, Peria, and Tuesta, 2014). Therefore, the present study examined the relationship between age and financial inclusion. The distribution of Financial Inclusion Index is distributed among various age groups of farmers as given in Table 6.27. This enables to identify the pattern of inclusion among various age groups of the Small and Marginal Farmers.

Table 6.27 Financial Inclusion Index among Various Age Groups of Small and Marginal Farmer Households.

Age	Financial Inclusion index							
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)		Total	
	No.	Percent	No.	Percent	No	Percent	No	Percent
<30	12 (15)*	2	68 (83)	11.33	2 (2)	0.33	82	13.67
30-40	33 (30)	5.5	71 (65)	11.83	5 (5)	0.83	109	18.17
40-50	76 (33)	12.67	142 (61)	23.67	13 (6)	2.17	231	38.50
50-60	57 (33)	9.5	109 (63)	18.17	6 (3)	1.00	172	28.67
>60	4 (67)	0.67	2 (33)	0.33	0 (0)	0.00	6	1.00
TOTAL	182	30.33	392	65.33	26	4.33	600	100.00

Source: Primary Survey. *figures in brackets indicate percentages of row totals.

Table 6.27 shows the distribution of financial inclusion among farmers according to various age groups reveals that majority of the farmers belongs to

the age group of '40-50' followed by the age group of '50-60' with the proportion of 38.5 percent and 28.67 percent respectively. Majority of the farmers (23.67 percent) at the aggregate level belong to medium inclusion category followed by those in the age group of '50-60' with a share of 18.17 percent belonging to the medium inclusion category.

Low level of inclusion is more prevalent in the age group of 'below 30'. Further low level of inclusion shows an increasing tendency along with higher age group. High inclusion is found most in the age group of 40-50 (2.17 percent) followed by that in the age group of '50-60' with a share of only 1 percent. Moreover, none of the farmers belonging to age group of '60 and above' and only 0.33 percent of the age group of 'below 30', belong to high inclusion category. This would indicate that financial inclusion is more found in the middle age categories and found low in the lower and higher end age groups. As the distribution of inclusion is found different among various age groups, the dependence of inclusions on various age groups is identified with the help of Chi-square test. The result of the Chi-square test of independence of age on financial inclusion is presented in Table 6.28.

H_{6a} :There exists significant association between financial inclusion and various age categories of farmers .

Table 6.28 Chi-Square Test of Independence of Financial Inclusion Index on Age of Farmer Households

Category	Chi-square value	p-value
Age and Financial Inclusion	17.120	.029*

*Significant at 5 percent level of significance.

Source: Primary Survey

The chi-square test of independence is found significant (p-value =0.029 <0.05) at 5 percent level of significance. Hence, the hypothesis, stating that there exists significant association between financial inclusion and age categories of farmer groups hold good and the dependence of level of financial inclusion on the type of age categories are confirmed.

The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different age categories. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different age categories of the small and marginal farmers is computed and presented in Table 6.29:

Table 6.29 Mean and Standard Deviation of Financial Inclusion Index among Various Age Groups of Farmer Households.

Age Group	Financial Inclusion Index	
	Mean	SD
Below 30	40.29	11.48
30-40	39.74	11.77
40-50	41.26	10.72
50-60	40.02	12.26
60 and above	35.75	10.67

Source: Primary Survey.

The average values of inclusion reveals that the mean financial inclusion is found more (41.26) in the age group of below 40-50 followed by the age groups of below 30, 50-60 and 30-40 with values of 40.29, 40.02 and 39.74 respectively. Mean financial inclusion was lowest (35.75) among the

high age group of 60 and above; whereas, the dispersion of financial inclusion is found highest among the age group of 50-60 and the least in age group of 60 and above. As it is found that the average level of inclusion varies among various age groups, the significance of the differences is to be ascertained. Thus in order to confirm whether these differences are significant, ANOVA is conducted and results are given in Table 6.30. The ANOVA results confirm that there exist significant differences ($F=2.927$ and $p=0.044<0.05$) in the mean Financial Inclusion Index among various age categories of farmers.

H_{6b} : There exist significant difference in the mean Financial Inclusion Index among various age categories of farmers

Table 6.30 Analysis of Variance of Financial Inclusion Index in Various Age Groups among Sample Farmer Households

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Age	4	1233.388	308.347	2.927	0.044
Error	595	78847.205	132.516		
Total	599				

*Significant at 5 percent level.
Source: Primary Survey.

The ANOVA result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion among age categories among sample farmer households is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in

various age categories of farmers. Hence, Post Hoc test is conducted for further analysis and the results are reported below.

Table 6.31 Post Hoc Test for Comparing Financial Inclusion Index among Various Age Groups

Age group(i)	Age group(j)	Mean Difference(i-j)	Std. Error	Sig
Below 30	30-40	0.55	0.4122	0.152
	40-50	2.03	0.5243	0.074
	50-60	0.27	0.3842	0.183
	60 and above	4.54	0.5645	0.001*
30-40	Below 30	-0.55	0.4122	0.152
	40-50	1.52	0.4123	0.080
	50-60	-0.28	0.3851	0.190
	60 and above	3.99	0.6791	0.001*
40-50	Below 30	-2.03	0.5243	0.074
	30-40	-1.52	0.4123	0.080
	50-60	-1.76	0.4261	0.141
	60 and above	4.51	0.4897	0.000*
50-60	Below 30	-0.27	0.3842	0.183
	30-40	0.28	0.3851	0.190
	40-50	1.76	0.4261	0.141
	60 and above	4.27	0.5421	0.001*
60 and above	Below 30	-4.54	0.5645	0.001*
	30-40	-3.99	0.6791	0.001*
	40-50	-4.51	0.4897	0.000*
	50-60	-4.27	0.5421	0.001*

*Significant at 5 percent level.

Source: Primary Survey.

The results of the Post Hoc test indicate that there exists no significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean

Financial Inclusion Index among all the comparing age categories of farmer groups except in the age category of '60 and above' when compared to all other age groups. The analysis reveal that higher mean difference in financial inclusion are found among the age groups of '60 and above' and '30 and below' age categories of farmers. There is no significant differences among 'below 30' age group and all other age categories except in the age group of '60 and above'. This would indicate that the level of financial inclusion differ widely between various age groups. However, lowest mean difference is found in 'below 30' and '50-60' age categories with the values of 0.27 and 0.28 respectively.

Thus, the analysis reveals that financial inclusion significantly varies only in the case of the age group of '60 and above' when compared with all other age groups. This would indicate that advanced level of financial inclusion is found more among lower age groups.

6.3.7 Domicile District and Financial Inclusion

The domicile of the respondents is another demographic variable reported to be associated with the level of financial inclusion as per several studies associated with this (Demirguc-Kunt, and Klapper,2012; Beck, Demirgüç-Kunt, and Honohan, 2009). Therefore, the present study assessed the regional disparities and the distribution of Financial Inclusion Index in various sample districts of farmers is given in Table 6.32.

The distribution of the farmers among the districts enables to identify the extent of inclusion in the various sample districts among the Small and Marginal Farmers. Table 6.32 shows the district-wise classification of Financial Inclusion Index among the farmers. The medium level of financial

inclusion is found in majority of them (27.67 percent) and belong to Wayanad District followed by Thrissur and Thiruvananthapuram Districts with their percentages of 19.33 and 18.33 respectively. However, low inclusion among farmers is found mostly in Thiruvananthapuram and Thrissur Districts with the shares of 13.5 percent each; whereas, high inclusion is more found in Wayanad District (1.83 percent) followed by Thiruvananthapuram (1.5 percent) and Thrissur (1.0 percent) districts respectively.

Table 6.32 Financial Inclusion Index in Various Districts of the Farmers

District	Financial Inclusion Index						Total	
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)			
	No.	%	No.	%	No.	%	No.	%
Thiruvananthapuram	81 (40.5)	13.50	110 (55.0)	18.33	9 (4.5)	1.50	200	33.33
Wayanad	23 (11.5)	3.80	166 (83)	27.67	11 (5.5)	1.83	200	33.33
Thrissur	78 (39)	13.00	116 (58)	19.33	6 (3)	1.00	200	33.33
Total	182	30.30	392	65.33	26	4.33	600	100.00

Source: Primary Survey. *figures in brackets indicate percentages of row totals.

Among the various districts, low inclusion is more in Thiruvananthapuram (40.5 percent) followed by Thrissur (39.00 percent) district. District-wise inclusion level indicates that high inclusion is found in Wayanad (5.5 percent) District and at the same time low level of inclusion is found least in Wayanad District with a share of only 11.5 percent among the districts. This would indicate that farmers of Wayanad District have higher

levels of financial inclusion than the other two districts. As the distribution of inclusion is found different among various districts, the dependence of inclusions on various districts is identified with the help of chi-square test.

H_{7a} : There exists significant association between financial inclusion and the domicile districts of farmers.

Table 6.33 Chi-Square Test of Independence of Financial Inclusion Index on Domicile Districts of Farmers

Category	Chi-square value	p-value
District and Financial Inclusion	11.421	0.022*

*Significant at 5 percent level.

Source: Primary Survey.

The results of the chi-square test of independence of districts on financial inclusion is presented in Table 6.33. The chi-square test of independence is found significant ($p\text{-value} = 0.022 < 0.05$) at 5 percent level of significance. Hence, the hypothesis, stating that there exists significant association between financial inclusion and domicile district of farmer groups hold good and the dependence of level of financial inclusion on the type of domicile district is confirmed. The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different domicile districts. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different domicile districts of the small and marginal farmers is computed and presented in Table 6.34.

The average values of inclusion reveals that the financial inclusion is found more in Wayanad District (41.375) followed by Thiruvananthapuram (36.378) and Thrissur (34.488) districts; whereas, the dispersion of financial

inclusion was the least in Wayanad followed by Thrissur and Thiruvananthapuram districts with the standard deviations values of 8.937, 11.079 and 13.177 respectively.

Table 6.34 Mean and Standard Deviation of Financial Inclusion Index among Various Districts

Districts	Financial Inclusion Index	
	Mean	SD
Thiruvananthapuram	36.378	13.177
Wayanad	41.375	8.937
Thrissur	34.488	11.079

Source: Primary Survey .

As it is found that the average level of inclusion varies among various districts, the significance of the differences is to be ascertained. Thus, in order to confirm whether these differences are significant, ANOVA is conducted and results are given in Table 6.35.

H_{7b} : There exist significant differences in the mean Financial Inclusion Index in various districts among farmers.

Table 6.35 Analysis of Variance of Financial Inclusion Index in Various Districts of Farmer Households

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Districts	2	5201.951	2600.975	20.737	.000*
Error	597	74878.642	125.425		
Total	599				

*Significant at 5 percent level.

Source: Primary Survey

The ANOVA result confirms that there exist significant differences (F=20.737 and p=0.000<0.05) in the mean Financial Inclusion Index among various domicile districts among farmers. The result is found significant at 5 percent level. Hence, the hypothesis that there exist significant differences in financial inclusion among domicile districts of farmer households is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in various domicile districts of farmers. Hence, Post Hoc test is conducted for further analysis and the results are reported below.

Table 6.36 Post Hoc Test for Comparing Financial Inclusion Index among domicile Districts

District(i)	District(j)	Mean Difference(i-j)	Std. Error	Sig
Thiruvananthapuram	Wayanad	-4.997	0.5234	0.000*
	Thrissur	1.890	0.4648	0.052
Wayanad	Thiruvananthapuram	4.997	0.5234	0.000*
	Thrissur	6.887	0.5432	0.000*
Thrissur	Thiruvananthapuram	-1.890	0.4648	0.052
	Wayanad	-6.887	0.5432	0.000*

*Significant at 5 percent level.

Source: Primary Survey.

The results of the above Post Hoc test indicates that there exist significant differences (p-value < 0.05) at 5 percent level of significance in the mean Financial Inclusion Index of Wayanad District with the Thiruvananthapuram and Thrissur Districts. Higher mean difference (6.887) in financial inclusion is found between Wayanad and Thrissur Districts followed by Wayanad and Thiruvananthapuram Districts with the mean

difference of 4.997. Therefore, the post hoc test reveals that the inclusion levels in Thiruvananthapuram and Thrissur Districts are not significant at 5 percent level of significance. Thus, lower mean difference (1.890) exists only between Thrissur and Thiruvananthapuram Districts. Hence, further evaluation using Post Hoc test confirms that there exists significant differences in the mean Financial Inclusion Index of Thiruvananthapuram and Thrissur Districts with that of the Wayanad District, indicating that Wayanad District would have higher levels of financial inclusion.

6.3.8 Type of Bank and Financial Inclusion

The respondents of the present study belong to different bank categories of Kerala. Recent empirical evidences indicates that financial inclusion varies according to the type of financial institution associated with (Berger, Demirgüç-Kunt, Levine, and Haubrich, 2004; Donovan, 2012). Therefore, the Financial Inclusion Index is distributed among various Bank groups of farmers and is given in Table 6.37. This enables to identify the extent of inclusion among farmers who are associated with different banks. The bank category wise classification of Financial Inclusion Index of farmers shows that majority of the respondents belongs to the medium inclusion category. Farmers with low inclusion were found mostly among the customers of co-operative banks (9.5 percent) followed by Garmin bank(8.5 percent). Low inclusion is minimum among farmers of nationalized banks (6.5 percent) and State Bank group (5.83 percent). However, high inclusion customers were more found in the State Bank group (1.1 percent) and nationalized Banks (1.0 percent). This would indicate that low inclusion is more among the customers of Co-operative banks and Gramin banks, whereas, high inclusion

is found most among the farmer customers of State Bank and Nationalised Bank groups.

Table 6.37 Financial Inclusion Index among Farmer Households of various Bank Categories.

Type of Bank	Financial Inclusion index						Total	
	Low Inclusion		Medium Inclusion		High Inclusion			
	(Index<30)		(Index 30-60)		(Index >60)			
	No.	%	No.	%	No.	%	No.	%
State Bank group	35 (23.33)	5.83	105 (70.00)	11.67	10 (6.67)	1.11	150	25
Nationalized banks	39 (26.00)	6.50	102 (68.00)	11.33	9 (6.00)	1.00	150	25
Grameen Banks	51 (34.00)	8.50	94 (62.67)	10.44	5 (3.33)	0.56	150	25
Co operative Banks	57 (38.00)	9.50	91 (60.67)	10.11	2 (1.33)	0.22	150	25
TOTAL	182 (30.33)	30.33	392 (65.33)	10.89	26 (4.33)	0.72	600	100

Source: Primary Survey. *figures in brackets indicate percentages of rows totals.

As the bank-wise distribution of Financial Inclusion Index of farmers shows differences in the financial inclusion, the analysis is continued to check the dependence of financial inclusion on the type of the bank associated with farmers.

H_{8a}: There exists significant association between financial inclusion and bank categories.

Table 6.38 Chi-Square Test of Independence of Financial Inclusion Index on Bank Groups of Farmers

Category	Chi-square value	P-value
Bank group and Financial Inclusion	15.098	0.019*

*Significant at 5 percent level.

Source: Primary Survey.

The chi-square test of independence is found significant (p-value =0.019 < 0.05) at 5 percent level of significance. Hence, the hypothesis, stating that there exists significant association between financial inclusion and bank category of farmer groups hold good and the dependence of level of financial inclusion on the type of bank category is confirmed. The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different bank categories. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different bank categories of the small and marginal farmers is computed and presented in Table 6.39.

Table 6.39 Mean and Standard Deviation of Financial Inclusion Index among Various Bank Categories of Farmers

Type of Bank	Financial Inclusion Index	
	Mean	SD
State bank group	39.450	1.0139
Nationalized banks	39.037	0.9762
Grameen Bank	35.567	0.8737
Co operative Banks	33.567	0.8636

Source: Primary Survey.

The above table reveals that the average Financial Inclusion Index is high among the farmer customers of the State Bank group (39.450) and the Nationalized banks (39.037) and low in the Grameen bank (35.567) and Co-operative bank (33.567); whereas, the dispersion values of standard deviation were found comparatively high in the State Bank group (1.0139) and in the Co-operative banks (0.8636). The mean and standard deviation of Financial Inclusion Index among small and marginal farmers indicates that there are

differences in the Financial Inclusion among various Bank categories. In order to confirm that whether these differences are significant, ANOVA is conducted and the results are shown in Table 6.40.

H_{8b}: There exist significant differences in the mean Financial Inclusion Index among various bank categories of farmers.

The ANOVA result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion among bank categories among farmer households is confirmed.

Table 6.40 Analysis of Variance of Financial Inclusion Index in Various Bank Groups among Farmers

Source	D.F.	Sum of squares	Mean sum of squares	F-value	P-value
Type of Bank	3	1896.837	632.279	4.819	0.002*
Error	596	78183.757	131.181		
Total	599				

*Significant at 5 percent level.

Source: Primary Survey.

As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in various bank categories of farmers. Hence, Post Hoc test is conducted for further analysis and the results of the Post Hoc test indicate that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean Financial Inclusion Index of Grameen bank with that of all the other 3 bank categories namely the State Bank group, Nationalized Bank group and

the co-operative banks. Further there is significant difference in the mean Financial Inclusion Index of the Grameen bank with that of the State Bank, Nationalised bank and Co-operative Bank categories. Higher mean difference (5.883) in financial inclusion is found among the comparing groups of co-operative banks and State Bank group followed by that of the Nationalized and Co-operative bank groups.

Table 6.41 Post Hoc Test for Comparing Financial Inclusion Index among Bank Categories of Farmers

Type of bank(i)	Type of bank(j)	Mean Difference(i-j)	Std. Error	Sig
State bank group	Nationalized group	0.413	4.165	0.285
	Grameen Bank	3.883	4.876	0.001*
	Cooperative Banks	5.883	5.024	0.000*
Nationalized group	State bank group	-0.413	4.165	0.285
	Grameen Bank	3.470	4.543	0.000*
	Cooperative Banks	5.470	4.956	0.000*
Grameen Bank	State bank group	-3.883	4.876	0.001*
	Nationalized group	-3.470	4.543	0.000*
	Cooperative Banks	2.000	3.457	0.001*
Cooperative Banks	State bank group	-5.883	5.024	0.000*
	Nationalized group	-5.470	4.956	0.000*
	Grameen Bank	-2.000	3.457	0.001*

*Significant at 5 percent level.

Source: Primary Survey.

However, lowest mean difference (0.413) is found between Nationalized and State Bank group and the test reveals that there is no

significant difference ($p\text{-value}=0.285 > 0.05$) in the financial inclusion levels of Nationalized and State Bank group. The results further shows that there are significant differences among the farmer customers of State Bank group with that of the Grameen Bank and Coverage-operative Bank. Similarly, there are significant differences among the farmer customers of Nationalised Bank group with that of the Grameen Bank and Coverage-operative Bank. This would indicate that higher levels of financial inclusion are found among the farmer customers of State Bank and Nationalized Bank groups and comparatively lower inclusion is found among the Grameen bank customers and the least inclusion among the Co-operative bank customers.

6.3.9 Major Credit Sources and Financial Inclusion

The availability and usage of formal credit is another factor which would influence the level of financial inclusion (Ramji, 2009; Demirgüç-Kunt, and Klapper, 2013). As the credit sources of farmers usually include formal, semi-formal and informal sources of finance, the present study assesses the influence of formal credit sources on the extent of financial inclusion. The major credit source-wise distribution of Financial Inclusion Index of farmers is given in Table 6.41. This enables to identify the extent of inclusion among farmers having various types of credit sources.

The distribution of farmers according to major credit sources shows that most of the farmers (52.83 percent) are having semi-formal sources followed by formal means (35.83) as their major sources of credit. Only 11.33 percent among them are having informal sources as their major source of credit. Majority of farmers (35.83) in the medium inclusion category are having semi-formal means of financing, followed by those with formal

financing with a share of 22.67 percent. Farmers with high level of inclusion were found most (3.17 percent) among the farmers with formal means as their major credit source; whereas, high level of inclusion is very low (0.17 percent) among farmers with informal sources as their major credit source.

Table 6.42 Major Credit Source-wise distribution of Financial Inclusion Index among Farmers.

Major Credit Source	Financial Inclusion Index						Total	
	Low Inclusion (Index<30)		Medium Inclusion (Index 30-60)		High Inclusion (Index >60)			
	No.	%	No.	%	No.	%	No.	%
Formal	60 (27.91)*	10	136 (63.26)	22.67	19 (8.84)	3.17	215	35.83
Semi-formal	96 (30.28)	16	215 (67.82)	35.83	6 (1.89)	1.00	317	52.83
Informal	26 (38.24)	4.33	41 (60.29)	6.83	1 (1.47)	0.17	68	11.33
Total	182	30.33	392	65.33	26	4.33	600	100.00

Source: Primary Survey. *figures in brackets indicate percentages of row totals.

Moreover, the table further reveals that low inclusion is found most among farmers having semi-formal (16 percent) and informal (4.33 percent) major credit sources. Further high level of inclusion is found among farmers with formal credit sources followed by semi-formal and informal credit sources with the shares of 8.84 percent, 1.89 percent and 1.47 percent respectively. This would indicate that higher levels of inclusion are found among farmers having formal major credit sources and lower levels of inclusion are found among farmers with informal and semi-formal major credit sources.

The analysis is continued to check the dependence of financial inclusion on the type of major credit sources of farmers. The results of the chi-square test of independence given in table 6.43 reveals whether the financial inclusion is influenced by the major credit sources of the farmers

H_{9a} :There exists significant association between financial inclusion and major credit sources.

Table 6.43 Chi-Square Test of Independence of Financial Inclusion Index on Major Credit Sources of Farmers

Category	Chi-square value	P-value
Major Credit Sources and Financial Inclusion	14.74	0.005*

*Significant at 5 percent level.

Source: Primary Survey.

The chi-square test of independence is found significant (p-value =0.005 < 0.05) at 5 percent level. Hence, the hypothesis, stating that there exist significant association between financial inclusion and major credit sources of farmer groups hold good and the dependence of level of financial inclusion on the type of credit sources is confirmed. The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different credit source groups. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different credit source groups of the small and marginal farmers is computed and presented in Table 6.44. The table reveals that the average value of Financial Inclusion Index was high among formal sources (42.78) and low among the informal source(34.62) category; whereas, the dispersion of mean values of Financial Inclusion Index was high in the case of informal sources (11.68) followed by semiformal (11.41) and formal (10.02) credit sources. Thus, the mean values of Financial Inclusion Index reveals that the average values of inclusion index is comparatively high in the case of

formal credit sources followed by semiformal and informal credit sources. This would further indicate that farmers having higher levels of inclusion have more formal sources of financing.

Table 6.44 Mean and Standard Deviation of Financial Inclusion Index among Major Credit Source of Farmers

Multiple Credit Source	Financial Inclusion Index	
	Mean	SD
Formal	42.78	10.02
Semiformal	37.06	11.42
Informal	34.62	11.68

Source: Primary Survey.

The mean and standard deviation of Financial Inclusion Index among small and marginal farmers classified on the basis on credit sources indicates that there are differences in the Financial Inclusion Index among them. So, in order to confirm whether these differences are significant, ANOVA is conducted and the results are shown in Table 6.45.

H_{0b}: There exist significant differences in the mean Financial Inclusion Index among various credit sources of farmers

Table 6.45 Analysis of Variance of Financial Inclusion Index in Various Major Credit Source Categories of Farmers.

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p-value
Major Credit	2	1731.882	865.941	6.598	0.001*
Error	597	78348.711	131.237		
Total	599				

*Significant at 5 percent level.

Source: Primary Survey.

The above ANOVA result confirms that there exist significant difference ($F=6.598$ and $p=0.001 < 0.05$) in the mean Financial Inclusion Index

among various credit sources of farmers. The result is found significant at 5 percent level of significance. Hence, the hypothesis that there exists significant difference in financial inclusion among major credit sources of farmer households is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, it is appropriate to find the significance of differences in financial inclusion in various major credit sources of farmers. Hence, Post Hoc test is conducted for further analysis and the results indicates that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing major credit sources of farmer groups.

Table 6.46 Post Hoc Test For Comparing Financial Inclusion Index among Credit Sources.

Credit Source(i)	Credit Source(j)	Mean Difference(i-j)	Std Error	Sig
Formal	Semiformal	5.720	0.6843	0.000*
	Informal	8.160	0.7652	0.000*
Semi-formal	Formal	-5.720	0.6843	0.000*
	Informal	2.440	0.4231	0.001*
Informal	Formal	-8.160	0.7652	0.000*
	Semiformal	-2.440	0.4231	0.001*

*Significant at 5 percent level.

Source: Primary Survey.

The results of the Post Hoc test shows higher mean difference in financial inclusion among the formal and informal groups. This would

indicate that the level of financial inclusion differs widely between these two groups. However, lowest mean difference is found in semi-formal and informal groups. Thus, further evaluation using Post Hoc test confirms that there exists significant differences in the mean Financial Inclusion Index among all the comparing groups of credit sources of farmers. Moreover, it indicates that higher extent of financial inclusion is found among farmers with formal major credit sources followed by semi-formal and informal credit sources.

6.3.10 Income and Financial Inclusion

Several studies on financial inclusion has indicated that income is one of the most important determinant of financial inclusion (Pal, and Pal, 2012; Allen, Demirguc-Kunt, Klapper, Soledad, and Peria, 2012; Cull, and Scott, 2009). This economic variable has got greater significance while measuring the level of financial inclusion of small and marginal farmers. This is because the small and marginal segment of the agriculture community mostly consist of the vulnerable and the marginalized people. Therefore, the present study analyzed the relationship between income and financial inclusion. The distribution of Financial Inclusion Index among various Incomes of farmers is given in Table 6.47. This enables to identify the extent of inclusion among various levels of Income of the Small and Marginal Farmers.

Table 6.47 shows the distribution of Financial Inclusion Index among various income groups of farmers. The distribution shows that 31.33 percent of them belong to the income group of '5000-10,000' followed by 18.33 percent of the farmers belonging to the high income (>20000) category. The major segment of the farmers (18.67 percent) has medium level of inclusion in

the income group of ‘5000-10000’. Among the various income categories low inclusion was found most in the lowest income category with a share of 48.11 percent and the least with low inclusion is found in the highest income category (15.45 percent) of ‘>20000’ and at the same time high inclusion is found mostly in the highest income category. This would indicate that higher the level of income, higher would be the level of inclusion and vice versa.

Table 6.47 Income Wise Distribution of Financial Inclusion Index among Farmer Households.

Income Categories	Financial inclusion						Total	
	Low inclusion (index <30)		Medium inclusion (index 30-60)		High inclusion (index >60)			
Rupees	No	%	No	%	No	%	No	%
<5000	51 (48.11)*	8.50	53 (50.00)	8.83	2 (1.89)	0.33	106 (100.00)	17.67
5000-10000	71 (37.77)	11.83	112 (59.57)	18.67	5 (2.66)	0.83	188 (100.00)	31.33
10000-15000	23 (22.55)	3.83	75 (73.53)	12.50	4 (3.92)	0.67	102 (100.00)	17.00
15000-20000	20 (21.28)	3.33	69 (73.40)	11.50	5 (5.32)	0.83	94 (100.00)	15.67
>20000	17 (15.45)	2.83	83 (75.45)	13.83	10 (9.09)	1.67	110 (100.00)	18.33
Total	182 (30.33)	30.33	392 (65.33)	65.33	26 (4.33)	4.33	600 (100.00)	100.00

Source: Primary Survey *figures in brackets indicate percentages of row totals.

The analysis was continued to check the dependence of financial inclusion on the Income of the farmers. The results of the chi-square test of independence given in Table 6.48 reveals whether the financial inclusion is influenced by the level of Income of the farmers. The chi-square test of

independence is found significant (p-value =0.001 < 0.05) at 5 percent level of significance. Hence, the hypothesis, stating that there exists significant association between financial inclusion and income levels of farmer groups hold good and the dependence of financial inclusion on the level of income is confirmed.

H_{10a} :There exists significant association between financial inclusion and various levels of income of farmers

Table 6.48 Chi-Square test of independence of Financial Inclusion Index on Level of Income of Farmers

Category	Chi- square value	P- value
Income and Financial Inclusion	24.786	0.001*

*Significant at 5 percent
Source: Primary Survey

The magnitude and variation in the financial inclusion is represented by the mean values and the standard deviation of Financial Inclusion Index in different income groups. Therefore, the mean values and the standard deviation of Financial Inclusion Index in different income groups of the small and marginal farmers is computed and presented in Table 6.49.

The table reveals that the average value of Financial Inclusion Index was high among the highest income group (>20000) and the lowest in the lowest income group (<5000) with values of 43.706 and 28.173 respectively; whereas, the dispersion of mean values of Financial Inclusion Index was high in the case of the lowest income category followed by the succeeding income category '5000-10000' with dispersion values of 12.82 and 12.18 respectively. This would further indicate that farmers having higher levels of Income have higher levels of financial inclusion.

Table 6.49 Mean And Standard Deviation of Financial Inclusion Index in Income Categories of Farmers.

Levels of Income Rupees	Financial inclusion	
	Mean	SD
<5000	28.173	12.8230
5000-10000	32.767	12.1839
10000-15000	37.821	11.5055
15000-20000	39.208	10.5157
>20000	43.706	10.1119

Source: Primary Survey

The results recognises difference in the mean and standard deviation of Financial Inclusion Index among farmers classified on the basis of the levels of Income, it is necessary to find the significance of variation in the average values and its dispersion. So, in order to confirm whether these differences are significant, ANOVA was conducted and the results are shown in Table 6.50

H_{10b} : There exist significant differences in the mean Financial Inclusion Index among various income categories of farmers

Table 6.50 Analysis of Variance of Financial Inclusion Index among Various Income Categories

Source	D.F.	Sum of squares	Mean sum of squares	F-value	p- Value
Income	4	2435.357	608.839	4.973	0.001*
Error	595	72844.823	122.428		
Total	599	8008080.593			

*Significant at 5 percent level.

Source: Primary Survey.

The above ANOVA results confirms that there exist significant differences ($F=4.973$ and $p=0.001<0.05$) in the mean Financial Inclusion Index among various income levels of farmers. The result is found significant at 5 percent level of significance. Hence, the hypothesis that there exist significant differences in financial inclusion in different income categories of farmer households is confirmed. As the ANOVA is conducted to find the significance of the differences in the mean Financial Inclusion Index among farmers as a whole, the significance of differences in financial inclusion in various income groups of farmers is identified using. Hence, Post Hoc test

Table 6.51 Post Hoc Test for Comparing Financial Inclusion Index among Income Groups of farmers

Rupees(i)	Rupees(j)	Mean difference(i-j)	Stderror	Sig
<5000	5000-10000	-4.594	0.5646	0.000*
	10000-15000	-9.648	0.6234	0.000*
	15000-20000	-11.035	0.6446	0.000*
	>20000	-15.533	0.6838	0.000*
5000-10000	<5000	4.594	0.5646	0.000*
	10000-15000	-5.054	0.5711	0.000*
	15000-20000	-6.441	0.5789	0.000*
	>20000	-10.939	0.6278	0.000*
10000-15000	<5000	9.648	0.6234	0.000*
	5000-10000	5.054	0.5711	0.000*
	15000-20000	1.387	0.2851	0.013*
	>20000	-5.885	0.5861	0.000*
15000-20000	<5000	11.035	0.6446	0.000*
	5000-10000	6.441	0.5789	0.000*
	10000-15000	-1.387	0.2851	0.013*
	>20000	-4.498	0.5612	0.000*
>20000	<5000	15.533	0.6838	0.000*
	5000-10000	10.939	0.6278	0.000*
	10000-15000	5.885	0.5861	0.000*
	15000-20000	4.498	0.5612	0.000*

*Significant at 5 percent level of significance. Source: Primary Survey.

The results of the Post Hoc test indicate that there exist significant differences (p -value < 0.05) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing income groups of farmers. Highest mean difference (15.533) in financial inclusion is found between the lowest (<5000) and the highest (>20000) income groups of farmers, followed by between the lowest income group (<5000) and the second highest income group (15000-20000) with values of 15.533 and 11.035 respectively. This would indicate that the level of financial inclusion differs widely between these income groups of farmers. However, lowest mean difference is found between the income groups of '15000-20000' and '10000-15000' with a value of 1.387. Thus the analysis indicates that higher the level of income category higher could be the extent of financial inclusion and vice versa.

Thus, the researcher attempted to analyse the extent of financial inclusion among the small and marginal farmers across the various socio-economic and demographic variables. In order to measure the level of financial inclusion, a composite Financial Inclusion Index is constructed by assigning appropriate weights to the various variables representing the usage dimension of financial inclusion. The hypothesis that there exists association between the various socio-economic and demographic variables such as education, size-class of land holdings, major occupation, religion, caste, age, domicile District, type of bank, major credit source and income with that of the Financial Inclusion Index is confirmed.

The analysis found significant relationship between education and financial inclusion and it further indicates that higher the education level, higher would be the inclusion and lower the education level, lower would be

the level of inclusion. Moreover, evaluation using Post Hoc test confirmed that there exists significant differences in the mean Financial Inclusion Index among all the comparing education groups indicating that there is positive relationship between the education level and the level of financial inclusion. The study also found that there is significant association between major occupation of the farmers and their level of financial inclusion. The evaluation confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing occupation groups of farmers except between landless agriculture labourers and the small industry category. The religion of farmers is also found to be another factor which influences the level of financial inclusion of farmers. The analysis results also indicate that there are significant differences in the mean Financial Inclusion Index among all the comparing religious groups of farmers. It is inferred that higher level of financial inclusion exists in the Christian community followed by Hindus and Muslims. Further, the study also reveals that there exist significant differences in financial inclusion among all the comparing caste categories of farmers. The analysis would indicate that higher the caste, higher would be the extent of financial inclusion. The results of the age-wise analysis indicate that there exist no significant differences in financial inclusion between all the comparing categories of farmer groups except in the age category of 60 and above indicating that middle and lower age groups have advanced levels of financial inclusion compared to that of the aged farmers. The analysis recognizes that there exist significant differences in the level of financial inclusion between the districts under study. There exist significant differences in the mean Financial Inclusion Index of Thiruvananthapuram and Thrissur districts with that of the Wayanad district, where higher levels of financial inclusion is found. Financial inclusion is also found associated with the type of

the bank with which the farmers are associated. Higher levels of financial inclusion are found among the farmer customers of the State bank and nationalized bank groups and lower inclusion is found among the gramian bank customers and comparatively least inclusion among the co operative bank customers. Further high level of inclusion is found among the farmers with formal credit sources followed by semi-formal and informal credit sources with the shares of 8.84 percent, 1.89 percent, and 1.47 percent respectively. This would indicate that higher levels of inclusion are found among farmers having formal major credit sources and lower levels of inclusion are found among farmers with informal and semi formal major credit sources. The analysis on the basis of income reveals that there exist significant differences in financial inclusion among various income categories of farmer households. Further, it is revealed that higher the level of income, higher would be the extent of financial inclusion and vice versa. Thus, the present chapter reveals that all the socio-economic and demographic variables significantly influences financial inclusion. Moreover, the extent and degree of their relationship are analyzed and the key determinants of financial inclusion is ascertained in the forthcoming chapter.

.....*END*.....

Chapter 7

DETERMINANTS OF FINANCIAL INCLUSION AMONG THE SMALL AND MARGINAL FARMERS IN KERALA

Contents

- 7.1 *Introduction*
- 7.2 *Analytical Framework*
- 7.3 *Multinomial Regression Model Summary*
- 7.4 *Impact of Financial Inclusion*
- 7.5 *Relationship between impact factors and financial inclusion*
- 7.6 *Problems of farmers in the process of financial inclusion*

7.1 Introduction

The present study assessed the level of financial inclusion among small and marginal farmers in Kerala. The previous chapter identified the dependence, variance and relationship of various socio-economic and demographic variables influencing financial inclusion of small and marginal farmers. The analysis is based on the financial inclusion index constructed on the basis of assigning weights to various financial inclusion indicators considered for the study. The dependence of the socio-economic and demographic characteristics of farmers on the financial inclusion index is tested and found that all the variables under study have association with level of financial inclusion. The average values of various categories of variables and the significance of differences between the level of financial inclusion and the different category groups of the variables are identified at the aggregate level using one-way ANOVA. Moreover, Post Hoc test is used to compare the level of financial inclusion between different categories of variables to identify the significance of differences exists among them.

Thus, the previous chapter identifies the relationship of variables with the level of financial inclusion and also the extent of differences in the level of financial inclusion across different variables and among the various category groups within the variables. So, in continuing with the analysis, it would be appropriate to identify the quantitative relationship between these variables and the degree of financial inclusion among farmers.

7.2 Analytical Framework

For measuring the level of financial inclusion among the small and marginal farmers, a composite financial inclusion index has been constructed in the present study. On the basis of the value of Financial Inclusion Index, three financial inclusion levels are identified, i.e., **low inclusion** (FII<30), **medium inclusion** (FII 30-60) and **high inclusion** (FII>60). Depending on the value of the FII, the respondents were categorized in these three financial inclusion categories to understand the extent of progress made in the process of financial inclusion.

The dependent variable of the present study, the financial inclusion index, i.e., the response variable of incidence of financial inclusion among farmers is polychotomous in nature. This is because the financial inclusion index is identified to have three outcomes namely, low inclusion, medium inclusion and high inclusion. The researcher, in the present study, uses the various socio-economic and demographic independent variables or predictors variables which are categorical in nature. Multinomial logistic regression is used for analysis as the dependent variable is nominal and for which there are more than two categories. The multinomial logistic model assumes that data are case specific; that is, each independent variable has a single value for each case. The multinomial logistic model also assumes that the dependent variable

cannot be perfectly predicted from the independent variables for any case. Multinomial Logistic Regression is useful for situations in which we want to be able to classify subjects based on values of a set of predictor variables. It is used when there are three or more categories to the dependent or outcome variable (Hosmer and Lemeshow, 2000). These categories can be ordered or unordered. Multinomial logistic regression is similar to multiway contingency table and log-linear analyses, but is more intuitive to interpret, particularly when there are several independent variables being examined with a dependent variable (Tabatchnick and Fidell, 2007). As there are several independent variables or predictors used in this study and as the dependant variable (financial inclusion index) or the outcome is more than two (low inclusion, medium inclusion and high inclusion) the best fitting model in this situation is the multinomial logistic regression model.

Thus, the multinomial logistic regression used in the present study takes the following two forms:

$$1. \text{Log} \frac{P(Y_2)}{P(Y_1)} = S_0 + S_1 X_1 + \dots, S_{10} X_{10}$$

$$2. \text{Log} \frac{P(Y_3)}{P(Y_1)} = S_0 + S_1 X_1 + \dots, S_{10} X_{10}$$

where,

Y_1, Y_2 , and Y_3 are the three different dependent (Financial Inclusion Index) variables

S is the multinomial logistic regression coefficient of the variables

X_1, X_2, \dots, X_{10} are the different independent variables

Normally, the multinomial logistic regression procedure makes the last category of the dependent variable as the reference category. Hence, the present study is modeled using the first category, 'low inclusion' as the reference category. At first, the 'medium inclusion' category of the dependent variable is regressed by taking low inclusion as the reference category. Secondly, the 'high inclusion' category of the dependent variable is regressed by taking 'low inclusion' as the reference category. The coefficients of the multinomial logistic regression represents the amount of change in the dependent variable (symbolized as Y) based on a one-unit change in the predictor or independent variable (symbolized as X) (Abu-Bader, 2006, Dunn and Clark, 2001; Howell, 2002).

7.2.1 Independent Variables

The major contributing variables that determine the level of financial inclusion among farmers consists of the following:

1. **Education:** Earlier studies on financial inclusion have identified education as a key determinant of the degree and extent of financial inclusion. Moreover, higher levels of education are reported to enhance the level of financial inclusion (Demirguc-Kunt and Klapper, 2012). The present study, in the previous chapter has noticed that the level of the financial inclusion is influenced by the level of education. Moreover, the results indicated that the higher the level of education, the higher would be the financial inclusion.
2. **Size of Land Holdings:** The size of land holdings is reported to be another determinant that influences the ability to access and use the financial services. A major determinant of institutional

source of finance for farmers is reported to be their size of land holdings (Kumar and Singha, 2010). The present study, in the previous chapter, has found that the size of the landholdings of the farmers influences the level of financial inclusion of small and marginal farmers. Moreover, higher level of financial inclusion is found among farmers with higher land holdings.

3. **Occupation:** Several previous studies have reported that the major occupation status influences the level of financial inclusion. A study on financial inclusion in west Bengal conducted by Kuri (2011) indentified occupation as one of the several socio-economic factors that influence the level of financial inclusion. Occupational diversification was accounted to be influencing the level of financial inclusion among the small and marginal farmers in the previous chapter. Farmers with regular employment as their major occupation were found to behaving higher levels of inclusion.
4. **Religion:** The relationship between religion and financial inclusion has been noticed by several earlier studies (McDuie-Ra, and Rees, 2010 Beck, Demirgüç-Kunt, and Honohan, 2009). In the previous chapter, the financial inclusion is also found to be different in various religious groups. Moreover, dependence of religion on the levels of financial inclusion of small and marginal farmers is established in the previous chapter.
5. **Caste:** Among the socio-economic variables, the social strata of the individuals are reported to be associated with financial inclusion. This relationship has been confirmed in several

studies on financial inclusion (Taylor, 2012). The earlier chapter of the present study identified that the level of financial inclusion differs significantly among the various social strata. Moreover, a higher level of financial inclusion is found among upper castes indicating that higher of the caste, higher would be the level of financial inclusion.

6. **Age:** Among the key drivers of financial inclusion, the age of the household is identified to be a major factor to determine the level of financial inclusion (Demirguc-Kunt, and Klapper, 2012; Clamara, Peria, and Tuesta, 2014). The dependence of age on financial inclusion is established in the previous chapter. It has been found that a higher level of financial inclusion exists among middle aged individuals.
7. **Region (District):** As per several studies associated with financial inclusion the domicile of the respondents is another demographic variable reported to be associated with the level of financial inclusion (Demirguc-Kunt, and Klapper, 2012; Beck, Demirgüç-Kunt, and Honohan, 2009). The level of financial inclusion is found to vary among different domicile status of the small and marginal farmers.
8. **Type of Bank:** The respondents of the present study belong to different bank categories of Kerala. Recent empirical evidences suggest that financial inclusion varies according to the type of banker associated with (Berger, Demirgüç-Kunt, Levine, and Haubrich, 2004; Donovan, 2012). The present study has also identified that the extent of financial inclusion is associated with the type of the banker. Lower levels of inclusion are found

among the cooperative and Gramin bank customers, whereas, higher levels of inclusion were found among the customers of public sector banks.

9. **Source of Finance:** The availability and usage of formal credit is another factor which can influence the level of financial inclusion (Ramji, 2009; Demirgüç-Kunt, and Klapper, 2013). The source of finance has been found to be another variable which influences the level of financial inclusion among the small and marginal farmers. Higher levels of financial inclusion were found among farmers who have access to formal sources of finance. Pal and Pal have noticed that larger proportion of poor households do not use formal financial services, compared to that of rich households, just because they are poor. Also it is found that availability of formal banking services is positively associated with a household's propensity to use formal financial services, and the degree of association is higher for the poor and marginally non-poor households. It indicates that greater availability of formal banking services can foster financial inclusion, particularly among the low income households, (Pal and Pal, 2012). The present study has also found that higher levels of financial inclusion would exist among those with more formal credit.
10. **Income:** Several studies on financial inclusion has indicated income as a key determinant of financial inclusion (Pal, and Pal, 2012; Allen, Demirguc-Kunt, Klapper, Soledad, and Peria, 2012; Cull, and Scott, 2009). Moreover, it is reported that levels of financial inclusion as well as income related inequality

in financial exclusion vary widely across states and sectors in India and the per-capita income is identified to be a major determinant of a household's propensity to use formal financial services, (Pal and Pal, 2012). In the previous chapter it is found that higher levels of financial inclusion would exist among those with higher levels of income

7.3 Multinomial Regression Model Summary

In proceeding with the analysis, the suitability of the model is tested. The model fitting information is provided in the following Table 7.1

Table 7.1 Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests	
	-2 Log Likelihood	Chi-Square	Sig.
Intercept Only	734.020		
Final	645.442	88.578	.000

Source :Computed from Primary Survey

The model fitting information of Table 7.1 reveals the result of the likelihood ratio test, which shows the influence of the independent variable in determining the level of dependent variable. In the likelihood ratio test of the adopted model, it is hypothesized that all the parameter coefficients are zero (Intercept only). Accordingly, the results of the test reveals that the final model is significantly different (P value $0.00 < 0.05$) from the intercept only model. Thus, it is concluded that the test is significant at 5% level of significance and the model is outperforming the null. Hence, the independent variables, as a group contribute significantly to predict the outcome variable. The model summary of multinomial logistic regression in Table 7.2 provides the Pseudo R-Square values obtained for the model. Pseudo R-Square in

multinomial logistic regression is similar to R-square (coefficient of determination) used in ordinary linear regression.

Table 7.2 Model Summary-Pseudo R-Square

Cox and SnellR-Square	0.2483
Nagelkerke R-Square	0.3124
McFaddenR-Square	0.2071

Source :Computed from Primary Survey

The value of Pseudo R-Square ranges from 0 to1 and is an indication of the goodness of fit of the model. Here Cox and Snell R-Square and Nagelkerke R-Square values are 0.2483 and 0.3124 respectively. It explains the goodness of fit of the model. Therefore, the model is regarded as appropriate for the present study.

7.3.1 Results of Multinomial Logistic Regression for Medium level of Financial Inclusion

The model is found to be significant in explaining the influence of the independent variables. Moreover, the goodness of fit of the proposed model is well established. The statistical significance of the estimated coefficients for each explanatory variable is tested using Wald Statistic, the standard for a logistic regression. Regression coefficients, symbolized as (*beta*), are the slope of the line, or the amount of change in the dependent variable based on a one-unit change in the predictor or independent variable (Abu-Bader, 2006; Dunn & Clark, 2001; Howell, 2002). In multinomial logistic regression model, categorical and continuous independent variables can be incorporated

as predictors, (Stevens, 1996). The result of the multinomial logistic regression is interpreted using the odds ratios and is presented in the following Table 7.3.

Table 7.3 Results of Multinomial Logistic Regression

Multinomial Logistic Regressed category	Sl No	Independent Predictor Variables		Std. Error	Wald	df	Sig.	Exp() odds ratio
Medium Inclusion (FII: 30-60) with reference category Low inclusion (FII: <30)	1	Intercept	1.775	0.316	31.552	1	0.000	5.900
	2	Education	1.243	0.389	10.227	1	0.001	3.466
	3	Land holdings	1.136	0.369	9.494	1	0.002	3.114
	4	Religion	1.108	0.549	4.078	1	0.044	3.028
	5	District	0.984	0.377	6.813	1	0.026	2.675
	6	Age	0.896	0.423	4.487	1	0.041	2.450
	7	Bank	1.034	0.443	5.448	1	0.036	2.812
	8	Formal Credit	1.026	0.437	5.512	1	0.032	2.790
	9	Caste	1.135	0.456	6.195	1	0.028	3.111
	10	Occupation	1.036	0.394	6.914	1	0.022	2.818
	11	Income	1.126	0.518	4.725	1	0.038	3.083

Source: Computed from primary data

Table 7.3 shows the result of the multinomial logistic regression and reveals the coefficients and the odds ratios. An advantage of multinomial logistic regression model is its use of odds ratios as estimators for the

predictor variables. Odds ratios are computed from the beta coefficients in multinomial logistic regression model using the exponent function (Hosmer & Lemeshow, 2000). When interpreting odds ratios, it is important to differentiate between the event or outcome variable, and the independent or the predictor variable.

The results of multinomial logistic regression reveal the following. The level of education is revealed to be the most important determinant of financial inclusion among (odds ratio: 3.466) small and marginal farmers to move to the next higher inclusion category when compared to the reference category of low inclusion. The present study has already found that the educational level of small and marginal farmers influences the extent of financial inclusion of farmers. The size of land holdings is also found to be influencing the financial inclusion level of small and marginal farmers. The above regression results reveals that the size of land holdings of farmers also has a greater capacity (odds ratio: 3.114) to enhance the level of inclusiveness from the low inclusion category to the medium inclusion category.

The caste category of farmers has already been found to influence the financial inclusion of small and marginal farmers. Higher levels of financial inclusion were found to be among the upper caste category of small and marginal farmers. The odds ratio of the caste category (odds ratio: 3.111) indicates that it has a greater role among farmers to be included in the high inclusion category than the reference category of low inclusion. The present study has already confirmed the influence of the income level of farmers in their financial inclusion. The regression results show that the level of income of small and marginal farmers is another major determinant (odds ratio: 3.083) in enhancing the level of financial inclusion.

Financial inclusion is found to differ in different religious groups. Moreover, the religious category of small and marginal farmers has already found to be influencing the level of financial inclusion of small and marginal farmers. While analyzing the inclusion levels of high inclusion with that of the reference category of low inclusion, the results of the regression illustrates that the religion of the farmers is another determinant (odds ratio: 3.028) that would help the small and marginal farmers to achieve higher levels of financial inclusion. The major occupational status of small and marginal farmers is also found to be influencing the financial inclusion of small and marginal farmers in the present study. The main occupation of the farmers is revealed to be having a possibility of shifting the inclusion status of the small and marginal farmers to the medium inclusion category of 2.818 times when compared to the reference category of low inclusion category.

The type of bank associated with the small and marginal farmers is found to be influencing the level of financial inclusion. The regression result reveals that the bank category with which the small and marginal farmers are associated is another determinant (odds ratio: 2.812) in enhancing their level of financial inclusion and shifting them from the reference category of low inclusion to the medium inclusion category. Formal sources of credit were found to be associated with the financial inclusion level of small and marginal farmers. The above regression results reveals that the formal source of credit availed by small and marginal farmers has the probability of 2.79 times in progressing them from the reference category of low inclusion to the next higher level of medium inclusion. The residing district is also found to be associated with the small and marginal farmers in achieving higher levels of financial inclusion. The present study also found that there exist significant differences in the level of financial inclusion among domicile districts of

farmers. The regression result shows that the domicile region (District) is also a determinant (odds ratio: 2.675) in promoting financial inclusion among small and marginal farmers in Kerala.

The age of the farmers is associated with their level of financial inclusion, as revealed in the study, The above regression result reveals that the age of the farmers is also capable of influencing (odds ratio: 2.45) the level of financial inclusion among small and marginal farmers in Kerala.

7.3.2 Results of Multinomial Logistic Regression for High Level of Financial Inclusion

After regressing the ‘medium inclusion’ category of the dependent variable by taking low inclusion as the reference category, the ‘high inclusion’ category of the dependent variable is regressed by taking ‘low inclusion’ as the reference category. The coefficients of the multinomial logistic regression represents the amount of change in the dependent variable (symbolized as Y) based on a one-unit change in the predictor or independent variable. The result of the multinomial logistic regression for the high inclusion category when compared to the reference category of low inclusion level is presented in Table 7.4. The result of multinomial logistic regression reveals the following. The level of education is revealed to be having the maximum probability (odds ratio: 5.280) of influencing the small and marginal farmers to move to the high inclusion category when compared to the reference category of low inclusion. The study also finds that the educational level of small and marginal farmers influences the extent of financial inclusion of farmers.

The regression results show that the level of income of small and marginal farmers is the second major determinant (odds ratio: 5.083) in

enhancing the level of financial inclusion. The size of land holdings is found to influence the financial inclusion level of small and marginal farmers.

Table 7.4 Results of Multinomial Logistic Regression

Multinomial Logistic Regressed category	Sl No	Independent Predictor Variables		Std. Error	Wald	df	Sig.	Exp() odds ratio
High Inclusion (FII:>60) with reference category Low inclusion (FII: <30)	1	Intercept	1.528	0.286	28.544	1	0.000	4.609
	2	Education	1.664	0.324	26.376	1	0.000	5.280
	3	Land holdings	1.532	0.421	13.242	1	0.003	4.627
	4	Religion	1.461	0.521	7.864	1	0.039	4.310
	5	District	1.022	0.356	8.241	1	0.022	2.779
	6	Age	1.012	0.423	5.724	1	0.036	2.751
	7	Bank	1.312	0.425	9.530	1	0.014	3.714
	8	Formal Credit	1.346	0.364	13.674	1	0.000	3.842
	9	Caste	1.424	0.512	7.735	1	0.028	4.154
	10	Occupation	1.462	0.523	7.814	1	0.042	4.315
	11	Income	1.626	0.384	17.930	1	0.001	5.083

Source: Computed from primary data

The size of land holdings of farmers also has a greater capacity (odds ratio: 4.627) to enhance the level of inclusiveness from the low inclusion category to the high inclusion category. The major occupational status of small and marginal farmers is also found to be influencing the financial

inclusion of small and marginal farmers. The main occupation of the farmers is revealed to be having a possibility of shifting the inclusion status of the small and marginal farmers to the high inclusion category of 4.315 times when compared to the reference category of low inclusion category. Financial inclusion is found to differ in different religious groups. Moreover, the religious category of small and marginal farmers has already found to be influencing the level of financial inclusion of small and marginal farmers. While analyzing the inclusion levels of high inclusion with that of the reference category of low inclusion, the results of the regression illustrates that the religion of the farmers is another determinant (odds ratio: 4.310) that would help the small and marginal farmers to achieve higher levels of financial inclusion. The caste category of farmers has already been found to influence the financial inclusion of small and marginal farmers. Higher levels of financial inclusion were found to be among the upper caste category of small and marginal farmers. The odds ratio of the caste category (odds ratio: 4.154) indicates that it has a greater role among farmers to be included in the high inclusion category than the reference category of low inclusion. Formal sources of credit were found to be associated with the financial inclusion level of small and marginal farmers. The above regression results reveals that the formal source of credit availed by small and marginal farmers has the probability of 3.842 times in progressing them from the reference category of low inclusion to the high inclusion level.

The type of bank associated with the small and marginal farmers is also found to be influencing the level of financial inclusion. The regression result reveals that the bank category with which the small and marginal farmers are associated is another determinant (odds ratio: 3.714) in enhancing

their level of financial inclusion and shifting them from the reference category of low inclusion to the high inclusion category. The residing district is also found to be associated with the small and marginal farmers in achieving higher levels of financial inclusion. The present study also reveals that there exist significant differences in the level of financial inclusion among domicile districts of farmers. The regression result shows that the domicile region (District) is also a determinant (odds ratio: 2.779) in promoting financial inclusion among small and marginal farmers in Kerala. In the present study, it is found that the age of the farmers is associated with their level of financial inclusion. The above regression result reveals that the age of the farmers is also capable of influencing (odds ratio: 2.751) the level of financial inclusion among small and marginal farmers in Kerala.

Thus, the analysis using multinomial logistic regression to find the determinants of financial inclusion among small and marginal farmers in Kerala reveals that the major determinants of financial inclusion are level of education, level of income and size of land holdings. The other determinants are occupation, caste, religion, formal credit sources, associated bank, domicile region and age. These determinants influence the level of financial inclusion among farmers and as such, they are capable of enhancing the level of financial inclusion among them.

7.4 Impact of Financial Inclusion among Small and Marginal Farmers in Kerala.

One of the objectives of this study is to determine the impact of financial inclusion among the small and marginal farmers. For this, the researcher has used factor analysis in order to estimate the latent relationship within the variables and in order to assess the impact of access and use of

financial services among small and marginal farmers. The analysis helps in condensing a large set of variables into a small number of basic components, which improved some related variables. Factor analysis uses twenty identified variables in order to measure the impact of financial inclusion. It was found that there was a high correlation between the variables and this was found to be statistically significant. Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy was conducted to analyze the applicability of factor analysis to the identified twenty variables.

Table 7.5 KMO and Bartlett's Test of Sampling Adequacy and Significance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.876
Bartlett's Test of Sphericity	Approx. Chi-Square	4202
	Sig.	0.000

Source : Computed from Primary Survey

The Result of Factor Analysis presented in Table 7.5 and it was found to be significant as the KMO value, $0.876 > 0.5$. The Bartlett's statistics tests the hypothesis that the correlation matrix of chosen variables is an identity matrix. The KMO test indicates the proportion of variance in the variable which is the common variance that might be caused by the underlying factors. Once the number of factors is known, the variables could be grouped into any of these factors so that the characteristics of the underlying factors may be determined. Towards this, rotated component matrices were calculated that gave factor loadings for each of the variables and are given in Table 7.6. The factor loadings given in Table 7.6 show the correlation between factors and the variables. Large values indicate that a variable and a factor are closely related. Based on the loadings, all the items are identified and segregated into the related factors. The result of the total variance in the above Table 7.6

shows that 71.375 % of the total variation is explained by the first three factors. Moreover, the Eigen values exceeded one in case of three components.

Table 7.6 Rotated Component Matrix

Sl. No.	Variables	Component		
		Factor 1	Factor 2	Factor 3
1.	Level of Self Confidence	.816	.143	.138
2.	Decision Making Capacity	.789	.183	.164
3.	Interactive Skill	.774	.177	.234
4.	Social Awareness and Participation	.765	.066	-.203
5.	Organizational Capacity	.744	.085	.350
6.	Social Mobility	.740	.252	.198
7.	Mutual Respect	.734	.159	.189
8.	Sense of Independence	.694	.000	.288
9.	Family Acceptance	.654	.001	.400
10.	Attitude of officials	.588	.154	.395
11.	Access to Credit	.222	.811	-.010
12.	Control over Finance	.283	.789	-.006
13.	Standard of Living	.028	.776	.220
14.	Income Earning Capacity	-.031	.690	.011
15.	Ownership of Assets	.211	.579	.117
16.	Independence of Money Lenders	.357	.529	.255
17.	Capacity to Save	.228	.513	.470
18.	Adoption of Technology in Farming	-.012	.213	.572
19.	Modern Means of Securing Information	-.002	.012	.551
20.	Ability to use Technology in financial Services	.01	-.12	.549
	Eigen Values	7.353	2.352	1.068
	Percentage of variance explained	48.255	15.836	7.284
	Cumulative Percentage	48.255	64.091	71.375
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization				

Source: Computed from primary data

So we select three factors for the analysis. The table reveals that the first component explains 48.255 per cent of the variance, and the second and third components explain 15.836 percent and 7.284 percent of the variances respectively. The factor loadings indicate that the first ten variables have high degree of correlation with factor 1. Hence these variables, because of their uniqueness are labeled as **social** factors which explain 48.255 per cent of variance. The variables 11 to 17 also show high degree of correlation with factor 2. These factors are identified as **economic** factors which explain 15.836 percent. High degree of correlation is shown by the last three variables with factor 3. Considering the peculiarities of these variables, they are labeled as **technological** factors which explain 7.284 percent of the variances.

7.5 Relationship between Impact Factors and Financial Inclusion: Regression Analysis

The present study has also identified three factors which are capable of explaining 71.375 per cent of variance of the identified factors with the Financial Inclusion Index. Further, it would be advisable to understand the influence or the degree of relationship between these social, economic and technological variables on the financial inclusion index. For this purpose, multiple regression analysis is conducted. The result of multiple correlation shows that the co-efficient of multiple correlations, R , is found to be 0.82. Hence the factors are found to be significant to estimate the value of Financial Inclusion Index. The value of co-efficient of determination, $R^2 = 0.6724$, confirms that the model can be trusted and that this model is 67.24 percent capable of being used for prediction. The ANOVA of the multiple regression model is given in the following Table 7.7 The results of ANOVA given in Table 7.7 shows that the multiple regression model with three factors is significant ($F=73.27818$ and $p=0.00<05$) than the intercept only model.

Table 7.7 ANOVA of Multiple Regressions

Model	Sum of Squares	d. f	Mean Square	F-value	Sig.
Regression	2191.359	2	730.453	73.27818	0.00
Residual	5941.059	597	9.96822		
Total	8132.418	599			

Source: Computed from primary data

Thus, the result indicates that there is significant relationship between the predictor variables with the dependant variable, the Financial Inclusion Index. The regression model showing the relationship of the predictor variables on the dependant variable is shown in Table 7.8.

Table 7.8 Regression Model

Model	Coefficients		t	p-value
		Std. Error		
(Constant)	36.171	2.560	14.132	0.000
Social Impact	2.610	1.257	3.088	0.004
Economic Impact	1.915	1.870	2.489	0.010
Technological Impact	1.497	0.428	2.161	0.030

Source: Computed from primary data

Thus, the regression results show that the p-values of all the three impact factors are significant. This would indicate that the Financial Inclusion Index is significantly influenced by each of these three factors. The result suggests that the regression model for estimating the Financial Inclusion Index is as follows:

$$FII = 36.171 + 2.61 F_1 + 1.915 F_2 + 1.497 F_3$$

In the above regression estimation model F_1 , F_2 and F_3 are the identified factors, namely, **Social**, **Economic** and **Technological** factors. The degree of influence of the identified factors on the Financial Inclusion Index is estimated to be 2.61 times, 1.915 times and 1.497 times for unit increase in the first, second and third factors respectively.

7.6 Problems of Financial Inclusion among Farmers

Agriculture is a risky venture and the farmers need variety of financial services to equip them in meeting the challenges of increasing productivity, making innovations, credit requirements, marketing and managing risk. The small holder nature of agriculture in India and particularly that of in Kerala is much more pertinent now than ever before. Moreover, the increasing fragmentation of land holdings resulting in the reduced capability of availing financial services make the destiny of small and marginal farmers even worse. The Planning Commission (2011) in its report of the working group on outreach of institutional finance, co-operatives and risk management for 12th Five Year Plan (2012-17) has highlighted the need for more focus on small and marginal farmers. The 12th Five Year Plan approach paper recognises the significance of agriculture in achieving its basic objective of faster, sustainable and more inclusive growth (Planning Commission, 2011). The report of the committee on financial inclusion of the government of India has highlighted the 'financial exclusiveness' of the farmer households, particularly that of the small and marginal farmers within the farming community (Rangarajan, 2008). Enhancing the level of financial inclusion of the small and marginal farmers would result in unrestricted availability and usage of financial services

such as payment/remittance, savings/deposit, credit/loan and insurance. Moreover, it would reduce their dependence on non institutional sources and be able to become affective partners of inclusive development.

While extending financial services and envisaging greater financial inclusion to the small and marginal farmers, there are lot of challenges due to the inherent peculiarity of the farmers. The World Bank policy research working paper (Demirguc- Kunt and Klapper, 2012) highlighted the barriers to the use of formal accounts. The major barriers to financial inclusion cited are lack of sufficient money followed by expensive (affordability) nature and family member already having an account, a barrier due to indirect users. The other reasons recorded are distance from banks, lack of necessary documentation, lack of trust in banks and religious reasons. The fixed transaction costs and annual fees tend to make small transactions unaffordable among the individuals. Another study on financial inclusion (Demirguc-Kunt, A., & Klapper, L. 2013) revealed that the major challenge in financial inclusion is the lack of enough money to use one and this has been the only reason cited by most of the respondents. The next most commonly cited reasons were that banks or accounts are too expensive and lack of income, expensive nature, lack of necessary documents, and documentation requirements (Demirguc-Kunt, Klapper, Singer, and Van Oudheusden 2014). A study on financial inclusion of farmers in Kerala by Kerala State Level Bankers Committee attempted to assess the present level of financial inclusion and the extend of dependency of rural households on the formal/informal financial sector, identify reasons for not availing financial facilities from banks, assess the regional variations in the CD ratio and its impact on the indebtedness among the farmers and develop strategies to be adopted by the

banks for enhancing financial inclusion. The study has reported that major challenges in the process of financial inclusion among the farmers of Kerala are low income, documentation issues, inadequate collateral security, lack of awareness and lack of support from banks (SLBC, Kerala, 2008).

The present study tried to understand the issues among small and marginal farmers in the process of financial inclusion. The identified problems are subjected to analysis by computing the weighted average mean score of each of the specific problems and ranking them in the order of significance. Thus, the various problems of financial inclusion existing among each category of farmers are presented in Table 7.9. The study reveals the problems and issues faced by the different farmer groups among the small and marginal farmers in Kerala in the process of furthering financial inclusion. Insufficient income is reported to be the key issue in the process of financial inclusion among all the categories of the small and marginal farmers. This would have been due to the inherent nature of the agriculture sector where the returns usually do not commensurate with that of the amount expended. The next major problem reported by most of the farmer groups is the requirement of securities for availing loans. The issue of security or collateral arises due to the fact that most of the banks demand collateral even for small loans even though they are not supposed to demand it. This is a pertinent and aggravating issue because of the sub-division and thereby increased fragmentation of land holdings among the farmers, due to which the farmers are helpless in providing collaterals which they do not have. Another major issue reported by the farmers is the procedural formalities to be fulfilled in connection with the documents required for securing credit. Banks and other financial institutions demand various documents as a requirement for the processing of the

applications for providing financial services. The poor farmers being unable to meet these requirements would often shift to semiformal and informal financial services.

Table 7.9 Problems of Financial Inclusion among Farmer Groups

Sl No	Type of Problem	Farmer Groups							
		Landless		Sub-marginal		Marginal		Small	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Insufficient Income	8.62	I	8.18	I	8.45	I	7.86	I
2	Security Requirements	7.84	II	7.68	II	7.42	II	7.54	III
3	Documentation Issues	7.38	IV	7.56	III	5.82	V	7.64	II
4	Lack of Awareness	7.72	III	7.42	IV	7.41	III	6.62	V
5	Unsuitable Products	6.62	V	6.64	V	7.18	IV	6.76	IV
6	Rate of Interest	4.32	VIII	4.84	VI	5.28	VI	5.68	VI
7	Hidden Charges	3.84	IX	4.28	VIII	4.64	VII	4.72	VIII
8	High Premium	4.65	VI	4.32	VII	3.94	IX	3.88	IX
9	Claim Settlement	3.28	X	3.62	X	4.63	VIII	4.92	VII
10	Delay by Bank	2.86	XI	2.64	XI	2.38	XI	2.42	XI
11	Distance from Bank	1.92	XII	1.64	XII	1.42	XII	1.38	XII
12	Repayment Schedule	4.64	VII	3.98	IX	3.62	X	3.74	X

Source: Computed from primary data

Lack of awareness and low level of education are also reported issues among farmers in the process of financial inclusion. The rural livelihoods of the farmers would infuriate this issue. The other problems reported by the small and marginal farmers in Kerala in the process of financial inclusion are unsuitable products, rate of interest, hidden charges, high insurance premium, and claim settlement issues in insurance, delay by bank in providing financial services, distance from bank and the repayment schedule of credit.

The researcher in this work has attempted to find out the key determinants of financial inclusion among the small and marginal farmers in Kerala. The analysis using multinomial logistic regression to find the determinants of financial inclusion among small and marginal farmers in Kerala reveals that the major determinants of financial inclusion are level of education, level of income and size of land holdings. The other determinants are occupation, caste, religion, formal credit sources, associated bank, domicile region and age. These determinants influence the level of financial inclusion among farmers and as such, they are capable of enhancing the level of financial inclusion among them. The researcher has used factor analysis in order to estimate the latent relationship within the variables and in order to assess the impact of financial inclusion among small and marginal farmers. The impact factors of financial inclusion are identified as social, economic, and technological factors respectively. Further the influence and the degree of relationship between these **social**, **economic** and **technological** variables on the Financial Inclusion Index, is estimated using multiple regression method. Further, towards the end, the major problems associated with financial inclusion are also identified.



Chapter 8

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

<i>Contents</i>	8.1	<i>Introduction</i>
	8.2	<i>Progress of Financial Inclusion in India and Kerala</i>
	8.3	<i>Financial Inclusion among Small and Marginal Farmers in Kerala</i>
	8.4	<i>Determinants of Financial Inclusion in Kerala</i>
	8.5	<i>Impact of Financial Inclusion in Kerala</i>
	8.6	<i>Relationship between impact factors and financial inclusion-</i>
	8.7	<i>Problems of farmers in Kerala</i>
	8.8	<i>Policy Suggestions</i>
	8.9	<i>Conclusion</i>
	8.10	<i>Scope for Further Research</i>

8.1 Introduction

Financial inclusion has been promoted in India as it would help in providing variety of financial services to the populace and improves the financial conditions, living standards, enable to create financial assets, generate income and build resilience to meet macro-economic and livelihood shocks. Agriculture is regarded as a risky enterprise in India, but, the development of agriculture continues to remain critical for India's sustainable and equitable growth. The 12th Five Year Plan Approach Paper also indicates that agricultural development is an important component of faster, more inclusive sustainable growth. In the agriculture sector, the most vulnerable and the predominant segment consists of the small and marginal farmers who constitute more than eighty percent at the national level and more than ninety eight percent in the State of Kerala. The process of financial inclusion has a

wide scope between the lower and higher extremities. Enhancing the extent of financial inclusion is to ensure that formal financial services achieves much wider percolation to the sub-sectors of the economy with greater coverage, expanding the scope of financial inclusion. As the initiatives towards greater financial inclusion has been the key development agenda, it would be appropriate to assess the degree of inclusiveness achieved within the sectoral and sub-sectoral segments of the economy. This research work is based on unique individual-level data from the perspective of the users of financial services so as to assess the extent of financial inclusion by key respondent characteristics, such as gender, age, education, income, employment and such other socio-economic characteristics.

The State of Kerala has several unique features in the process of its development. It has a high level of social development which is comparable to the developed countries of the world. The financial inclusion initiatives were successful to a great extent in Kerala as compared to other states in India. The Reserve Bank of India in its working paper (Chattopadhyay,2011) made a comparison of the Indian States regarding the level of financial inclusion achieved. The State of Kerala tops the list in the index of financial inclusion, followed by Maharashtra and Karnataka. Moreover, in 2013, INCLUSIX, the financial inclusion index formulated by CRISIL, based on data provided by the Reserve Bank of India, rated Kerala as the first (inclusion score of 80.4) among the States in India. Five of the districts in Kerala found a place among the top ten districts in India in terms of financial inclusion. Later, in the succeeding year INCLUSIX (CRISIL, 2014), reported that among the various districts in India, Kerala State has the highest number

of districts (13 out of 14) in the list of top 50 districts in India in the extent of financial inclusion achieved. Moreover, among the top 9 districts in India, 6 are from Kerala. Thus, the basic stage of financial inclusion is highly successful in Kerala when compared to other major States in India. The initial financial inclusion initiatives and the first level achievements are not sufficient to attain the ultimate objective of comprehensive financial inclusion and thereby financial development and growth with equity. As the process of financial inclusion is a continuum in between the extremities and as the initiatives towards greater financial inclusion has been our key development strategy over the past decade, it is appropriate to assess the degree of inclusiveness achieved within the sectoral and sub-sectoral segments of the economy. Thus, the present study is conducted to examine and evaluate the extent of financial inclusion in the State of Kerala in the context of the latest financial inclusion strategies. The study also assesses the extent and degree of financial inclusion among the vulnerable segments of the economy and to find out the determinants and to identify the problems and impact of financial inclusion among the small and marginal farmers in Kerala. The study is both descriptive and analytical in nature. The study is analytical in the sense that the association between financial inclusion and the identified variables are studied, the extent and degree of financial inclusion is assessed and the impact factors of financial inclusion is identified and estimated. The major findings are given below.

8.2 Progress of Financial Inclusion in India and Kerala

In India, while the use of the term financial inclusion in above context may be of recent origin, the efforts to bring poor under the fold of formal

credit system have been going on since nationalization or even earlier. The SHG- Bank Linkage Programme is one of the major initiatives in India to promote financial inclusion. Among the financing agencies, commercial banks continued to have the leading share (54 per cent) in the number of SHGs with savings accounts, followed by RRBs (28 per cent) and cooperative banks (18 per cent). The progress of SHGs in Kerala reveals that the number of SHGs maintaining savings bank account with banking sector shows a moderate increase over the years. The compound annual growth rate of the total number of SHGs showed a modest growth rate in the State and there is moderate increase in the number of SHGs linked with the formal banking sector. However, dilution of the role of SHGs as financial intermediaries appears to be carried over to the recent policy directives towards financial inclusion, and particularly concentrating on individual access and use of financial services like that of PMJDY.

The Census data shows that there is remarkable increase of 65.91 percent advancement in the total households availing banking services in 2011, when compared to the previous decade. The overall percentage of households availing banking services in India was at 59 percent, signaling that nearly more than 40 percent of the population in India still remains unbanked. However, the figures for the State of Kerala differ widely. The data shows that 75.26 percent of households in Kerala are availing banking services which are much above the national figure of 59 percent. This would indicate that higher levels of financial inclusion would prevail in the State due to greater coverage of mainstream banking services. Moreover, Kerala has an extensive bank network and accounts for 4.2 per cent of the total scheduled commercial banks operating in the country on par with larger States like Bihar and Punjab.

The existing 'no-frills' accounts were converted to Basic Savings Bank Deposit Account (BSBDA) and considerable progress has been made with 398.10 million Basic Savings Bank Deposit Accounts (BSBDAs) being added as on 31st March 2015, showing an impressive growth rate of 32.54 percent over the five year period. The Basic Savings Bank Deposit accounts opened through business correspondents also shows a remarkable increase during the period showing a higher growth rate than those through the branches. But, the overdraft facility availed through Basic Savings Bank Deposit accounts is showing a dismal picture. Even though in percentage terms the compound annual growth rate of OD availed in Basic Savings Bank Deposit accounts shows good progress, the reality is far from satisfactory. Out of a total 398.1 million BSBD accounts, only 7.6 million accounts has availed overdraft facility which comes to a meagre two percent of the total. This indicates the gravity of the demand side challenges existing in the process of financial inclusion. In Kerala, the BSBD accounts show considerable progress during recent years. Both the number and amount outstanding in the BSBD accounts shows remarkable progress during the period registering a compound annual growth rate of 41.83 per cent and 33.86 per cent respectively. Further, considerable improvement is also noticed in the number and amount of overdraft issued on BSBD accounts. Among the institutional sources, the major source of finance towards agriculture is provided by commercial banks. But, the co-operative sector and the money lenders also play a major role in this regard. Over the years the share of commercial banks shows an increasing trend; whereas, the co-operative banks were unable to increase their share of financing towards agriculture particularly during the past 3 decades. But, the sourcing by the money lenders

is showing a diminishing trend over the years since independence. It would have been due to the initiatives taken by the government and the banking regulators towards provision of greater financial access by formal sources of finance. Further, the role of the Government in extending finance to agriculture continues to remain subdued over the years. Moreover, the trend of credit disbursement to the agriculture sector shows that commercial banks continue to be the major vehicle of agriculture credit in India, and thereby, their capacity to participate in the financial inclusion programme is well recognized.

The prevalence of indebtedness among farmers is found to be in a progressive pattern according to the size of land holdings. The informal source of indebtedness is more among farmers with less land holdings. This shows that the source of institutional finance for farmers is influenced by the size of land holding and the vulnerable sections of the farming community, the small and marginal farmers have to depend more on non-institutional sources which would make their plight further worse. Moreover, the indebtedness to informal sources is more than formal indebtedness among all the categories of farmers. This would indicate that the formal sources were not able to meet the credit requirements of the farmers in general and the small and marginal farmers in particular. The declining trend of formal credit in the rural areas would make the prospects of this under privileged category even worse.

In Kerala, the agricultural financing of the whole banking sector shows a compound annual growth rate at 25.61 percent during the past decade. Within the banking sector, the commercial banks show a higher compound annual growth rate of 27.99 percent followed by RRBs and co-operative

sector. In the total flow of credit towards the agricultural sector over the years, the predominant progressive role of the commercial banks is well recognised. Moreover, the banking sector in Kerala is able to meet the priority lending targets and sub targets during the past decade. But, regarding the share of agriculture credit, the banks failed to meet the stipulated target of eighteen percent in the earlier years and since 2008, they were able to meet the statutory requirement. Similarly, weaker section advances to the total credit also shows improvement since 2005 and except during the year ending March, 2004, the banking sector maintained the targets well above the statutory requirement of 10% of the credit. Moreover, the CD ratio of the banking sector was found to be in a consistently improving manner.

The majority of the operational holdings in Kerala are marginal (96.32 per cent) followed by small holdings comprising of 2.64 per cent. Large and medium holdings are comparatively very low with large holdings accounting for only 0.03 percent. Moreover, there are disparities in the area operated by various categories of farmers. The combined small and marginal size class who constitute nearly 98.96 percent occupies only about 77 percent of the area operated, whereas, large, medium and semi-medium farmers who constitute only one percent has a 23 percent share in the area operated. Thus, there is wide disparity in the area operated among the various size groups of farmers in Kerala. The performance of the agriculture sector in Kerala has been volatile and fluctuating across the plan periods. It witnessed a negative growth rate of 1.3 per cent in the XIth Five Year Plan while a positive growth of 1.8 per cent in the Xth Plan Period. The crippling growth rate in agriculture as against a reasonably robust annual growth rate of GSDP of the State is a cause of concern. Reviving the agricultural sector is essential as a large share

of rural population in the State is still dependent on agriculture for employment and livelihood.

8.3 Financial Inclusion among Small and Marginal Farmers in Kerala

The study found that among the small and marginal farmers, majority (41.17 Percent) belong to the sub-marginal category followed by marginal (25.33 Percent), landless (17.83 Percent) and small (15.67 Percent) farmer categories respectively. Farmers with higher land holding size are found more in Wayanad District. The age-wise distribution of farmer categories shows that majority of the farmers belong to the age group of '40-50' (38.50 Percent) followed by those belonging to the age group of '50-60' (28.67 Percent). Only 13.67 percent of farmers belong to the age group of below thirty years of age. Among farmers, religion-wise classification shows that majority of the farmers belong to the Hindu community (65.17 percent) followed by Christians with a share of 22 Percent and the Muslims with a comparatively small share of 12.5 percent. Among the different religious groups higher size of land holdings are found among the Christian community when compared to the Hindus and Muslims. Moreover, education-wise distribution of farmer groups shows that the majority of farmers have secondary education (38.5 percent) followed by primary education (26.67 percent), higher secondary (23.50) and graduation (11.33) levels. However, majority of farmers with primary and below primary level of education belong to landless category. This indicates that more size of land holdings are found among farmers with higher levels of education. Age-wise distribution of Farmers among Bank Categories shows that majority (37 percent) of them belong to the age group

of '40-50'. Moreover, an overwhelming share of farmers (68 per cent) belongs to the age between '40 and 60'.

The extent and level of financial inclusion among the small and marginal farmers in the State of Kerala is assessed by constructing a Financial Inclusion Index. Thus, the Financial Inclusion Index is the scale to measure the extent of financial inclusion among the small and marginal farmers in Kerala. The distribution of farmers among various education groups shows

that higher levels of inclusion are found among the graduates with 82.35 percent and 13.24 percent among them belong to the medium and high inclusion categories respectively. Among the total respondents, a majority of them (23.17 percent) belong to medium inclusion segment with secondary level of education, followed by higher secondary and primary and below level of education with their respective shares of 17.67 percent and 17.50 percent respectively. However, 53.13 percent of the farmers with primary and below level of education have low level of inclusion whereas only 4.41 percent of the farmers who are graduates belong to this category. There is significant association ($p\text{-value}=0.001<0.05$) between financial inclusion and the different levels of education at 5 percent level. The mean values of financial inclusion is found high among higher education groups of secondary, higher secondary and graduation and above levels with their mean values of financial inclusion being 34.13, 38.41 and 41.47 respectively, and the significance of differences in the mean Financial Inclusion Index among various education levels of farmers is established. Moreover, further evaluation using Post Hoc test confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing education groups, further indicating

that higher the level of education, higher would be the level of financial inclusion.

Financial Inclusion Index among various size-classes of land holdings among farmers indicate that majority of the farmers belong to sub-marginal category followed by marginal farmers with a share of 41.17 percent and 25.33 percent respectively. Low inclusion is found more prevalent among landless farmers with 46.73 percent among them belonging to this level of inclusion; whereas, high level of inclusion is found more prevalent among small farmers with a share of 14.89 percent among them and 2.33 percent at the aggregate level belonging to this category. The mean financial inclusion was high among small farmers, figuring the mean value of 46.44 and the lowest among landless category with the mean value of 27.20. Further,

evaluation using Post Hoc test recognises that there exist significant differences in the mean Financial Inclusion Index among all the comparing size-class of farmers. Thus, the result indicates that higher the size of land holdings, higher would be the extent of financial inclusion. The distribution of Financial Inclusion Index among major occupation groups show that a large proportion of farmers with agriculture as their major occupation belong to the medium inclusion category. High inclusion is found more among farmers having employment as their main occupation. The mean financial inclusion is high among employed, figuring the mean value of 41.42. Further evaluation using Post Hoc test confirms that there exist significant differences in the mean Financial Inclusion Index among occupation groups and it is inferred that farmers having employment as their major occupation have higher level of financial inclusion.

The analysis on the basis of religion reveals that the average values of financial inclusion is more (41.48) among Christians followed by Hindus (38.53) and Muslims (33.29). The results indicate that there exist significant differences ($p\text{-value} < 0.05$) at 5 percent level of significance in the mean Financial Inclusion Index among all the comparing religious groups of farmer groups. Thus, it can be inferred that higher level of financial inclusion exists in the Christian community followed by Hindus and Muslims. The caste-wise analysis of financial inclusion shows that low inclusion was found most among SC/ST (45.16 percent) followed by OBC (34.45 percent) and upper caste (17.79 percent). The mean Financial Inclusion Index was only 30.657 percent among SC/ST category; whereas, it was 42.923 among the upper caste and 36.084 percent among the OBC categories. Further evaluation confirms that there exist significant differences in the mean Financial Inclusion Index among all the comparing caste categories of farmers which indicate that higher the caste, higher would be the extent of financial inclusion.

The average values of inclusion among age groups of farmers reveal that the mean financial inclusion is more (41.26) in the age group of 40-50 followed by the age groups of below 30, 50-60 and 30-40 with values of 40.29, 40.02 and 39.74 respectively. The results confirm that there exist significant differences in the mean Financial Inclusion Index among various age categories of farmers. The analyses reveal that financial inclusion significantly varies only in the case of the age group of 60 and above when compared with all other age groups. The District-wise distribution of Financial Inclusion Index among farmers show that high inclusion is found more in Wayanad District (1.83 percent) followed by Thiruvananthapuram (1.5

percent) and Thrissur (1.0 percent) districts respectively. The average values of inclusion reveal that the financial inclusion is found more in Wayanad District (41.375) followed by Thiruvananthapuram (36.378) and Thrissur (34.488) Districts. Hence, further evaluation confirms that there exist significant differences in the mean Financial Inclusion Index of Thiruvananthapuram and Thrissur Districts with that of the Wayanad District, indicating that Wayanad District have higher levels of financial inclusion.

The analysis of Financial Inclusion Index among various bank categories of farmers indicate that farmers with low inclusion are found mostly among the customers of Co-operative banks (9.5 percent) followed by Garmin bank (8.5 percent). However, high inclusion is more found in the State Bank group (1.1 percent) and Nationalized Bank (1.0 percent) among farmer customers. Higher levels of financial inclusion are found among the farmer customers of State Bank and Nationalized Bank groups and comparatively lower inclusion is found among the Grameen Bank customers and the least inclusion among the Co-operative Bank customers. The analysis of financial inclusion on the basis of Income levels among farmer groups show that 31.33 percent of them belong to the income group of '5000-10,000'. Among the various income categories low inclusion was found most in the lowest income category with a share of 48.11 percent and the least is found in the highest income category (15.45 percent) and at the same time high inclusion is found most in the highest income category. Thus the analysis indicates that higher the level of income category higher would be the level of financial inclusion and vice versa.

8.4 Determinants of Financial Inclusion among Farmers in Kerala

The researcher, in the present study, uses various socio-economic and demographic independent variables or predictor variables which are categorical in nature. Multinomial logistic regression is used for analysis as the dependent variable; the Financial Inclusion Index has more than two categories. The analysis using multinomial logistic regression to find the determinants of financial inclusion among small and marginal farmers in Kerala reveal that the major determinants of financial inclusion are level of education, level of income and size of land holdings. The other determinants are occupation, caste, religion, formal credit sources, associated bank, domicile region (district) and age. These determinants influence the level of financial inclusion among farmers and as such, they are able to change the level of financial inclusion among farmers.

8.5 Impact of Financial Inclusion among Farmers in Kerala.

One of the objectives of this study is to determine the impact of financial inclusion among the small and marginal farmers in Kerala. For this, in the present study, the researcher has used factor analysis to estimate the latent relationship within the variables and to assess the impact of access and use of financial services among small and marginal farmers. The result of the total variance in the above table 7.6 shows that 71.375 % of the total variation is explained by the first three factors. Moreover, the Eigen values exceeded one in the case of three components. So these three factors are selected for further analysis. The identified impact variables, because of their uniqueness are labeled as: (a) social factors which explain 48.255 percent of variance, (b)

economic factors which explain 15.836 percent of variance, and (c) technological factors which explain 7.284 percent of the variances. Thus the major impact factors identified are social, economic and technological factors.

8.6 Relationship Between Impact Factors and Financial Inclusion: Regression Analysis

Having identified the factors which are capable of explaining 71.375 per cent of variance, further to understand the influence or the degree of relationship between these factors on the financial inclusion index, linear multiple regressions are conducted. The results of multiple correlation indicate that the co-efficient of multiple correlations ($R = 0.82$) is significant in predicting the value of Financial Inclusion Index. The result of ANOVA shows that the multiple regression model with three factors is significant ($F=73.27818$) than the intercept only model ($p=0<05$). The regression result shows that the p-values of all the three factors are significant, indicating that the Financial Inclusion Index is significantly influenced by each of these factors. The degree of influence of the identified factors on the Financial Inclusion Index is estimated to be 2.61 times, 1.915 times and 1.497 times for unit change in the identified social, economic and the technological factors respectively.

8.7 Problems of Financial Inclusion among Farmers in Kerala

While extending financial services and envisaging greater financial inclusion to the small and marginal farmers, lot of challenges exist due to the inherent nature of the agriculture sector. Insufficient income is reported to be the key issue in the process of financial inclusion among all the categories of

the small and marginal farmers. The next major problem reported by most of the farmer groups is the requirement of securities for availing loans. The issue of security or collateral arises due to the fact that most of the banks demand collateral even for small loans even though they are not supposed to demand it. Another major issue reported by the farmers is the procedural formalities to be fulfilled in connection with the documents required for securing credit. Banks and other financial institutions demand title deed and other documents as a requirement of the processing of the applications for providing financial services. The poor farmers being unable to meet these requirements would often shift to semiformal and informal financial services. Lack of awareness is another problem reported among farmers in the process of financial inclusion. The low level of education and the rural livelihoods of the farmers would infuriate this issue. The other problems reported by the small and marginal farmers in Kerala in the process of financial inclusion are unsuitable products, rate of interest, hidden charges, high insurance premium, and claim settlement issues in insurance, delay by bank in providing financial services, distance from bank and the repayment schedule of credit. The problems and issues reported by the small and marginal farmers in Kerala would have been due to the peculiar nature of the agriculture sector where the returns are very low and the progressive fragmentation of land holdings among the farmers making the situation worse.

8.8 Policy Suggestions

The following suggestions and recommendations are put forward before the policy makers, government, executing authorities and institutions for their consideration and execution.

8.8.1 The level of income has been reported to be a major determinant of financial inclusion among the small and marginal farmers. Agriculture, being an occupation with low level of returns, necessary steps must be taken by the authorities to enhance the level of income. The existing practice of procurement of agricultural produce is to be made more effective. For this, the government is to procure the produce directly and not through any other agency. If it is not so, the farmers may not get the eligible support price for their produce. Moreover, steps must be taken by the authorities to speed up the payment towards the farmers so that they would get sufficient income to keep the agricultural operations on track and keep going.

8.8.2 The delay in the procurement of agriculture produce is to be avoided and is to be scheduled at the proper time. The delay, if any, would further extend the receipt of income and also there is possibility of loss of the agricultural produce. The delay in procurement would force the farmers to store their products, which would further increase their cost of operation, reducing their incomes by way of returns.

8.8.3 Considering the greatness of agricultural activity, the authorities need to consider to enhance the rate of subsidy and also the rate of procurement of agricultural produce.

8.8.4 Higher level of operating expenses reduces the level of income of the farmers. For this, the government must promote mechanization of farming activities using the existing organizational and infrastructural facilities more rigorously than ever before. This would considerably reduce the farmers cost of production and would have sufficient dispensable income, which would ultimately enhance their level of inclusiveness.

8.8.5 As agriculture is a risky and low return enterprise, the government may consider granting interest free loans of small amounts to farmers.

8.8.6 The small and marginal farmers financing by the banking sector is a part of 'weaker section' within the priority sector advances. In order to enhance the credit services, the advances towards small and marginal farmers, within the weaker section financing, coming under the priority sector lending may be given specific targets to be achieved.

8.8.7 To enhance the level of income of the farmers, the authorities may promote the production and marketing of value added products of farmers. This will enable them to get high prices and would generate more surplus income for them.

8.8.8 Enhancing the marketing capability of farmers is another mode of enhancing the level of income of farmers. For this the government may take more steps to promote farmers clubs and societies engaged in marketing of agricultural produce. Moreover, warehousing facilities may be established in rural areas so that farmers could manage seasonal variations in prices.

8.8.9 In order to increase the level of awareness among farmers, the existing setup of village knowledge centres are to be promoted and more such centres need to be established in rural areas. Moreover, the authorities may provide special privilege for the education of the children of small and marginal farmers.

8.8.10 Inadequate security has been reported as a major challenge in procuring credit from financial institutions. As the banks are insisting security for the purpose of availing loans up to specified amounts, which is not

warranted as per existing regulations, the government may initiate steps to execute the rules strictly to prevail the law.

8.8.11 Progressive fragmentation of land holdings is another major challenge faced by the small and marginal farmers in availing credit. In order to overcome this, pooling of agricultural land may be promoted for cultivation as well as for securing credit.

8.8.12 The agricultural debts of the debt ridden farmers may be written off up to a certain limit. In doing so, the Government has to ensure that the benefit of such measure must go to the farmers who really deserve it. Moreover, mechanisms for clearing debts due to the informal sources can also be considered by providing shifting or swapping facilities for such loans wherever possible. The possibility of creating and utilizing special funds intended in this regard can also be considered.

8.8.13 Landless tenant farmers face lot of challenges in availing financial services, particularly for getting credit. It is not practical for them to produce original title deeds of property as they are tenants and do not have it. Hence the lease deed of the property used for agricultural purposes by them may be accepted as adequate documents in providing credit.

8.8.14 The technological advancement can be utilized by the farmers in getting farm information and marketing facility for their produce. The mobile and internet based communication technologies would enhance their level of awareness about products, inputs, markets and other financial services.

8.8.15 The Government and financial institutions may take necessary steps to provide credit counseling and promote financial education among the small

and marginal farmers. This would enable them to avail the most appropriate type of financial services required by them.

8.8.16 The business correspondent and business facilitator modes of enhancing financial inclusion is not found to be popular in rural areas among the small and marginal farmers. Therefore, these methods are to be promoted in the rural areas. Their services would enhance the level of financial awareness and equip them in securing suitable financial services.

8.8.17 Formulate various programmes in association with the local Government bodies and Government departments for providing credit counseling, financial education, inculcating banking habits and creating awareness on the advantages of availing various financial services among the small and marginal farmers.

8.8.18 Use of formal bank account for receiving social security and other pensions were found to be low and not popular among the small and marginal farmers. Hence, measures are to be taken to route these type of pensions and Government payments only through formal bank accounts. This would enhance the use of formal financial services and would promote financial inclusion among the small and marginal farmers.

8.8.19 As the documentation procedure is identified to be a major challenge in the process of use of financial services, the authorities may take steps to minimize the requirements for documents for availing loans and device mechanisms for tie ups with the necessary Government departments and offices to assist the farmers in getting the related documents. In this regard, the total computerisation of land records need to be given top priority by the Government.

8.8.20 Avoiding or managing risk is central to the livelihood strategies of small and marginal farmers. The authorities may promote suitable types of insurance facilities to manage livelihood shocks with subsidised premium, improved product design and faster claim settlement. For this, insurance services are to be extended through financial institutions apart from the frontline insurance companies and may be made compulsory along with the credit facilities availed off by them. Moreover, steps may also be taken to create adequate awareness among small and marginal farmers in this regard.

8.9 Conclusion

The present study is conducted to examine and evaluate the level of financial inclusion among the small and marginal farmers in the State of Kerala. The study found that several policy level initiatives are showing considerable progress in the process of financial inclusion. In Kerala, the commercial banks continue to have the major share in extending the credit flow to the agriculture sector. The extent and level of financial inclusion among the small and marginal farmers in the State of Kerala is assessed by constructing a Financial Inclusion Index and analysed across the different socio-economic and demographic variables selected for the study. The study found that the level of financial inclusion has got a more positive relationship with various variables such as education, size of land holdings, income and caste. Further, multinomial logistic regression analysis to identify the major determinants of financial inclusion has found that level of education, level of income and size of land holdings are the key determinants of financial inclusion among small and marginal farmers. The other determinants are occupation, caste, religion (district), formal credit sources, associated bank,

domicile region and age. The social, economic, technological factors are identified to be the major impact areas of financial inclusion. The degree of influence of the identified factors on the Financial Inclusion Index are estimated to be 2.61 times, 1.915 times and 1.497 times for unit change in the identified social, economic and the technological factors respectively. Moreover, the key issues in the process of financial inclusion include insufficient income, requirement of securities, procedural formalities for documentation and lack of awareness. To sum up, this enquiry on the financial inclusion among small and marginal farmers in Kerala puts light to the fact that there is ample scope to further the initiatives towards achieving greater financial inclusion and so, the policy makers and executors have to continue their conscious efforts in this regard in order to achieve a sustainable all inclusive growth with equity.

8.10 Scope for Further Research

The present study has centered its focus on the role of banks in promoting financial inclusion among the small and marginal farmers in Kerala. Since the process of financial inclusion is a continuum with a wide scope spread over the extremities and the State of Kerala is in the forefront of achievements among the states in India, the study has paid its special attention to the nature and level of financial inclusion achieved among the small and marginal farmers in Kerala. The cross sectional analysis of the achievements of the initiatives towards financial inclusion among other sections of society has not been examined in this research; hence this are remains to be further investigated in future covering more districts in different states in India. As the private sector banks have not been considered for this study, there is still

scope for comparative studies covering respondents from all the categories of banks. Again, studies can be conducted on financial inclusion using still more variables and indicators to attain deeper insight into this phenomenon. Finally, as the process of achieving greater financial inclusion is an ongoing conscious endeavour, there is ample scope for evaluation studies in order to assess the level of financial inclusion achieved in different periods of time.



REFERENCES

- Abu-Bader, S. H., Pryce, J. G., Shackelford, K. K., & Pryce, D. H. (2006). *Using statistical methods in social work practice: A complete SPSS guide*. Chicago, III: Lyceum Books.
- Aghion, P., & Bolton, P. (1997). A theory of trickle-down growth and development. *The Review of Economic Studies*, 64(2), 151-172.
- Aghion, P., Angeletos, G. M., Banerjee, A., & Manova, K. (2010). Volatility and growth: Credit constraints and the composition of investment. *Journal of Monetary Economics*, 57(3), 246-265.
- Aghion, P., Bacchetta, P., & Banerjee, A. (2004). Financial development and the instability of open economies. *Journal of Monetary Economics*, 51(6), 1077-1106.
- Aghion, P., Howitt, P., & Mayer-Foulkes, D. (2005). The effect of financial development on convergence: Theory and evidence. *Quarterly Journal of Economics*, 120, 173-222.
- Allen, Demirgüç-Kunt, and Klapper and Martinez Peria. (2012). *The Foundations of Financial Inclusion-Understanding Ownership and Use of Formal Accounts*. Policy Research Working Paper No.6290. Washington, DC: World Bank.
- Allen, F., Demirgüç-Kunt, A., Klapper, L. F., & Martinez Peria, M. S. (2012). *The foundations of financial inclusion: Understanding ownership and use of formal accounts*. World Bank Policy Research Working Paper No.6290. Washington. DC: World Bank.
- Allison, P. D. (1995). *Survival analysis using SAS: A practical guide*. Cary, NC: SAS.
- Alpana, V. (2007), Promoting financial inclusion: An analysis of the role of banks, *Indian Journal of Social Development*, 7(1), 107–26.
- Ananth, S., & Oncu, S.T. (2013). Challenges to financial inclusion: The case of Andhra Pradesh. *Economic and Political Weekly*, X/VII (7), 77-83.
- Ardic, O. P., Heimann, M., & Mylenko, N. (2011). *Access to financial services and the financial inclusion agenda around the world: A cross-country analysis with a new data set*. World Bank Policy Research Working Paper No.5537. Washington, DC: World Bank.
- Arunachalam, S. R. (2008). *Scoping paper on financial inclusion: UNDP and United Nations Organization*. Washington. DC: World Bank.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2012). Firm innovation in emerging markets: the role of finance, governance, and

- competition. *Journal of Financial and Quantitative Analysis*, 46(06), 1545-1580.
- Bagehot, W. (1873). *Lombard Street: A description of the money market*. London: HS King.
- Bandari, A. K. (2009). *Access to banking service and poverty reduction: A state-wise assessment in India*. Discussion Paper No. 4132. Born, Germany: The Institute for the Study of Labour.
- Banerjee, A. V., & Newman, A. F. (1993). Occupational choice and the process of development. *Journal of political economy*, 274-298.
- Barro, R. J. (2013). Education and economic growth. *Annals of Economics and Finance*, 14(2), 301-328.
- Barro, R. J. (1991). Economic growth in a cross section of countries, *Quarterly journal of Economics*, 105 (2), 407-443.
- Barro, R. J., Mankiw, N. G., & Sala-i-Martin, X. (1995). *Capital mobility in neoclassical models of growth*. Cambridge, MA: National Bureau of Economic Research.
- Basu, S. (1997). Why institutional credit agencies are reluctant to lend to the rural poor: A theoretical analysis of the Indian rural credit market. *World Development*, 25(2), 267-280.
- Beck, T., & Honohan, P. (2008). *Finance for all?: Policies and pitfalls in expanding access*, 41792. Washington, DC: World Bank
- Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to financial services: Measurement, impact, and policies. *The World Bank Research Observer*. Washington, DC: World Bank.
- Bencivenga, V. R., Smith, B. D., & Starr, R. M. (1995). Transactions costs, technological choice, and endogenous growth. *Journal of economic Theory*, 67(1), 153-177.
- Berger, A. N., Demirgüç-Kunt, A., Levine, R., & Haubrich, J. G. (2004). Bank concentration and competition: An evolution in the making. *Journal of Money, Credit and Banking*, 36(3), 433-451.
- Bernanke, B. & Gertler, M. (1989). Agency costs, net worth, and business fluctuations. *The American Economic Review*, 79(1), 14-31.
- Bhaskaran, R. (2006). *Readings on financial inclusion*. New Delhi, India: Taxman.
- Bhavani, T. A. & Bhanumurthy, N. R. (2012). *Financial access in post-reform India*. New Delhi, India: Oxford University Press.
- Bista, D. R., Kumar, P., & Mathur, V. C. (2012). Progress and performance of Kisan Credit Card Scheme with a case study of Bihar. *Agricultural Economics Research Review*, 25(1), 125-135.

- Bittencourt, M. (2012). Financial development and economic growth in Latin America: Is Schumpeter right? *Journal of Policy Modeling*, 34(3), 341-355.
- Buch, C. M., Döpke, J., & Pierdzioch, C. (2005). Financial openness and business cycle volatility. *Journal of International Money and Finance*, 24(5), 744-765.
- Cai, J., Cherny, K., & Milbourn, T. (2010). Compensation and risk incentives in banking and finance. *Economic Commentary*, 13.
- Chakrabarty, K.C. (2013). Financial Inclusion: Banks make progress, but more challenges lie ahead. *Business Line*. Retrieved from <http://www.thehindubusinessline.com/news/variety/banks-make-progress-but-more-challenges-lie-ahead/article4551583.ece>.
- Chakrabarty, K. C. (2012). *Proceedings of the International Banking Summit*, October 15, 2012 Mumbai: Reserve Bank of India.
- Chakrabarty, K. C. (2012, November). *Financial inclusion—issues in measurement and analysis*. In BIS-BNM Workshop on Financial Inclusion Indicators.
- Chakrabarty, K.C.(2014). Inclusion, growth and governance issues and way forward. *Reserve Bank of India Bulletin*, 68 (5)
- Chattopadhyay, S. K. (2011). *Financial inclusion in India: A case-study of West Bengal*. Working Paper No.8/2011.Mumbai, India: Reserve Bank of India .
- Choudhary, A. (2014). Financial inclusion and role of banks- An assessment, *International Journal of Innovative Social Science & Humanities Research*, 1 (8).
- Claessens, S. (2006). Access to financial services: A review of the issues and public policy objectives. *The World Bank Research Observer*, 21(2), 207-240.
- Clamara, N., Peria, X. and Tuesta, D. (2014). *Factors that matter for financial inclusion: Evidence from Peru*. BVBA working paper No. 14/09. Madrid: BVBA Research.
- Classens, S. (2005). *Access Finance*. Washington, DC: The World Bank.
- Cnaan, R. A., Moodithaya, M. S., & Handy, F. (2012). Financial inclusion: lessons from rural south India. *Journal of Social Policy*, 41(01), 183-205.
- Cole, S., Giné, X., Tobacman, J., Townsend, R., Topalova, P., & Vickery, J. (2013). Barriers to household risk management: Evidence from India. *American Economic Journal. Applied Economics*, 5(1), 104-114.

- CRISIL. (2014). *Inclusix: An index to measure India's progress on financial inclusion*. New Delhi: CRISIL.
- Cull, R., & Scott, K. (2010). Measuring household usage of financial services: Does it Matter How or Whom You Ask? *The World Bank Economic Review*. Washington, DC: World Bank.
- Das, K. P. & Basudeb, G. K. (2007). *Finance and growth: An empirical assessment of the Indian economy*. Research Paper No. 2007/13. Helsinki, Finland: UNU World Institute for Development Economics Research.
- Datta, K. (2007) *Money matters: Exploring financial exclusion among low paid migrant workers in London*. London: Queen Mary University
- Datta, S. & Ghosh, A.(2013). *Explaining access to credit by rural households: Results based on a study of several states in India*. Ahmedabad: Indian Institute of Management (A).
- De Gregorio, J., & Guidotti, P. E. (1995). Financial development and economic growth. *World Development*, 23(3), 433-448.
- Demirgüç-Kunt, A., T. Beck, and P. Honohan. 2008. *Finance for All? Policies and pitfalls in expanding access*. Washington, DC: World Bank.
- Demirguc-Kunt, A., Klapper, L. & Oudheusden, V. P. (2015). *The Global Findex Database 2014: Measuring financial inclusion around the world*. Policy Research Working Paper No. 7255. Washington, DC: World Bank.
- Demirgüç-Kunt, A., & Klapper, L. (2013). *Measuring financial inclusion: Explaining variation in use of financial services across and within countries*. Brookings Papers on Economic Activity, 2013(1), 279-340.
- Demirgüç-Kunt, A., & Klapper, L. F. (2012). *Measuring financial inclusion: The Global Findex Database*. World Bank Policy Research Working Paper No.6025. Washington, DC: World Bank
- Demirguc-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2014). *The Global Findex Database*. Policy Research Working Paper, No.7255. Washington, DC: World Bank.
- Dev, S. M. (2012). *Small farmers in India : Challenges and opportunities*. Working Paper No.2012-014. Mumbai, India: Indira Gandhi Institute of Development Research.
- Devaraja, T.S.,(2011). *An analysis of institutional financing and agricultural credit policy in India*. Hassan: University of Mysore.

- Devlin, J. F. (2009). An analysis of influences on total financial exclusion. *The Service Industries Journal*, 29(8), 1021-1036.
- Donovan, K. (2012). Mobile money for financial inclusion. *Information and communication for development*, 61-73.
- Dunn, O. J., & Clark, V. A. (2001). *Basic statistics: A primer for the biomedical sciences*. New York, NY: John Wiley & Sons.
- Estrada, G. B., Park, D., & Ramayandi, A. (2010). *Financial development and economic growth in developing Asia*. Manila, Philippines: Asian Development Bank.
- European Commission. (2008). *Financial Services Provision and Prevention of Financial Exclusion*. Retrieved from <http://www.bristol.ac.uk/media-library/sites/geography/migrated/documents/pfr0806.pdf>
- Forst & Sullivan. (2009). *Bringing financial services to the masses*. Retrieved from http://www.finopaytech.com/mobile/pdf/case_pdf/financial_inclusion_wp_NCR.pdf
- Fritz, R. G. (1984). Time series evidence of the causal relationship between financial deepening and economic development. *Journal of Economic Development*, 9(1), 91-111.
- Galor, O., & Zeira, J. (1993). Income distribution and macroeconomics. *The review of economic studies*, 60(1), 35-52.
- Gandhimathi, S., & Vanitha, S. (2010). Determinants of borrowing behaviour of farmers: A comparative study of commercial and co-operative banks. *Agricultural Economics Research Review*, 23, 157-164
- Gandhimathi, S. (2011). Determinants of borrowing behaviour of farmers: A microlevel analysis. *Indian Streams Research Journal*, 1(9), 1-4.
- Gardeva, A., & Rhyne, E. (2011). *Opportunities and obstacles to financial inclusion: Survey report*. Washington, DC: Center for Financial Inclusion.
- Gemma, E., Park, D., & Ramayandi, A. (2010). *Financial development and economic growth in development Asia* Manila, Philippines: Asian Development Bank.
- Gerschenkron, A. (1994). *Economic backwardness in historical perspective: A book of essays*. Cambridge, MA: Harvard University Press.
- GOI (2012). *Economic Survey*. New Delhi, India: Oxford University Press.
- GOI (2014). *Economic survey*. New Delhi: Oxford University Press.
- Goldsmith, R. W. (1969). *Financial structure and development*. New Haven, CT: Yale University Press.

- Government of India (2008), *Report of the committee on financial inclusion*. (Chairman: Dr. C. Rangarajan). New Delhi: Government of India.
- Government of India (2013). *An overview on financial inclusion*. Ministry of Finance. Retrieved from <http://financialservices.gov.in/banking/financialinclusion.asp>
- Government of India. (2010). *Report of the task force on credit related issues of farmers*. New Delhi: Government of India.
- Government of India. (2011). *Report of the working group on outreach of institutional finance, cooperatives and risk management for the 12th five year plan*. New Delhi: Planning Commission: Government of India.
- Government of India. (2012). *Economic Survey*. Ministry of Finance, New Delhi: Government of India.
- Government of India. (2013a). *State of Indian Agriculture*. Ministry of Agriculture, New Delhi: Government of India.
- Government of India. (2013b). *Agricultural Statistics at a Glance*. Directorate of Economics and Statistics, Ministry of Agriculture, New Delhi: Author. Retrieved from <http://agricoop.nic.in/agristatistics.htm>
- Government of India. (2014). *Population Census*. Ministry of Statistics and Programme Implementation. New Delhi: Government of India.
- Government of India. (2014). *Annual report of the central statistics office*. Ministry of Statistics and Programme Implementation. New Delhi: Government of India.
- Government of India. (2007). *Report of the expert group on agricultural indebtedness*. New Delhi: Government of India.
- Government of Kerala. (2013). *Economic Review*. Thiruvananthapuram, Kerala: Government of Kerala.
- Government of Kerala. (2014). *Medium term fiscal policy & strategy statement with medium term fiscal plan for Kerala*. Thiruvananthapuram, Kerala: Government of Kerala.
- Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *The Journal of Political Economy*, 98 (5), 1076-1107.
- Gregorio, J. D., & Guidotti, P.E. (1995). Financial development and economic growth. *World Development*, 23(3), 433-448.
- Gurley, J. G., & Shaw, E. S.(1955). Financial aspects of economic development. *American Economic Review*, 45(4), 515-38.

- Haber, S. H. (1991). Industrial concentration and the capital markets: A comparative study of Brazil, Mexico, and the United States, *The Journal of Economic History*, 51(03), 559-580.
- Haber, S. H., Maurer, N., & Razo, A. (2003). *The politics of property rights: Political instability, credible commitments, and economic growth in Mexico*. UK: Cambridge University Press.
- Hannig, A., & Jansen, S. (2010). *Financial inclusion and financial stability: Current policy issues*. Working Paper No.259. Tokyo: Asian Development Bank Institute.
- Harrison, P., Sussman, O., & Zeira, Joseph. (1999). Finance and growth: Theory and new evidence. Finance and Economics Discussion Series. *The Federal Reserve System*, 1999/35.
- Hoff, K., & Stiglitz, J. (2001). Modern economic theory and development. *Frontiers of development economics: The future in perspective*. New York, NY: Oxford University Press.
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression*. New York, NY: John Wiley & Sons.
- Howell, D. C. (2002). *Statistical methods for psychology (5th ed.)*. Pacific Grove, CA: Duxbury Thomson Learning. .Inclusion. Evidence from Peru. BVBA working paper No. 14/09 . Madrid : BVBA RESEARCH.
- Iyigun, M. F., & Owen, A. L. (2004). Income inequality, financial development, and macroeconomic fluctuations. *The Economic Journal*, 114(495), 352-376.
- Johnston, B., & Kilby, P. (1975). *Agriculture and structural transformation economic strategies in late developing countries*. New York, NY: Oxford University Press
- Jung, W. S. (1986). Financial development and economic growth: International evidence. *Economic Development and cultural change*, 333-346.
- Kamath, R. (2007). Financial Inclusion vis-à-vis social banking. *Economic and Political Weekly*, 42(15), 1334-1335.
- Kanz, M. (2012). *What does debt relief do for development? Evidence from India's bailout program for highly-indebted rural households*. World Bank Policy Research Working Paper No.6258. Washington, DC: World Bank .
- Karmakar, K. G. (2006). *Vinimaya*, National Institute of Bank Management, Pune, 26(1), 5-12.

- Kaur, Sukhvir (2011). *Poverty and Indebtedness among marginal and small farmers in rural Punjab*. Patiala: Punjabi University.
- Kaur., Jasmindeep., & Silony. (2011). Performance review of commercial banks in India with special reference to Priority Sector Lending: A study of post reforms era. *International Journal of Multidisciplinary Research*, 1(1), 47-61.
- Kelkar, V.(2010). Financial inclusive for inclusive growth. *ASCI Journl of Management*, 39(1):56-68.
- Kerala State Planning Board. (2014). *Economic review*. Kerala, India: Author.
- Khan, M. S., & Senhadji, A.S.(2000). *Financial development and economic growth*. (IMF Working Paper No. WP/00/209). Nairobi: IMF.
- Khan, R. H. (2013, February). *Financial inclusion & payment systems: Recent trends, current challenges and emerging issues*. Mumbai, India: Reserve Bank of India.
- King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108 (3), 717-737.
- King, R. G., & Levine, R. (1993). Finance, entrepreneurship, and growth: Theory and evidence. *Journal of Monetary Economics*, 32(3), 513-542.
- Krishnan, K. P. (2011). *Financial development in emerging markets: The Indian experience*. Working Paper No.276. Manila, Philippines: ADB.
- Kumar, N.(2011). *Financial inclusion and its determinants: Evidence from state level empirical analysis in India*. India: Reserve Bank of India.
- Kumar, A., Beck, T., Campos, C., & Chattopadhyay, S. (2005). *Assessing financial access in Brazil*. World Bank working paper No.50. Washington, DC: The World Bank.
- Kumar, A., Singh, D. K., & Kumar, P. (2007). Performance of rural credit and factors affecting the choice of credit sources. *Indian Journal of Agricultural Economics*, 62(3), 297.
- Kumar, A., Singh, K. M., & Sinha, S. (2010). Institutional credit to agriculture sector in India: Status, performance and determinants. *Agricultural Economics Research Review*, 23(2), 253-264.
- Kumar, M., & Sinha, S.(2010). Institute and credit to agriculture sector in India: Status, performance and determinants. *Agricultural Economic Research Review*, 23, 253-264.
- Kuri, P. K., & Laha, A. (2011). Determinants of financial inclusion: A study of some selected districts of West Bengal, India. *Indian Journal of Finance*, 5(8), 29-36.

- Kuznets, S. (1961). *Capital in the American economy: Its formation and financing: Studies in capital formation and financing*. Princeton, NJ: Princeton University Press.
- Leblebicioğlu, A. (2009). Financial integration, credit market imperfections and consumption smoothing. *Journal of Economic Dynamics and Control*, 33(2), 377-393.
- Leeladhar, V. (2006). *Readings on financial inclusion*. New Delhi, India: Taxmann.
- Levine, R. (1991). Stock markets, growth, and tax policy. *Finance*, 46(4), 1445– 65.
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35, 688-726. Virginia, VA: University of Virginia
- Levine, R. (1997). *Law, finance and economic growth*. Virginia, VA: University of Virginia.
- Levine, R., & Renelt, D. (1992). Sensitivity analysis of cross-country growth regressions. *American Economic Review*, 82(4), 942-963.
- Levine, R., & Zervos, S. J. (1993). What we have learned about policy and growth from cross-country regressions? *The American Economic Review*, 83, 426-430.
- Lucas, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, 22(1), 3-42.
- Luintel, K. B., & Khan, M. (1999). A quantitative reassessment of the finance–growth nexus: Evidence from a multivariate VAR. *Journal of Development Economics*, 60(2), 381-405.
- Mahendra, D. S. (2012). *Small farmers in India: Challenges and opportunities*. Working Paper No.014. Mumbai, India: Indira Gandhi Institute of Development Research.
- Mangalamani., S. A. M., & Sheela, J. (2011). *Agricultural credit delivery system in India: Access and impact*. New Delhi, India: Global Research.
- Mayer, C., & Vives, X. (1995). *Capital markets and financial intermediation*. Cambridge, MA: Cambridge University Press.
- McDuie-Ra, D., & Rees, J. A. (2010). Religious actors, civil society and the development agenda: the dynamics of inclusion and exclusion. *Journal of International Development*, 22(1), 20-36.
- McKinnon, R. I. (1973). *Money and capital in economic development*. Washington, DC: Brookings Press.
- Mehrotra, N., Puhazhendi, V., Nair, G., & Sahoo, B.B. (2009). *Financial*

- Inclusion-An overview*, Department of Economic Analysis and Research, Occasional Paper No. 48. Mumbai: NABARD.
- Meier, G. M., & Seers, D. (1984). *Pioneers in development*. Washington, DC: World Bank.
- Meier, G. M., & Stiglitz, J. E. (Eds.). (2001). EU Development Policy and Poverty Reduction: Enhancing Effectiveness. *Frontiers of development economics: The future in perspective*. New York, NY: Oxford University Press.
- Mellor, J. W. (1976). *New economics of growth*. Ithaca, NY: Cornell University Press.
- Miller, M. H. (1986). Financial innovation: The last twenty years and the next. *Journal of Financial and Quantitative Analysis*, 21(04), 459-471.
- Mishra, P. K., Das, K. B., & Pradhan, B. B. (2009). Credit market development and economic growth in India. *Middle Eastern Finance and Economics*, 5(3), 92-106.
- Mitton, L. (2008). *Financial inclusion in the UK: Review of policy and practice*. New York, NY: Joseph Rowntree Foundation.
- Mohanty, D. (2014). *Financial Regulation: Which way forward?* Reserve Bank of India Bulletin, 48(3), 27–34.
- Morawczynski, O., Hutchful, D., Cutrell, E., & Rangaswamy, N. (2010, December). The bank account is not enough: Examining strategies for financial inclusion in India. In Proceedings of the 4th ACM/IEEE International Conference on Information and Communication Technologies and Development. doi. 10.1145/2369220.2369242
- Mylenko, N. & Park, D.(2015).*Financial inclusion in developing Asia: Transaction accounts, savings and borrowings*. ADB BRIEFS No. 41. Manila, Philippines: Asian Development Bank.
- NABARD. (2009). *Doubling of agricultural credit programme: A study report*. Mumbai, India: NABARD.
- NABARD. (2015). *Annual Report*. Mumbai: NABARD.
- NSSO. (2011). *Key indicators of household consumer expenditure in India, 2009-10*. Ministry of Statistics and Programme Implementation, New Delhi: Government of India .
- NSSO.(2005). *Situation assessment survey of farmers: income, expenditure and productive assets of farmer households, NSSO 59th Round*. National Sample Survey Organisation. New Delhi: Government of India

- Odedokun, M. O. (1996). Alternative econometric approaches for analysing the role of the financial sector in economic growth: Time-series evidence from LDCs. *Journal of Development Economics*, 50(1), 119-146.
- Pal, R., & Pal, R. (2012). *Income related inequality in financial inclusion and role of banks: Evidence on financial exclusion in India*. Working Paper No.2012-013. Mumbai: Indira Gandhi Institute of Development Research.
- Pandey, A., & Rakesh, R. (2012). Financial Inclusion in Uttarpradesh and Bihar. *Prajnan*, 41(2), 125-146.
- Patel, K. V. (2006). *Readings on financial inclusion*. New Delhi, India: Taxmann
- Patel, S. G. (1996). Role of commercial banks' lending to priority sector in Gujarat-An evaluation. *Finance India*, 10(2), 389-393.
- Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. *Economic development and Cultural change*, 174-189.
- Peachy, S., & Roe, A. (2006), *Access to finance: What does it mean and how do savings banks foster access*. A study for the World Savings Banks Institute. Perspectives No. 49. New York, NY: Oxford University Press.
- Planning Commission (2011) *Faster, sustainable and more inclusive growth, An approach to the 12th Five Year Plan*. New Delhi: Government of India.
- Planning Commission. (2009). *Report on Financial Sector Reforms* (Chairman: Dr. Raghuram G. Rajan). New Delhi: Government of India.
- Planning Commission. (2011). *Towards more inclusive and innovative India*. New Delhi: Government of India.
- Prahalad, C. K. (2005). *The Fortune at the bottom of the pyramid: Eradicating poverty through profits*. New Delhi, India: Pearson Education/Wharton School.
- Rachana, T. (2011). Financial inclusion and performance of rural co-operative banks in Gujarat. *Research Journal of Finance and Accounting*, 2(6), 40-50.
- Rajan, R. (2014), *Financial inclusion: Technology, institutions and policies*. Keynote address at the NASSCOM India Leadership Forum, Mumbai on 12 February. Retrieved from http://www.rbi.org.in/scripts/BS_SpeechesView.aspx? Id=874

- Rajan, G. R. (2009). *A hundred small steps: Report of the committee on financial sector reforms*. New Delhi: Planning Commission, Government of India.
- Rajan, R. (2014). Financial inclusion: Technology, institutions and policies. *Reserve Bank of India Bulletin*, 48(3), 1–4.
- Ramji, M. (2009). *Financial inclusion in Gulbarga: Finding usage in access*. Working Paper Series No.26. New Delhi, India: Institute for Financial Management and Research.
- Rangarajan, C. (2008). *Report of the committee on financial inclusion*. New Delhi: Government of India.
- Rao, N. (2011). *Vinimaya*. Pune: National Institute of Bank Management,, 32(1), 18-26.
- Reserve Bank of India. (2013). *How the poor manage their finances: A study of the portfolio choices of poor households in Ernakulam District, Kerala*: Author.
- Robinson, J. (1952). *The generalization of the general theory, in the rate of interest and other essays*. London: Macmillan
- Rostow, W. W. (1960), *The stages of economic growth: A Non-Communist Manifesto*, Cambridge, MA: Cambridge University Press.
- Sahu, K. K. (2013). Commercial banks, financial inclusion and economic growth in India. *International Journal of Business and Management Invention*. 2(5), 1-6.
- Saint-Paul, G. (1992). Technological choice, financial markets and economic development. *European Economic Review*, 36(4), 763-781.
- Sakariya, S. (2013). Evaluation of financial inclusion strategy components: Reflections from India. *Journal of International Management Studies*, 13(1), 83–92.
- Samantara, S. (2010). *Kisan Credit Card: A study*. Occasional Paper No.52, Mumbai: National Bank for Agriculture and Rural Development.
- Sarkar, A. N. (2013). Financial inclusion part-II: Fostering sustainable economic growth in India. *The Banker*, 8(5), 32-40.
- Sarkar, S. S., & Phatowali, A. (2013). Financial inclusion in urban India: A study in the state of Assam. *Prajnan*, 41 (4), 312-342.
- Sarma, M. (2010). *Discussion papers in economics*. Discussion Paper No.10-05. New Delhi: Jawaharlal Nehru University.
- Sarma, S. (2015). Meaningful financial inclusion. *Journal of Rural Development*, 34(1), 115-120.
- Schreiner, M., & Yaron, J. (2001). *Development finance institutions: Measuring their subsidy*. Washington, DC: World Bank.

- Schumpeter, J.A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Cambridge, MA: Harvard University Press.
- Schumpeter, J.A. (2008). *The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle*. London, UK: Transaction.
- Schumpeter, J.A. (1911). *Farsighted visions on economic development*. *American Journal of Economics and Sociology*, 61 (2), 387 – 403.
- Scott Long, J. (1997). *Regression models for categorical and limited dependent variables*. New Delhi: Sage.
- Sen, K. (2010). *Towards inclusive financial development for achieving the MDGs in Asia and the Pacific*. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). No. WP/10/07
- Sharma, A., & Kukreja, S. (2013). *An analytical study: Relevance of financial inclusion for developing nations*. *International Journal of Engineering and Science*. 2(6),15-20.
- Shaw, E. S. (1973). *Financial deepening in economic development*. 270. New York, NY: Oxford University Press.
- Siddaraju, V.G., & Ramesh. (2013). *Financial inclusion in India: Issues and challenges*. New Delhi, India: Gyan.
- Singh, K., Kadyian, N., & Kodan, A. S. (n.d.). *Agriculture credit in post world trade organization period in India: Trend, composition, issues and challenges-a study of scheduled commercial banks*. *Scholarly Journal of Agricultural Science*, 1(1), 1-4.
- Singh, T. (2010). *Does domestic saving cause economic growth? A time-series evidence from India*. *Journal of Policy Modeling*, 32(2), 231-253.
- SLBC. (2008). *A Study on Financial Inclusion, Indebtedness of Farmers and Non Farm Causes of farmers Suicides in Kerala*. Thiruvananthapuram: SLBC, Canara Bank.
- Smith, A. (1776). *An enquiry in to the nature and causes of wealth of nation*. London: Macmillan.
- Sriram, M.S. (2014). *Why the Nachiket Mor Committee Report on Financial Inclusion Disappoints?* Retrieved from <http://www.livemint.com/Opinion/rS1VyK6J9fqPMzj0H4yuxL/>
- Stevens, J. (1996). *Applied multivariate statistics for the social sciences*. Mahweh, NJ: Lawrence Erlbaum.
- Stiglitz, J. E., & Greenwald, B. C. (1993). *Financial market imperfections and business cycles*. *Quarterly Journal of Economics*, 108(1), 77-114.

- Swain, P.K., & Singh, B. (2008). *Financial inclusion of rural markets: Understanding the current Indian framework*. Working Paper No.630. Calcutta: Indian Institute of Management.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston: Pearson Education.
- Nair, T. S., & Tankha, A. (2014). *Inclusive finance India Report 2014*. New Delhi: Oxford University Press.
- Taylor, M. (2012). The antinomies of financial inclusion: Debt, distress and the workings of Indian microfinance. *Journal of Agrarian Change*, 12(4), 601-610.
- Thimmaiah, N., & Anitha, C.V. (2013). *Financial inclusion in India-Issues and challenges*. New Delhi: Gyan .
- Thirlwall, A.P. (1995). The Terms of trade, debt and development: With special reference to Africa. *African Development Review*, 7(1), 1-34. doi. 10.1111/j.1467-8268.1995.tb00063.x
- Thirlwall, A.P. (1999). *Growth and development: With special reference to developing economies*. London: Macmillan.
- Tuesta, D., Sorensen, G., Haring, A., & Camara, N. (2015). *Financial inclusion and its determinants: The case of Argentina*. BVBA working paper No. 15/03 . Madrid: BVBA RESEARCH.
- Tufano, P. (1995). *The global financial system: A functional perspective*. Boston, MA: Harvard Business School Press.
- UNDP. (2008). Scoping paper on financial inclusion, considerations and recommendations for UNDP. Retrieved from: <http://www.unCDF.org/en/pfip>.
- Whitman, R. W. (1962). *The stages of economic growth*. London: Cambridge University Press.
- World Bank. (2008). *Finance for all? Policies and pitfalls in expanding access*. Washington, DC: Author.
- World Bank. (2009). *World development report*. Washington. DC: Author.
- World Bank. (2012). *Financial inclusion strategies: Reference framework*. Washington. DC: Author.
- World Bank. (2013). *Universal financial access is vital to reducing poverty, innovation key to overcoming the enormous challenge* [Press Release]. Retrieved from <http://www.worldbank.org/en/news/press-release/2013/10/11/universal-financial-access-vital-reducing-povertyinnovation-jim-yong-kim>.
- World Bank. (2015). *Report of the committee on payments and market infrastructures*. Washington, DC: World Bank.

- Yunus, M. & Weber, K. (2007). *Creating a world without poverty: Social Business and the Future of Capitalism*. New York, NY: Public Affairs.
- Zhuang, J., Gunatilake, H., Niimi, Y., Khan, M., Jiang, Y., Hasan, R., Khor, N., Lagman-Martin, A., Bracey, P. & Huang, B. (2009). *Financial sector development, economic growth and poverty reduction: A literature review*. Working Paper No.173. Manila, Philippines: Asian Development Bank.
- Zingales, L., & Rajan, R. G. (2001). *The great reversals: The politics of financial development in the 20th century*. Cambridge, MA: National Bureau of Economic Research.

Annexure I

**Financial Inclusion of the Small and Marginal Farmers by the
Banking Sector in Kerala
Survey Schedule**

I. General Information

1. Name of the respondent :
2. Sex : 1. Male [] 2. Female []
3. Age : 1. Below30 [] 2. 30-40 []
3. 40-50 [] 4. 50- 6 []
5. Above 60 []
4. Religion : 1.Hindu [] 2. Christian []
3. Muslim [] 4. Others []
5. Caste : 1.Upper Caste [] 2. OBC []
3. SC\ST []
6. Marital Status : 1. Married [] 2. Single []
3. Others []
7. Type of Household : 1.Joint [] 2. Nuclear []
8. Name of the District:

Sl. No	District	Put tick mark
1	Thiruvananthapuram	
2	Wayanad	
3	Thrissur	

9. Mention your Education status:

Sl. No	Education status	Put tick mark
1	Below Primary	
2	Secondary	
3	Higher secondary	
4	Graduation and above	

10. Specify your monthly Income:

Sl. No	Income	Put tick mark
1	< 5000	
2	5000-10000	
3	10000-15000	
4	15000-20000	
5	>20000	

11. Give your major Occupational status:

Sl. No	Major Occupational status	Put tick mark
1	Agriculture	
2	Small industry/ Rural Artisans	
3	Employment	
4	Service	
5	Agricultural Labourers/Tenant farmer	

12. Mention your size of Land holding:

Sl. No	Land holding	Put tick mark
1	< 0.1 Ha Landless	
2	0.1-0.4 Ha Sub-marginal	
3	0.4-1.0 Ha Marginal	
4	1.0-2.0 Ha Small	

13. Name the bank group with which you are associated with:

Sl. No	Bank Group	Put tick mark
1	State Bank Group	
2	Nationalised Bank	
3	Grameen Bank	
4	Co-operative Bank	

14. Mention the communication facilities used:

Sl. No	Communication Facilities	Put tick mark
1	Telephone	
2	Cable TV	
3	Cell phone	
4	Internet	
5	Others	

15. Give details of your family Particulars:

Sl No	Relationship with House hold Head	Sex	Age	Education	Occupation	Monthly Income
1						
2						
3						
4						
5						
6						

II. Particulars of financial services

16. Specify the transaction banking services utilized.

Sl. No	Transaction Services	Put tick mark
1	ATM	
2	Mobile Banking	
3	Internet Banking	
4	Cheque / DD	
5	Pension through banks	

17. Give details of your formal Savings/Deposit account:

Sl. No	Formal Savings/Deposit	Put tick mark
1	Savings Bank Deposit	
2	Fixed Deposit	
3	Recurring Deposit	

18. Particulars of formal Credit/Loan facilities availed:

Sl. No	Formal Credit/loan	Put tick mark
1	Short Term Credit	
2	Medium Term Credit	
3	Long Term Credit	

19. Specify your major Credit/Loan source:

Sl. No	Major loan source	Put tick mark
1	Formal	
2	Semi-formal	
3	Informal	

20. Your details of Credit/Loan source:

Term of Loan	Formal Source		Semi Formal Source		Informal Source	
	No.	Amount	No.	Amount	No.	Amount
1.Short						
2.Medium						
3.Long						

21. Give the type of Insurance coverage availed:

Sl. No	Insurance	Put tick mark
1	Micro insurance	
2	Formal insurance	

III. Impact of financial inclusion

22. Specify the benefits received through financial inclusion:

(1= Not at all improved, 2=No improvement, 3= Neutral, 4= Improved, 5= Very much improved)

Sl No.	Particulars	1	2	3	4	5
1.	Level of Self Confidence					
2.	Decision Making Capacity					
3.	Interactive Skill					
4.	Social Awareness and Participation					
5.	Organizational Capacity					
6.	Social Mobility					
7.	Mutual Respect					
8.	Sense of Independence					

Sl No.	Particulars	1	2	3	4	5
9.	Family Acceptance					
10.	Attitude of officials					
11.	Access to Credit					
12.	Control over Finance					
13.	Standard of Living					
14.	Income Earning Capacity					
15.	Ownership of Assets					
16.	Independence of Money Lenders					
17.	Capacity to Save					
18.	Adoption of Technology in Farming					
19.	Modern Means of Securing Information					
20.	Ability to use Technology in financial Services					

IV. Problems of financial inclusion

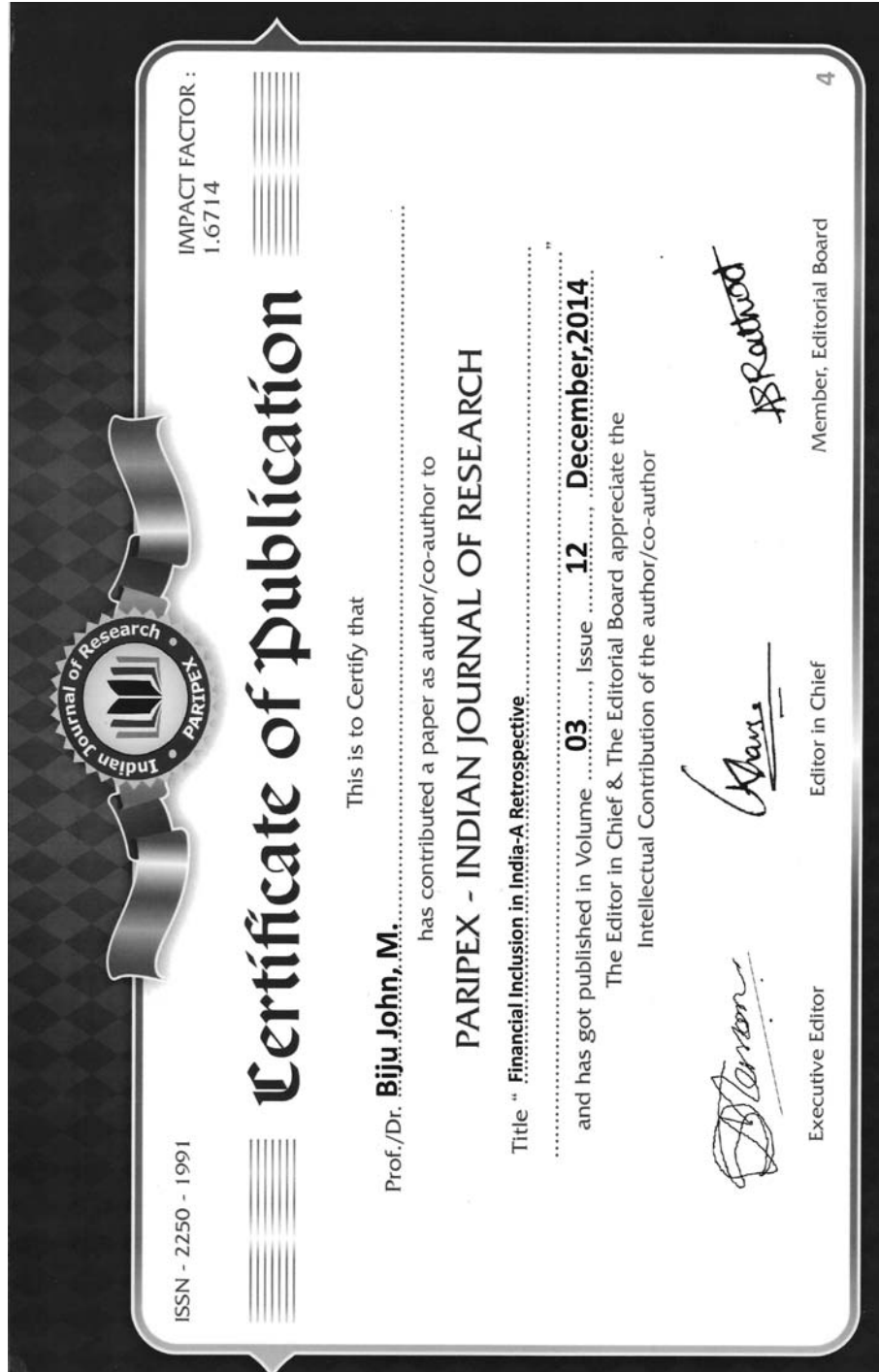
23. Specify your problems faced in the process of financial inclusion:

Sl. No.	Type of Problem	Rank in the order of preference
1	Insufficient Income	
2	Security Requirements	
3	Documentation Issues	
4	Lack of Awareness	

Sl. No.	Type of Problem	Rank in the order of preference
5	Unsuitable Products	
6	Rate of Interest	
7	Hidden Charges	
8	High Premium	
9	Claim Settlement	
10	Delay by Bank	
11	Distance from Bank	
12	Repayment Schedule	

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Research Paper

Commerce

Financial Inclusion in India-a Retrospective

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ABSTRACT

India has been striving to grow at a faster pace during the recent years and the economic growth to be sustainable, it requires all sections of the society included and participating in the growth process. Financial inclusion is one of the methods through which Inclusive Growth can be achieved in India where large sections are unable or incompetent to participate in the Financial System. Agriculture sector continues to be an important segment of the our economy with more than 50% of the country's population depending on it for a living and contributing 14% share in the Gross Domestic Product. Moreover it provides employment to nearly 1/3 rd of the work force in the country. Small and Marginal farmers constitute 80% of the farmers in India. A large segment of the small and marginal farmers still continue to be deprived of the formal sources of credit and other essential financial services like insurance, savings and payment services. Commercial banks being the purveyor's of nation's credit has got a great deal of responsibility in extending the financial services to this sector in order to provide the fruits of economic development to this segment of Indian economy. Hence an attempt is made to assess the nature of inclusive financing from the supply side and to identify the nature and extent of availability and use of financial services and issues in inclusive financing particularly that of the small and marginal farmers.

KEYWORDS

Financial inclusion, Agriculture sector, Commercial banks, economic growth

Introduction

Our nation was able to grow at a faster rate during the past decade among the growing economies of the world attracting lot of international attention. But this higher economic growth is more confined to some affluent sections and failed to take care of the well being of the large number of deprived and marginalized sections due to various structural rigidities. Moreover economic growth to be sustainable, it requires all sections of the society included and participating in the growth process. Financial inclusion is one of the methods through which Inclusive Growth can be achieved in India where large sections are unable or incompetent to participate in the Financial System. Also financial inclusion is inevitable in creating economic opportunities to the poor, sustaining it, overcome the risk associated with it and continue to participate so that they become successful economic agents to the growth process of the country. Keeping this in mind Government, RBI, banks and other financial institutions are making policy interventions to accommodate the vulnerable in to the financial system.

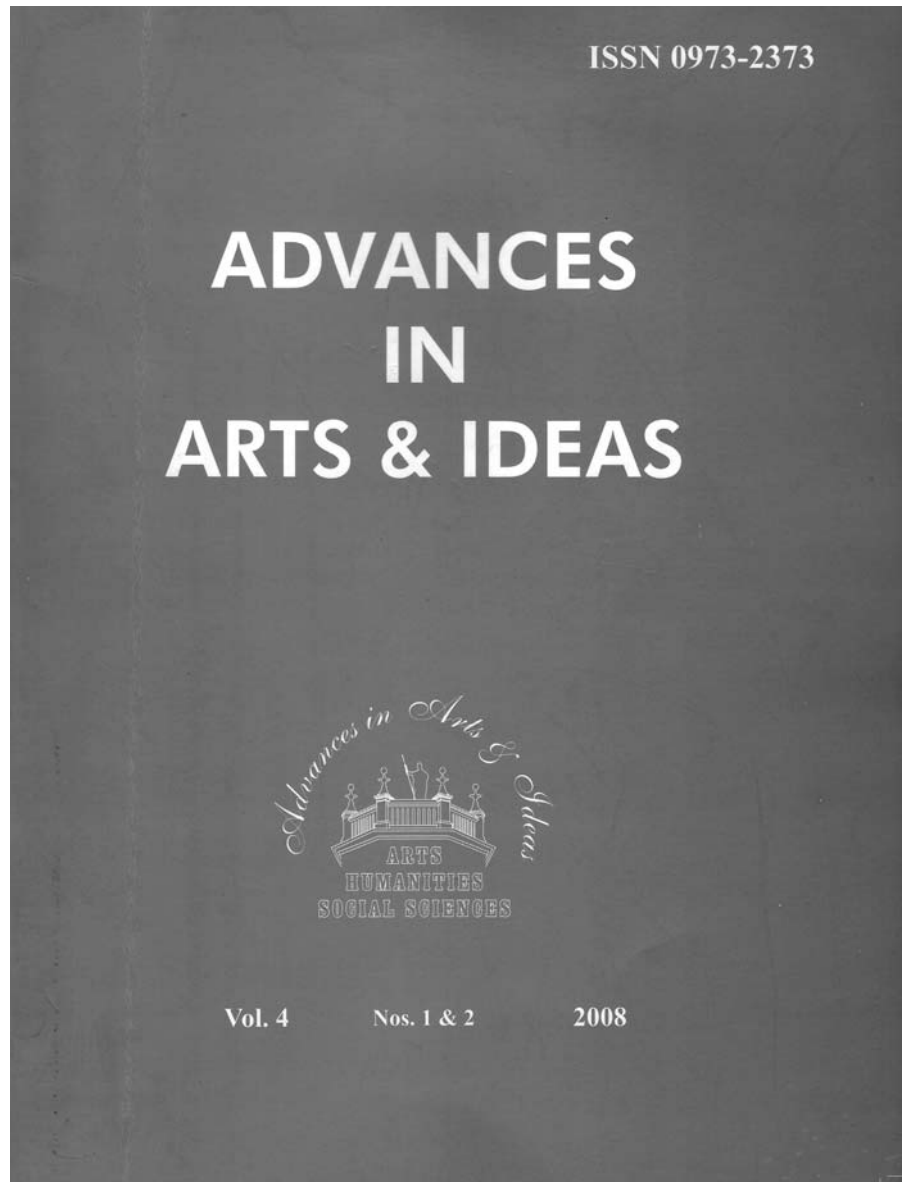
Need for Financial Access

Financial access is gradually being recognized as an important input to economic development. Finance and its access, to enable individuals to do what they desire to do, is gradually being recognized as a significant aspect of economic development and also been suggested as a tool for achieving the different Millennium Development Goals (Claessens and Feijen 2007). Access to finance can be defined as "availability of a supply of reasonable quality of financial services at reasonable costs, where reasonable quality and reasonable cost have to be defined relative to some objective standard, with costs reflecting all pecuniary and non pecuniary costs" (Claessens 2006). It can also be defined as the "absence of price and non-price barriers" (Demircuc - Kunt and Levine 2008). Access to finance and resources in India has always been skewed in favour of the affluent and this does not happen just in the process of development but through a sinister design perpet-

uated through irrational social order. Low access to financial resources leads to increased income inequalities, poverty, and low growth rates. Access to finance and inclusive financial system which includes all groups of people, poor and middle class as well, has been advocated to reduce inequalities and poverty in developing countries (World Bank 2008). Beck, Demircuc - Kunt et al. (2009) observed that, "without inclusive financial systems, poor individuals and small enterprises need to rely on their personal wealth or resources to invest in their education, become entrepreneurs, or take advantage of promising growth opportunities". In more recent years the debate expanded to include the notion of financial "exclusion" as a barrier to economic development and the need to build inclusive financial systems (Beck et al., 2008). Recent empirical evidence using household data indicates that access to basic financial services such as savings, payments and credit can make a substantial positive difference in improving poor people's lives (Dupas and Robinson 2009).

Financial Inclusion

Access to Finance by the poor and vulnerable groups is a prerequisite for poverty reduction and an integral part of our effort to promote inclusive growth. Financial Inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. The objective of financial inclusion is to extend the scope of activities of the organized financial system include within its ambit people with low incomes. Further, access to finance will empower the vulnerable groups by giving them an opportunity to have a bank account, to save and invest, to insure their homes or to partake of credit, thereby facilitating them to break the chain of poverty. The banking industry in India has recognized this imperative and has undergone certain fundamental changes over the last two decades. Reforms since the early nineties in the banking sector have facilitated increasing competition, the development of new generation private sector banks as well as technological breakthrough in diverse financial products,



Financial Inclusion – An Overview

Biju John M

Introduction

Financial Inclusion (FI) nowadays is a widely and frequently circulated buzzword among the instruments evolved for providing financial support to the development process. Ever since India started her journey on the path of developmental planning, financial inclusion has been looked upon as a powerful weapon in the armory of the policy makers. However, it has passed through various stages of exclusion and remained implicit before assuming the explicit status. The entire process of lending a tangible financial support to the bottom of the pyramid in the economy oscillated between avoiding Financial Exclusion (FE) on the one hand and achieving Financial Inclusion (FI) on the other. Certain sectors are included in the realm of banking service while others were excluded. For instance, initially commercial banks mainly remained trade and commerce oriented for a long time. Even the industrial sector was outside their scope¹. A new sector of development banks was created to bring them within Financial Inclusion. The entire Farm Sector was simply considered non-eligible for banking services. Even among those sections which were in the Financial Inclusion, some sub-sectors and sections remained excluded. Small traders and Small Scale Industries (SSIs) among trade and industry were not entertained. Thus Financial Exclusion become sector specific. The co-operative credit and banking sector was set up to provide financial support to the agricultural sector. Later on, the activities and sections which remained excluded from the commercial banking assistance were accorded a priority sector status for Financial Inclusion. Even after this, policy back-up of a large number consisting of weaker sections viz., women, landless labourers, unorganized sectors and activities, and residents of climatically vulnerable regions remained in the shadow of exclusion.

As the Indian economy marches towards higher growth rate, there is a growing concern among policy makers that such a growth be inclusive, i.e., to include all sections of the society rather than being urban/rich-centric. Besides, serving the objective of a more equitable society with benefits of prosperity reaching all sections of the society, inclusive growth is critical for the very sustainability of the 8 per cent p. a. growth of the economy.² Since finance provides the lubricant for growth, inclusive growth presupposes inclusive finance—a fact long since recognized by the policy makers. The concept of financial inclusion extends much beyond the question of merely bringing all the poor into the fold of institutional credit as the current official discourses on the subject seem to suggest. From the point of view of macro-economic objectives, it has become necessary to follow, at this stage of India's development, the path of inclusive growth, which essentially means broad based and decentralized growth. The title of the draft approach paper to the eleventh five year plan, "Towards Faster and More Inclusive Growth", itself reflects the recognition of this need. GDP growth rate like the 8 percent targeted in the eleventh plan (2007-2012) can be sustained only if other sectors or segments of the economy, which would be