INSTITUTIONAL PREFERENCE FOR AGRICULTURAL CREDIT IN KASARAGOD DISTRICT OF KERALA

By

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(2014-15-103)

THESIS

Submitted in partial fulfillment of the requirement for the degree of

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DECLARATION

DECLARATION

I, hereby declare that this thesis entitled **"Institutional preference for agricultural credit in Kasaragod district of Kerala"** is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me any degree, diploma, fellowship or other similar title, of any other University or Society.

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CERTIFICATES

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Certified that this thesis entitled **"Institutional preference for agricultural credit in Kasaragod district of Kerala"** is a record of research work done independently by **Ms. Vasavi B** under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, associateship or fellowship to her.
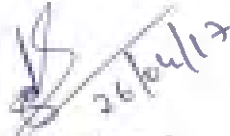
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LIST OF ABBREVIATIONS

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AGL	:	Agricultural Gold Loan
CPIS	:	Coconut Palm Insurance Scheme
DCCB	:	District Central Co-operative Societies
GCC	:	General Credit Card
KCC	:	Kisan Credit Card
MFI	:	Micro Finance Institutions
MNAIS	:	Modified National Agricultural Insurance Scheme
NAIS	:	National Agricultural Insurance Scheme
NCDC	:	National Co-operative Development Corporation
NCIP	:	National Crop Insurance Program
NSSO	:	National Sample Survey Organization
PACS	:	Primary Agricultural Credit Societies
PSB	:	Public Sector Banks
RBI	:	Reserve Bank of India
RRB	:	Regional Rural Banks
SAO	:	Seasonal Agricultural Operations
SCB	:	State Co-operative Societies
SHG	:	Self Help Groups
WBCIS	:	Weather Based Crop Insurance Scheme

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INTRODUCTION

CHAPTER 1

INTRODUCTION

Agriculture remains the backbone of Indian economy, contributing to the food basket and raw materials for industries, in addition to providing employment for a vast majority of the population. In 2015-16 agriculture contributed 17.04 per cent to India's Gross Domestic Product (GDP), as compared to 18.3 per cent in 2013-14 (Economic Survey, 2015-16). The share of agricultural sector in Gross State Domestic Product (GSDP) of Kerala has recorded a decline from 14.38 per cent in 2011-12 to 10.38 per cent in 2015-16 (Economic Review, 2016). The Review reports a serious crisis of growth with agricultural and allied sectors recording a growth rate of 1.43 percent in the first year of the Twelfth Plan period and negative growth in subsequent years. However, importance of the sector cannot be demeaned considering the role it provides in ensuring food security and livelihood to people.

India is still an agrarian state, where majority of the population depends on farming as a source of livelihood. Even though modernization is having strong effect on the productivity of agriculture, Indian agriculture continues to gamble with the monsoons causing the farmers to face vague unfavorable situations. Also farmers have to depend on external source of finance while they have to adopt alternate technology based facilities like irrigation and mechanization to speed up the operations of cultivation.

1.1 Significance of the study

Credit is one of the important interventions for improving agricultural production and productivity and helps to mitigate farmers' distress. Development of agriculture also depends on the adoption of new technologies which demands agricultural credit. Institutional and non institutional agencies are involved in providing agricultural credit. In Kerala, institutional financing to agriculture has more than doubled during the past five years from Rs. 18,836 crore in 2008-09 to Rs.

37,710 crore in 2012-13 as reported by the State Level Bankers Committee. Often, institutional sources contribute only meagre percentage of agricultural credit to the cost of cultivation. Non institutional sources are often tapped by the farmers to meet the gaps in demand for agricultural finance, inspite of inherent weaknesses of higher interest rate and rigid loan collection strategies.

Different sources for availing credit are banks, co-operative societies, various financial agencies, friends, fellow farmers, relatives, micro finance institutions and moneylenders. There are many initiatives taken by the Government of India to increase the institutional support and address the constraints of the farmers. The credit needs of farmers are served with schemes such as production loans, investment loans, dairy loans, crop loans, short term and long term loans, and schemes for special crops. Seasonal credit facilities required for seasonal agricultural operations are being disbursed through Kisan Credit Card (KCC) scheme.

Access to affordable finance is also a necessary condition for rendering agriculture as a viable livelihood option. For improving institutional agricultural credit flow and bringing down the rate of interest on farm loans, varied measures are initiated by the Government. However problems in availing agricultural credit from institutional sources continue to persist including procedural delays experienced by farmers, inadequacy of finances, lack of information regarding schemes etc. Changes in agricultural and financial sectors have continued to impact the delivery of financial services and products and alter the role that agricultural lenders play in the market. Further farmers' demographics determine their preferences for lender attributes. Some farmers are more likely to be interest rate sensitive, while other segments place considerable value on the credit relationship (Farley & Ellinger, 2006). Thus there is need to identify institutional preference of the farmers in availing loan, the extent of financing by various institutional agencies, and the constraints in availing agricultural credit which can help financial institutions to design and deliver financial credit services suited to the farming community.

Kasaragod district in Kerala has been selected for the study because of its uniqueness of being declared as the organic farming district in the State. Further, the study can be beneficial in evolving policy decisions by identifying thrust areas to improve services by financial institutions to promote agriculture.

1.2 Statement of problem

Kasaragod is one of the districts that has been consistently contributing in terms of agricultural District Domestic Product to the State. Agricultural credit is still evident to be an important factor for the improvement of agriculture productivity. The shifting of farmers from food crops to cash crops in the District resulted in lower production of food crops. Lack of interest in the farming of food crops posed issues related to cultivation. The credit support may become a boosting factor as it is declared as organic district. The level of indebtedness of farmers is high in Kerala and suicide rate of farmers in the State is also alarming (Economic Review, 2014). Agriculture operations have become progressively more costly in matters of investment and is more capital demanding. Even after the presence of number of institutional sources, farmers are being deprived of necessary amount of credit for raising crops. Thus, the study on agricultural credit issues and role of sources of credit are found necessary. Although policies including priority sector lending by commercial banks have ensured credit flow to agriculture sector, the requirements of agriculture is crippled by credit suppliers' reluctance to finance small and marginal farmers due to fear of inherent risks in farming, lack of security and lack of bankable proposals. Thus the diversion chance for farmer from institutional to non - institutional sources can become a stressed condition. Hence it is found worthwhile to identify preferences of farmers so as to assess the factors influencing them in availing credit and the constraints faced by them.

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1.3 Objectives of the study

The objectives of the study are:

i.   To identify sources and extent of agricultural credit availed by farmers.
ii. To identify institutional preference for agricultural credit with a view to analyse factors influencing institutional preference.
iii. To identify the constraints in availing agricultural credit.

1.4 Utility, scope and limitations of the study

The study has analysed preference of the farmers which gives insight into the problems existing with various institutions. The study has focused on the selected villages of Kasaragod district alone; hence the area of research is limited. The data which was collected from the respondents is subjective. The fact that the present data have been collected from the demand side and not from the institutional side deserves mention.

1.5 Organisation of the thesis

The report of the study has been presented in five chapters. The first chapter narrates the design of the study encompassing significance, statement of the problem, objectives, utility, scope and limitations of the study and organization of the thesis. The second chapter presents the review of available literature covering various aspects of the study. The third chapter elucidates the methodology and data sources adopted in conducting the study. The fourth chapter is set aside for the results and discussion of the study. The last chapter highlights the summary of findings and the conclusion of the study followed by references and abstract of the thesis.

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REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

Research always arises from questions of previous researches. The new argument and rationalization arises with the justification of current situation and problems in the area of the study. The gap in the study can be identified by many research investigations with scientific and technological background. Literature review gives an insight into the techniques of research by providing the recap of the important information and discussing the intellectual progression of the field of study. The comprehensive knowledge of the past and present scenario regarding the specific topic is being discussed through reviewing the important aspects related to the study.

Research in agriculture and agricultural credit are very frequent considering the welfare of farmers and the role of lenders in the credit market who always draw attentions as the farmers are more seriously prone to disaster of suicide and the problem of each food giver of the country is important. The suicide rate in Kerala is considerably high; the farmers of Kasaragod district have suffered tremendously because of the spread of endosulfan incident. Many of the farmers are still under the recovery stage and are moving towards organic cultivation with the less use of chemicals. The Government of Kerala as well as many institutions are supporting the Kasaragod district in its novel move. Kerala is also having high level of indebtedness and the current scenario needs to assess the credit scenario in the district. Hence this chapter discusses the available literature related to agriculture credit lending, farmers preference for agriculture credit, constraints related to agriculture credit and the methodology adopted in the earlier studies to give the theoretical framework for the study. The review of literature is organized under the following sections:

2.1 Agricultural credit status, performance, lending methodologies and impact.

2.2 Formal and informal lending and consumer preferences.

2.3 Agriculture credit issues and barriers in availing credit

2.1 Agriculture credit status, performance, lending techniques and impact.

Prevailing status of agricultural credit flow has been analysed by many researchers. The status of agricultural credit disbursal to all the sectors and impact of agricultural lending on production of agriculture are discussed in this section.

Kumar *et al.* (2010) made a study on status, performance and determinants of institutional credit to agricultural sector in India with the objectives of examining the performance of agricultural credit flow and identifying the determinants of increased use of institutional credit at the farm household level in India. Data were collected from secondary sources compiled from various sources. The results showed that the institutional credit to agriculture in real terms increased tremendously during the past four decades. The structure of credit outlets witnessed a significant change and commercial banks had emerged as the major source of institutional credit. But, the declined share of investment credit in the total credit constrained sustainable agricultural growth. The quantum of institutional credit availed by the farming households was affected by a number of socio-demographic factors which include education, farm size, family size, caste, gender and occupation of household. So the authors suggested simplification of the procedure for a better access to agricultural credit of small holders and less-educated/illiterate farmers.

Jan and Saleem (2011) conducted a study with the objective of assessing the impact of credit on agricultural GDP in Dera Ismail Khan (DIK). The study was based on the secondary data collected from statistical office for crop reporting services DIK for a period of 1990-2008. Linear regression model on the Cobb-Douglass type was used for the study. Study found that, Credit disbursed along with fertilizers and pesticides, irrigation and tractors were found strongly correlated to agricultural GDP. Only credit for seeds, and fertilizers had greater role in this collective impact. At the end it was concluded that greater availability of credit increased the agricultural production.

Naidu *et al.* (2013) made an attempt to study the impact of agricultural credit on production and productivity of agricultural crops in India considering that agricultural credit appeared to be an essential input with modern technology for higher productivity. The data collected through secondary sources were analysed with regression model. The results showed that agricultural credit was one of the main factors for the increased production and productivity of agricultural commodities and the timely availability of credit are most essential for the small and marginal farmers for their agricultural activity. Other than these factors like rainfall, irrigation facility, quality of the seeds; minimum support price, environmental conditions etc. may also influence the production and productivity.

Hoang and Otake (2014) attempted to investigate the impetus behind the decision to participate in the credit market. The study was conducted with the objective of examining the effect of behavioral finance and social capital factors on the credit source selection of small and medium enterprises. Quantitative methodology of research was adopted by using survey data. Description methods, cross tabulations, association tests and econometric analysis was used for the study. The stepwise binary logistic regression was used to investigate whether potential determinants affect the probability of participating in a certain credit source. The study found that, personal traits of SMEs owners/ managers in terms of behavioral finance factors such as debt and risk attitudes, present biased and over confidence and firms networking also effected on the firms' finance participation and source selection for credit.

Benjamin *et al.* (2014) studied formal versus informal delinquency in consumer credit with the objective of assessing the informal default in consumer credit as a process involving negotiations over unpaid debts. The equilibrium method was involved in the study. The value of repayment, bankruptcy and bargaining were analysed using probability models. The study found that, facilitating negotiations enhances risk –sharing opportunities and improves welfare, a result which appealed

since there are policies that specially affect the cost of informal default for the households. The report also indicated that, results from standard models of default that ignore the flexibility inherent in informal default need to be reconsidered, including the quantitative impact of exemption policies and the bankruptcy code.

Hananu (2015) attempted to analyse the factors influencing agricultural credit demand in Northern Ghana. The main objective of the study included, examining the effect of group membership on the credit access by looking at factors that influence on accessibility of credit. The study was conducted using a household survey from United State Agency with a total sample size of 2,330 farm households of Ghana. The researcher employed the logistic regression model for analyzing household access. The analysis was framed to binary choice models and avoided the OLS and was expressed in two categories of accesses and no accesses. Probit and logit models used were provided the efficient outcome. The study concluded that there is a significant and positive variable such as age, education, group membership as well as source of credit which was justified by logistic regression. The study hence suggested that, streamline loan application procedures, intensify the education of farmers on loan procedures and enhanced the flexibility and access.

Most of the authors concluded that, credit availed by the farmers is influenced by demographical factors and most of the credit given for working capital is having greater impact. Even though timely availability of agricultural credit impacts the production, rainfall and environmental factors are also having equal contribution.

2.2 Formal and informal lending and factors affecting consumer preferences

Preferences among the farmers category in choosing between formal and informal sources of credit is essential and the studies on preferences among credit institutions were collected and are exhibited in this section. Further the studies also revealed the factors affecting their preferences.

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Mathema (1980) focused on the relevant factors affecting the borrowings of the farm families living under different topographical conditions in terai regions of Nepal. The data collected through secondary sources were analysed by using empirical model and regression analysis. It was found that, the major determinants of the agricultural borrowing were capital expenditure, family expenditure and value of assets. It also highlighted that there exist significant difference between the borrowing behaviour of the farmers living under different topographical conditions due to their poor financial background. Hence the study suggested that, the formal financiers should advance the finance in increased proportion for agriculture purpose and adequate infrastructure need to be provided in order to increase the income and standard of living of poor farmers.

Dodson (1996) analyzed the lender borrower choice and implications of farm credit policy with the objective of investigating the lender-borrower preferences among commercial sized farms with the help of farm based financial data. The data was collected from the farm costs and returns survey. Conceptual model was presented and used to select dependent variables for inclusion in a qualitative choice model applied to farm level data. The borrower choices of a given lender by borrowers were represented by a random utility model. Binomial logit model was used to investigate lender –borrower choice among commercial sized farms. The repayment ability, borrower characteristics, default costs, high screening costs, period of debt acquisition were also analysed. The results showed that farm lenders allocated credit by considering operator location, age and repayment ability. Younger operator or those with limited repayment ability borrowed less from FCS while from metropolitan regions or from states with restrictive jurisdictional laws borrowed less from commercial banks.

Nagarajan *et al*. (1996) analysed the collateral substitutes that emphasized on the effect on loan access and size in the Philippine informal credit markets. The study

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argued the differential preferences for collateral substitutes, such as interlinked contracts and reputation affect access to loans from diverse types of lenders in the first stage, and the size of loans made at the second stage in a predictable pattern leading to segmentation. The sample included 127 rice farming families and the analysis was done with the econometric model proposed by Greene and Lee and this model was based on Heckman's two stage procedure. Regression analysis was also used for the study. The study concluded that, access to loans especially larger loans from farmer lenders was greater for asset of poor small farmers with good reputations engaged in non and off farm activities.

Atieno (2001) researched the formal and informal institutions' lending policies and access to credit by small-scale enterprises in Kenya. The main objective of the study is to find out the both the formal and informal credit institutions that determine the small enterprises' access to their credit facilities in rural Kenya and the factors determining entrepreneurs' participation in credit market and choice between formal and informal credit sources. The study was mainly based on primary data with systematic random sampling from the selected individual entrepreneurs and farmers of Western Kenya. The study was analysed with ANOVA and hypotheses testing. Results of the study showed that lack of awareness about credit and lack of required security were the major reasons for not seeking credit. The informal credit sources provided easier access to their credit facilities for small and micro enterprises. Researcher has also suggested the policy implications that the establishment of credit insurance schemes protecting the financial institutions should be encouraged to diversify their loan portfolios.

Bard *et al.* (2002) formulated a study regarding the borrower preferences in the agricultural finance market to identify the attributes that farm borrowers prefer in the credit relationship as well as the trade-offs in those attributes. The data were collected through a survey in FRI in Savoy, Illionois with the respondent size of 217.

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The method of conjoint analysis was used in the study. Agricultural borrowers prefer a lender who can provide them with competitive interest rates, immediate decisions on request, sufficient amount of loan, and awareness of agricultural industry. Farm borrowers do not place a priority on customized terms, but they do expect a competitive interest rate and were unwilling to pay a higher interest rate in exchange for other attributes such as faster loan decisions or specialization in agricultural lending.

Ravi (2003) studied the borrowing behavior of farmers with the objective of assessing the nature and extent of household demand for credit and also analyzing the household's choice of borrowing. The study was conducted in two states Uttar Pradesh and Kerala. The random utility specification estimation was used to analyse the study with a theoretical framework. Random utility model was used to explain utility function. The author significantly studied by differentiating formal and informal sources to analyse how households make decision. The variables such as source of loan, repayment schedule, and nature of collateral offered and demographic details were studied. The study concluded that household preferences were allowed to vary based on landholding, income, occupation, age, family occupation, education.

The factors affecting the agricultural loan decision making process was analysed by Featherstone *et al.* (2007) with the objective of determining the relative importance of financial and non financial information when analyzing agricultural loan applications, and identifying the borrower and lender characteristics which is important in determining loan approval and interest rates. The data were collected from the Kansas and Indiana. Farmer scenario, borrower's financials, ratio analysis and agricultural lending decision were analysed in one section. The portfolio composition, profitability, lending risk, and location were considered for analysis. The probability of credit, two-limit Tobit model to represent the credit risk or expected probability of default corresponding to each loan request and also for

analyzing the lender borrower relationship. The Ordinary Least Squares models were used for investigating the factors affecting the interest rates offered to farm borrowers. The findings of the study stated that, return on assets and non-current loans to total loans were the bank characteristics that significantly influenced the proportion of credit. Further the time spent on agriculture lending had a positive correlation with the interest rate charged by the lenders in Kansas. Financial condition and character both were found important in lending and thus researcher confirm much of straight wisdom found in past trend of agriculture finance.

Jones (2008) studied the informal finance and rural finance policy in India in historical and contemporary perspective. The purpose of the paper was to evaluate the evidence for continuing occurrence of the informal financial sector i.e. money lenders, primarily with respect to rural India. The respondents were selected from a village in Rajasthan. The results stated that, although other forms of informal credit exist in the village, namely informal group finance and shop goods on credit, these do not cater to the needs of the poorer low-caste households, and the tribal households both within the village and in the surrounding tribal hinterland. The study also found that the moneylender under evaluation had provided a monotonous way of lending practice by taking over the collateral for the demanded amount by the borrower, is its inherent suppleness. Such credit finances, a very wide range of both productive and consumption expenditures, on a scale, often very small, needed by the borrower.

Kundu and Mitra (2009) examined determinants influencing a rural household's preference to join individual liability or joint liability micro credit contract operated by primary agricultural credit society. The basic objective of this paper was to identify the factors which influence a rural household to link himself directly with PACS for credit contract under individual liability micro credit contract or to take decision to join self-help group in PACS so that if necessary they can take finance under joint liability credit contract. The primary data was collected from

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Hoogly district of West Bengal. The Multinomial Logit Regression Model was used in the study. Results revealed that higher education level and age reduces the likelihood of rural people to connect self-help group but aged farmers with certain size of land preferred to take credit under individual liability loan contract after taking direct membership of PACS. But ownership of land and its size was not a decision making factor during the time of formation of self-help groups under PACS.

A study on credit rationing and the economics of informal lending: theoretical results and econometric inferences using the household surveys from China and India was conducted by Kumar (2009). The study conducted with an objective of investigating various significant economic issues related with such informal financial transactions and extent of credit rationing with the help of analytical results by employing suitable empirical household survey data from China and India and also by using appropriate econometric methods and identification strategies. An illustrative model of credit rationing was used to emphasize the use of interest rate. It was observed that in both the countries more than 70 percent and 90 percent families have engaged in gift and loan transactions respectively in emergencies indicating people do share risk on a large scale and moreover preference for loan transaction dominates.

Orso (2009) conducted a study on formal and informal sectors: interactions between moneylenders and traditional banks in the rural Indian credit market. Study has included the objectives of examining some of the important reasons that discourages the formal sector from investing in rural credit markets. The study was based on the secondary data and analysed the expected profit curves and through preference map, the loan contract during the presence of informal sector, formal sector was analysed. The study founded that exclusive contracts played important role in informal markets. Credit demand was generated for fixed capital need, entrepreneurial activities, purchase of equipments and consumption credit requested

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by the poor. It was probable that the spread of knowledge concerning potential debtors comes about in targeted and rapid way with reduced costs for the lenders too. The study also suggested that, the agents should be guaranteed for a fixed minimum incentive making the risk affordable and then be given a further remuneration linked to the effective repayments rates.

Gandhimati and Vanitha (2010) conducted a study on determinants of borrowing behaviour of farmers where a comparison was made between commercial and co-operative banks in terms of distribution of institutional credit across various categories of farmers, quantum of credit and socio- economic factors which affect the borrowing behaviour of farmers. The study found that farmers were not able to borrow due to long procedures of commercial banks. The study also suggested that, size of the landholding should be considered for loan sanction and adequate amount of investment loan should be provided to the marginal farmers.

Jan (2010) analysed the process of institutional change as a consequence of changes in agricultural credit system in six selected villages of North West Pakistan. The researcher attempted to address the general questions of to what extent changes have occurred in the agricultural credit systems in the selected area and the factors affecting the changes in credit systems on institutional change with the same objective. Qualitative and quantitative data were collected by semi-structured questionnaire and are analysed with various statistical techniques such as simple percentages. However the study concluded that, the farmers were feeling restricted with the direct security and collateral requirements which the most of the farmers could not get through. It showed that the mutual –financial assistance in the time of need was a reflection of the strong socio-economic ties among the people of the area.

Tang *et al.* (2010) revealed the formal and informal credit markets and rural credit demand in China with the objective of identifying the credit demand and institute credit supply in a timely manner to facilitate economic transformation and aimed at identifying the social and economic factors that explains the farmers credit

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constraints. By using the data of household survey, researcher estimated both binary choice probit models and multinomial probit models to explore the determinants of credit market choice and credit constraints. The study found that the credit demand was significantly affected by household's production capacity as household size, land size, head's education all significantly increased household's probability to borrow, but impact varied considerably by credit market whereas transaction costs had a significant negative effect on formal credit demand. The analysis suggested that off-farm employment, land size and the cost of the credit were the three important factors that increase the probability of being constrained.

Turvey (2010) investigated the borrower attitudes and sannong agricultural loan policy in rural china with the objective of discovering lender- borrower relationship that relates to sannong loans for agricultural and rural financial markets by rural credit cooperatives and other rural lenders. Here the methodology follows the pairing of 120 loan officers at RCC in china with 394 farm households in the same region followed by field survey. The analysis was done with respect to influence of demographics on the borrower and lender cluster memberships. The study found that there was indifference in collection activities. The study concluded that policy initiatives should be put in place at RCCs that close the gap between lender and borrower in their relationship. Rural lenders should concentrate on advocating RCC's care and trust towards agriculture and farm households. At the institutional level, the effort should be extended to train a dedicated team of loan officers that specialize in servicing farm households with standardized lending practices.

Yuan *et al.* (2011) conducted a study on farmer's choice and informal credit markets in China with the objective of exploring farmer's participation in the formal credit market; and to empirically identify the determinants of informal credit used by farmers. The objective of the study was to investigate the farmers' borrowings from both formal and informal credit sources with higher/lower interest, by observing into both demand and supply of loan. The data were collected from Rural Household

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Survey conducted by People's Bank of china. The study was analysed with the estimation models taking into account of the multistage decision processes. The results showed that age follows an inverted U-shaped pattern in its relationship with the probability of borrowing from informal loan with higher interest. The impact of age disappeared for the formal loan participation. In addition, high income and saving imply lower credit constraints. Moreover, household and county characteristics and financial conditions had a large and varying influence on farmers' borrowing behavior.

Hamid and Iqbal (2012) attempted to study the retail owners preference with the objective of finding the reason for preference on informal financing rather than on formal financing. The primary data was collected with unrestricted and non – probability sampling technique. Test of proportion and test of association were used for analyzing the data. The results showed that borrowers do not prefer taking loan from bank and other resources, while borrower is neither aware of loan facilities provided by banks nor borrower is aware of conditions on which banks provide loan and nor borrower is aware of cost of borrowing from banks. Choice of source i.e. banks and institutions are independent of documentation and recollection process were significantly independent with the choice of source but high interest rate and time taking process were dependent with the choice of source.

Katchava (2012) attempted to study the factors affecting the farm credit use with an objective of analyzing personal and farm characteristics that influence the use of farm credit, the degree of indebtedness and debt consolidation of U.S. farms. The data was collected by the USDA's 2001 Agricultural Resource Management Study (ARMS) that represented the representatives of all U.S. farms. Analysis of data was done by using econometric models and Probit models to estimate the farm credit use. Truncation regression and truncated Poisson models were estimated to analyse the degree of indebtedness as well as debt consolidation. The results identified by the researcher showed the common trends among rural residence, intermediate, and

commercial farms. The credit use was impacted by the farm profitability and interest rates on existing debt and also on the debt consolidation of U.S. farms.

Rodriduez *et al.* (2012) identified the consumer's preference between formal and informal credit from Mexico with a pseudo experimental design. Researcher found an objective which was worthwhile to study to analyze the choice of agents between formal and informal credit. The data were collected regarding the demand for credit market in Mexico and the empirical transition matrices and diff-in-diff estimators were used for analysis. The study found that when the households were granted access to the formal credit market, their likelihood to become formal credit market participants was increased considerably. The likelihood of informal credit was decreased and not having the credit was also decreased. The study conclusion was evident that the transition between formal and informal credit is much more evident than habit formation.

Glenk *et al.* (n.d) studied the preferences for rural credit systems and their impact on the implementation of credit unions in Georgia. The decline of share of agricultural loan in the place was the main reason for the study and hence the study attempted to investigate the problem with supply of credit schemes and barriers for the provision of credit to the rural population and also the farmers' preferences with regard to different rural credit systems. The household survey of farmers was conducted with smallholders. An orthogonal design with orthocodes was used to analyse the attribute levels and the effects. The stated preference methods were used to elicit the farmers' preferences for different rural credit systems such as Loan size, interest rate and collateral, maturity of installments, commission and loan duration were studied. The study found that overall credit demand was high in the region and credit unions play an important role. Even though the farmers were showing negative attitude towards the cooperatives credit union was a viable alternative for them and they were most reachable to vulnerable groups.

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Huvila (2013) attempted to study the preferences of formal and informal information sources in corporate finance. The aim of the paper was to examine the patterns of information preferences of source of corporate finance professionals with a special focus on the respective roles of formal and informal information and the implications of source preferences for the information work of professionals. The study was conducted with 92 professionals with regard to corporate finance related duties in their firms. The study found that they used most information resources and was preferred more for informal sources of information. The perceived significance of information sources was analysed by using descriptive statistics and correlation analysis. The analysis explained that instead of seeing the formal and informal sources separately in case of corporate finances, looking at complicated fusion of the use of formal and informal sources was found better.

A study was conducted by Campero and Kaiser (2013) on Access of credit with the objective of finding the determinants of use of formal and informal credit sources. The data was collected from approximately 8,400 households of 150 localities. The research was analysed using correlation and multinomial logit model was used for establishing the model of awareness or use through which variables influenced the demand for credit. The study found the evidence that the formal the formal and informal credit and markets in Mexico attend various segments of the inhabitants. However the results showed that, availability of formal sources also has a negative impact on the use of some informal sources which suggested that substitution between formal and informal sources exists. Based upon the results obtained, it was proved that informal sources, friends and family played a very important role for the households when they suffered from an earnings distress. Hence the study suggested that, informal credit acts as a match of the formal sector due to its characteristics, such as flexibility and quick sanction of loans that might be precious in certain crisis situations.

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Fatoki (2014) attempted to study the financial preferences of immigrant small business owners in South Africa with the objective of investigating the sources of finance used by immigrant entrepreneurs during the start up and established phases of their businesses. The data was collected from the Johannesburg Central Business District in South Africa by purposive sampling and snow ball sampling. The results of qualitative research indicated that the major sources of finance for immigrant entrepreneurs during the start-up phase were owners' contribution, family and friends. The use of debt finance from commercial banks, suppliers and government agencies was very inadequate. Both internal equity and debt was used by immigrant entrepreneurs at the established stage. Few immigrant entrepreneurs were capable to acquire finance from suppliers of credit and commercial banks. Due to the reason that immigrant entrepreneurs were established, they lost the financial support from family and friends.

The study conducted by Goswami (2014) explained the credit preference of micro and small enterprises of Assam (India) had the objective of finding out the credit preference of micro and small enterprises who had borrowed from banks in order to assess their preferred choice of finance and to know their investment and sales turnover. The study covered 101 micro and 51 small enterprises. Since the enterprises who had borrowed from the banks were considered the sampling technique of the study became hypercritical. The research was analysed using appropriate techniques including Chi-square test. The findings of the study have indicated with demographic profile, investment and sales turnover, credit details, satisfaction level, comparison. The study found that Micro and Small enterprises in Assam were funded by the nationalized banks and they use debt and equity in almost the same proportion the most preferred choice of credit was cash credit. The sales turnover on an average was fair. The average sanction time for a credit was high and yet the respondents appeared to be satisfied.

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Garcia *et al.* (2015) conducted a research on a question of why does formal, informal credit and both types of credit co-exist as consumer choices. The model in which the households pay a fixed cost to access each type of market and face a market particular interest rate. The model induced a cost curve that explained an optional, systematic sorting into credit types. The cost curve establishes that it was optimal to have informal credit when credits were small and formal credit when the credits were relatively large. The study concluded that, the quantification of the comparative static exercises arising from the model indicated that when households were granted access to credit from formal sources was increased, the informal credit borrowing also found to be decreased. In order to provide relevant answer better experimental design is needed.

Li (2015) studied the financial structure, household preference and enterprise risk with a micro foundation study of monetary policy effect in China with the problem of changing of citizens' consumption preference and leisure preference transmit in economy system and who decided the two separate interests of formal and informal financial sectors, household, enterprise or central bank, does the change of enterprise risk influence the financial structure and the modulation ability of monetary policy. Using the research methodology of DSGE (Dynamic Stochastic General Equilibrium) model, the study was analysed. It was found that, the household preferences of consumption and leisure impacted economics in different directions, while the consumption preference had more direct and powerful influence than the latter. Secondly, the amount of informal financing had more capacity to influence Chinese economy aggregate, with a multiplier effect.

Peters *et al.* (2015) conducted a study with the objective of finding the preferences over bank and rural family loans in rural Rwanda. The study had the objective to provide evidence for borrowers' preference over bank finance versus family finance. The study was conducted with a field survey with the collection of data from 480 households and the hypothetical loan offer and randomly assigned a

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family loan offer to half of the sample and a bank loan offer to the other half. Some factors that influence the preferences like interest rates or collateral requirements were also studied. The methodology for the study was done by taking WTP (willingness-to-pay) and the contingent valuation method to study the borrowing preference among 480 rural households also with the use of multi regression analysis. The researcher was arranged the question only that varies with respect to the choice of lenders leaving all other conditions constant and hence elicit pure preferences. He found that there is no difference between bank finance and family finance. Socio economic costs in both do not differ much and concluded that both the formal and informal system was utilized by the people.

Tseng studied the farmer- borrower's decision-making process in preference between traditional and non- traditional lenders for financing short and intermediate term loan contracts. The objective of the study were to assess the reason for the choice and the factors affecting to make the on traditional lenders an upper hand and their implications also to assess the business strategies of traditional lenders. . The model is estimated by two stages involving the estimation of loan term variable from lenders market and estimation of borrower's participation equation. The research also identified the factors that creditors could use marketing strategy for increasing borrower's acceptance. The study concluded that interest rate, loan size and collateral requirement are the main factors for decision making and the financial loan term influences socio economic factors for selection and use of non-traditional credit.

Dzadeze *et al*. attempted to identify the factors that affect the small farmer's access to formal credit in the selected districts of Ghana. The study objective was to identify the factors affecting small holder farmer's access to formal credit. The study was based on both primary and secondary data. Secondary data was collected from the lending institutions. The primary data was collected from farmers. The main variables observed were demographic details, extension contact, farm size, loan application requirements and loan approval rate and reasons for refusal of loan were

also collected from financial institutions. Data analysis was done using descriptive analysis such as ratios, percentages etc. The factors affecting smallholder farmers access to formal credit was analysed by using binary logit model and logistic regression model. The study concluded that education level, saving behavior of farmers, extension contact had a positive control on farmer's access to institutions.

Interest rate, loan size, collateral, flexibility, proximity influences on the preference of financial institutions for availing credit. Some studies concluded that informal agencies acts as a match to formal sources.

2.3 Agriculture credit issues and barriers in availing credit

Farmers show hesitant attitude towards availing credit with some institutions due to some constraints and problems with credit factors. The following reviews give an insight into on barriers in availing credit.

Poliquit (2006) conducted study on accessibility of rural credit among small farmers in the Philippines, with a view to explore and understand the perceptions of small farmers towards rural credit. He found that credit restrictions such as lengthy and complicated procedures and farmers' preferences and choices were not well served due to limited availability of credit services which led to borrowing from informal lenders. The study recommended that provision of innovative schemes minimized the processing of documents and, avoiding higher interest rates could boost credit availability thereby increasing their farm productivity and household incomes.

Golait (2007) attempted to study the current issues in agricultural credit in India with the objective of studying the trends in agricultural credit and also issues of the field. The study was based on secondary data analysed with CAGR, percentages. The analysis done by the researcher reveals that the finance delivery for the agriculture sector continues to be inadequate. The banking system was still much

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hesitant to lend the small and marginal farmers. Facilitating credit through input dealers, NGO's etc. that were vertically integrated with the farmers including through contract farming for providing them critical inputs or processing their produce, could increase their produce and could increase the credit flow to agriculture significantly.

Akram and Hussain (2008) conducted study on agricultural credit constraints and borrowing behaviour of farmers in rural Punjab with the objective of identifying constraints and remedial measures to make efficient use of agricultural credit schemes. Majority of the farmers revealed that they could not avail credit because of needed collateral. The borrowing behaviour of the respondents was estimated through the logit model and determinants of credit constraints were identified. The result showed that the coefficients of transitory income, education level and predicted interest rates have important bearing on borrowing behaviours. The study also found that household expenditure was positively and significantly determined by operational holding and value of implements.

Singh *et al.* (2009) conducted study on inadequacies of institutional agricultural credit system in Punjab State. The study was done by estimating the gap between the productive needs of obtaining credit from institutional sources, interest costs, problem faced by the farmers in obtaining institutional loan and preference for getting non-institutional loans in the State. The study found that complicated and time consuming procedure of institutions was the main reason for the farmers to move towards the non institutional credit which was found easier than institutional credit.

Devaraja (2011) study concentrated on the new advanced and product designs and methodologies for credit delivery through better use of contemporary technology. The study was based on the secondary data that has analysed the state wise credit disbursement to agricultural sector through commercial banks, cooperative banks to farmers. The analysis was done with simple percentages and is assessed for the issues and concerns prevalence in India. The study concluded that the institutions are hesitant to disburse credit to small and marginal farmers and the credit delivery is

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inadequate. Some suggestions from the author revealed that enhancement of micro finance will mitigate the farmer's constraint of offering suitable collateral to get credit, in order to achieve this the SHG's are need to be matured. The study compliments the mobile banking as it reduces the transaction cost for both lender and borrower.

Dzadze *et al.* (2012) analysed the factors determining access to formal credit in Ghana by taking small farmers. The study has attempted to identify the factors that limit or increase small farmer's access to formal credit in the selected Abura Asebu Kwamamkese district of the central region of Ghana. The primary data was collected from the formal financial institutions and descriptive statistics and a binary logistic regression model were used to analyse quantitative data collected. The study found that extension contact, education level and saving habit had significant positive influence on farmers' access to formal credit. Output of the study concluded that 35% of the sampled farmers had access to formal credit.

Godara *et al.* (2014) undertook a research on the various concerns and issues of agricultural credit in India with the objectives of analyzing the differences between requirements and availability of agriculture credit among farmer categories and to quest about the issues, concerns, trends and causes related to agriculture credit in India. The primary data was collected by taking 90 beneficiaries from six banks of Haryana state through convenient sampling method and secondary data was collected from various journals and books. The analysis revealed that the credit delivery to the agriculture sector continued to be insufficient as the banking system was still hesitant on various reason to provide finance to small and marginal farmers. Transformation in banking policies and practices and access to total bank credit was not satisfactorily addressed unbiased and efficient release of agriculture and rural credit. The decrease in the formation of public capital in the rural agriculture sector and the prevailing unenthusiastic attitude of rural bankers towards formal financing made the policy

makers and planners believe that relying on microfinance will enhance the formal banking in rural India.

Hrishikesh and Reddy (2014) attempted for the retrospective study of commercial banks and agricultural finance, rural credit format in India, priority sector and agricultural finance by commercial banks both at aggregate and disaggregate level. The author's objective was to analyse the farmer's perception relating to agricultural finance, and to appraise the credit delivery mechanism to agricultural sector. Multi stage random sampling was used and survey was conducted with structured schedules and hypotheses were tested by pilot study. The study was analysed by Anova and Chi-square tests. The personal investigation conducted by the author concluded as the farmers are not interested in soil health management practices and lack of guidelines through RBI in specifying soli health condition while sanctioning crop loan, financial illiteracy and lack of group cohesiveness were the reasons for farmers to come out from banks support. The study suggested some policy initiatives such as the RBI and government should make the compulsion of drip irrigation system in order to obtain agricultural finance. The value added products can be made part of credit linked marketing services instead of direct sanction to warehouse receipts. This will enhance the non loanee farmers to catch the support by banks. At micro level banks should also finance to the diesel retail outlet in order to enhance farm mechanization.

Gockel (2009) conducted a study on credit and risk: analyzing determinants of willingness to borrow more credit in rural Vietnam with an aim of incorporating an individual's risk perceptions and other behavioral characteristics with neo classical economic theory. The main objective of the study was to further elaborate on the theory of rural credit demand and also explaining the credit risks. The data were drawn from the survey to explore the patterns in farmer attitudes among intended recipients' of IFAD's program for improving market participation. In order to analyse the influence of risk perceptions on a rural individual's credit demand as well as

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previous borrowing history separate multivariate probit regression models examining an individual's willingness. The study found that a lack of credit seems to impact poverty alleviation efforts in rural areas, especially for women. Behavioural constraints did not appear to be a significant factor in determining whether a person was willing to borrow more than they had previously borrowed. Further the research explains by focusing on solely on risk attitudes, rather than other behavioral factors, may also yield more information regarding the influence of risk perceptions on economic activities. Taking into consideration individual preferences, as well as, all the constraints being faced by individuals led to more effective programs for those who need it most.

Sandhu *et.al,* (2012) enquired the barriers to finance experienced by female owners as well as managers of marginal farms in India. The study had the purpose to examine those barriers in the marginal farms of Punjab region of India. The study was analysed by keeping the preliminary results of a survey conducted with 48 marginal farmers and 15 bank managers in Punjab. The challenges faced by those women such as lack of education, confidence, gender discrimination, family, market based challenges etc. were kept as attributes. Upon analyzing all these personal, economic and social challenging attributes, the study concluded that, the main ability to provide the required collateral is the factor to succeed in borrowing the loan. The cultural, societal norms, social status, educational achievements and gender biases affect their lending decision to marginal farmers. Further the findings also stated that, the banks managers were lacked with the required information and to deal with the female farmers with the nonappearance of collateral and previous credit history. The researcher suggested and found useful for farming in the Indian economy which is struggling to discover and compete among matured economies.

Raza (2014) attempted to study the demand for credit among small farmers which was a case study of District Mandi Bahauddin Pakistan. The study was aimed to investigate the determinants of demand for credit and consumption of credits

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among small farmers. Both qualitative and quantitative techniques were employed to examine factors that affect demand for credit. Household survey was conducted for 123 households. Seven hypotheses were devised and tested. In order to assess the demand for credit to know the effect of factors such as education, household size and income, agricultural production income and other sources of income on credit demanded, Probit and OLS models were used. To see the significant effect of different factors on the demand for credit among small farmers' econometric models was used. The study found that, informal borrowing, higher interest rate and high transaction costs crowded out formal lending. However, consumption smoothing was not a major reason for demand for formal credit.

Zander (n.d) studied the barriers to access credit in rural Shri Lanka with the objective of identifying the existence and scale of entry barriers into formal and informal segments of financial markets. The survey method was adopted by using questionnaires. The study followed primary data and was analysed with comparison methods by using the surveyed questionnaires. The study classified the components that the credit choice depends upon. The comparative analysis of nine components of formal and informal financial contracts from the borrower's point of view yielded the results as, non repayments, distance between households and financial intermediaries also does not influence the borrower's decisions. Collateral requirements and guarantor arrangements are seen as the main barrier to approach credit institutions. The study also arrived at a conclusion that, the banks lend high average loan amounts at moderate rates of interest and was attractive sources for borrowers. Friends and relatives are low cost option whereas moneylenders disburse loans very quickly but at high interest rates and sometimes only against the deposit of collateral.

Geetha *et al.* (n.d) analysed the demand for agricultural loans in Philippine credit market with an objective of developing an econometric framework to estimate loan demand from field data and applies it to examine the demand for loans among Philippine farm households. The primary data was used for the study for the period of

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1989-86 and 1989-90. The econometric estimation and type three Tobit model was applied to estimate the loan demand among farm households. The study concluded that, the borrowing ability and capacity were the factor that influences the loan demand of a household.

The studies revealed that collateral requirements and high interest rates are the major constraints faced by the borrowers.

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MATERIALS AND METHODS

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CHAPTER 3

MATERIALS AND METHODS

The study entitled "Institutional preference of farmers for agriculture credit in Kasaragod district of Kerala" has been conducted with the objectives of identifying the sources and extent of credit availed by the farmers, examining the institutional preference of farmers with a view to analyse the factors affecting the institutional preference for availing agriculture credit and to assess the constraints in availing agriculture credit. The present chapter delineates methodology and data sources used for the study and it is presented under the following heads.

3.1 Concepts used for the study

3.2 Sources of data

3.3 Locale of the study

3.4 Design of sample

3.5 Statistical tools used for the study

3.1 Concepts used in the study

The major concepts used in the study are given below:

3.1.1 Marginal farmers

Those farmers who possess less that 1 hectare of cultivable land are categorized as marginal farmers.

3.1.2 Small and Medium farmers

The farmers having cultivable land of one hectare to five hectare are classified as small and medium farmers.

3.1.3 Large farmers

The farmers who are holding more than five hectares of land are termed as large farmers.

3.1.4 Area under cash crops

The area covered under cash crops in total land under cultivation i.e. rubber, cashew, coconut, arecanut, cocoa, pepper, is termed as area under cash crops.

3.1.5 Area under food crops

The area covered under food crops in total land under cultivation i.e paddy, banana, and pineapple are considered as area under food crops.

3.1.6 Proximity

The literary meaning of proximity is nearness. Long distance to the institutions from the farmers' households leads to careless attitude towards visiting the banks. The expenses incurred and the time contribution for travelling will be more. Whenever they need to visit the banks they need to spend more than half day and for the farmer who is a busy person will not care of visiting the bank. The proximity is also analysed by classifying the distance range in 3 classes.

Sl.No.	Class range	Description
1	1-2 Km	Low
2	2.1-5Km	Medium
3	5.1Km and above	High

3.1.7 Easy procedures

Procedure hassles for any process will annoy the customer in availing services. The particular rules and regulation which should be followed by the financial institutions are lengthy is the perception of farmers as well the experience. Farmers have to furnish all the documents necessary for availing credit. The exception of a single document will hold violation of rules of lending and application can be denied. Lesser the formalities of loan availing procedure more will be the number of farmers attracted.

3.1.8 Bankers' behavior

Behaviour of a service offering person is the ultimate criteria that a borrower prefers in choosing credit source. The farmer wants a secure environment where he can be guided with all the procedures and details of services offered by the source. Personal relationship of the banker with the customer increases the confidence of the farmer in having transaction with the bank. Every bank is having relationship manager who respond to the queries of public and service them in pleasing manner.

3.1.9 Approachability

It is very important to be friendly and approachable, courteous and make clients feel like friend and the bank is there to help them out in all the problems experienced by them through their customer management service. The honesty and honor to the customer holds importance so that borrower can approach them immediately without hesitation.

3.1.10 Flexibility

Having flexible customer service experience indicates the better servicing company. The decision making needed to be in the hands of the bank employee in order to cater the needs of customer timely. The front line office should have the

ability to decide and solve the problem there itself and can offer greater flexibility. Farmer borrower is not an exception from demanding flexibility from the bankers.

3.1.11 Cost of credit

Cost of credit is the interest rate charged for the loan disbursed for a particular period of time until complete repayment. Higher the interest rate, lower will be the customer visit to the bank. The interest rate should be same in the credit market and farmers' behavior towards interest charge is more sensitive that can influence their decision. But the greater need of finance does not influence their borrowing even if the interest rate is higher.

3.1.12 Adequacy

Adequacy is the term which meant to get adequate amount of credit by the financial source. Even though banks are offering certain fixed amount of loan, the eligibility for demanded amount of loan depends upon the expense of proposal as well as the collateral produced. For the agriculture loans, the value of land or machinery is considered and the amount is sanctioned based upon the value of land. The farmers always prefer the bank which can give them flexibly adequate amount of loan.

3.1.13 Timeliness

Food not served at the starving will not serve later and thus the credit which is not financed at the most essential time will not serve the purpose after that time has gone. Before sowing and during the time of carrying out agricultural operations, farmer need to get finance and banks always prefer to serve them and the failure in servicing leads to losing the customer.

3.1.14 Gap in awareness

The number of respondents who are unaware of the schemes.

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3.1.15 Gap in scheme utilization

The number of respondents who are not utilizing the schemes

3.1.16 Scheme utilized

The number of respondents who are successfully utilizing the schemes.

3.2 Sources of data

The study has made use of primary data. Primary data regarding socio economic indicators, cropping pattern, sources of credit availed and associated attributes such as purpose, security, repayment, and cost of repayment etc., evaluation of sources of finance were collected. Sample respondents consisting of 90 farmers, of the selected Panchayats were interviewed using a pre-tested structured schedule to collect information.

3.3 Locale of the study

The Kasaragod district was selected for the study. The district which is in a new move of organic farming holds attention. Assessment of agricultural credit factor found to be important in the area. Two grama panchayats having highest area of cultivation were selected among 48 grama panchayats of Kasaragod district each from two blocks. The selected panchayats are Manjeshwaram (25,34,291.98 ha) and Parappa (84,47,815 ha) from Kasaragod and Hosadurg taluk respectively.

3.4 Design of Sample

Out of the 48 Grama Panchayats in Kasaragod district, 90 farmers were selected using multi stage sampling. Accordingly, in the first stage, from the two taluks Kasaragode and Hosadurg in the district, one block each was selected based on the highest area under cultivation i.e. Manjeshwaram and Parappa from Kasaragod and Hosadurg respectively. From the selected blocks, one panchayat each was selected randomly. Forty five farmers (15 each from the three categories of marginal,

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small & medium and large farmers) were selected randomly from each panchayat. Thus a total of 90 farmers constitute the sample for the study.

3.5 Statistical tools used for the study

Data collected were analysed using statistical tools such as simple percentages, one-way ANOVA test, Logistic regression model, Factor analysis, Independent Samples Kruskal-Wallis test and Mann-Whitney U test. Percentages were used to interpret the socio-economic variables. One-way ANOVA test was used for analyzing the preference of farmers' category for the cultivation among food crops and cash crops and also to identify whether there is any significant difference between agricultural and non agricultural credit availed by farmer categories'. In addition, ANOVA test was used in order to find out whether there is any significant difference in the average distance from credit source, average interest on credit availed and average expenses on credit of farmer categories, The Logistic regression model was applied to find out the factors influencing the agricultural credit availed by the farmers. Factor analysis was done to establish the relation between the factors, by examining the correlation between the pairs of variables measured on the Likert scale as well as to assess the constraints in availing agriculture credit which was scored using Likert scale. Independent sample Kruskal wallis test is a rank based non parametric test used to determine if there are statistically significant differences between two or more groups of an independent variable or ordinal dependent variable and employed in the study to establish the relation between each factor and institutional preference of respondents.

3.5.1 One-way Analysis of Variance (ANOVA)

ANOVA (Analysis or Variance) is used to determine and check the statistical significant difference between means of three or more independent groups. Comparison of more than two groups, based on one factor (Independent variable), is called one way ANOVA. This test uses assumptions that samples drawn are normally

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distributed, and are independent of each other as well as homogeneity (Variances between the groups should be approximately equal). The ANOVA uses F statistic which is simply a ratio of two variance i.e. the variation between the sample means and variation within the sample means. If two variances do not differ significantly, then all the group means are from sampling distribution and not as differ in the group means.

$$F = \frac{Variance\ due\ to\ difference\ between\ groups}{Error\ variance}$$

If there is statistically difference between groups is found, then there exists the need to see between which groups the difference is existing through several't'- tests that tests the means between the groups. This is called Multiple Comparison Test that explores the specific relation among different groups. Thus, the general purpose of ANOVA is to compare more than two groups, based on one factor and hence it is also called one factor ANOVA.

One way ANOVA was used to analyse the the preference of farmers' category for the cultivation among food crops and cash crops. The comparison of cash crops, food crops and total area of cultivation of different types of farmers is done to assess the relation between the variables. The test was also applied to find out whether there is any significant difference in the average distance from credit source, average interest on credit availed and average expenses on credit of farmer categories

3.5.2 Log linear regression model

Linear regression equation with one independent variable represents a straight line when predicted value which is the dependent variable from the regression equation is plotted against the independent variable. This is called simple linear regression. The main purpose of linear regression analysis is to come up with an

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equation of a line that fits through that cluster of points with the minimal amount of deviations from the line. That deviation of points from the line is called "error".

A standard multiple regression explains how well each independent variable predicts the dependent variable, controlling for each of the other independent variables. If the regression coefficient is positive then there is positive relationship exists between the variables. If this is negative, then there is negative relationship between the variables. Each value of the independent variable x is associated with a value of dependent variable y. the population regression line for p explanatory variables $x_1, x_2, ..., x_p$ is defined as $\mu_y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + ... + \beta_p x_p$.

In regression, a transformation to achieve linearity is a special kind of non linear transformation. It is a non linear transformation that increases the linear relationship between two variables. The use of logistic transformation variable is to pull outlying data from a positively skewed distribution closer to the bulk of the data in a quest to have the variable be normally distributed.

According to probability theory, a log- normal distribution is a continuous probability distribution of a random variable whose logarithm is normally distributed. More specifically, if a variable Y follows a log normal distribution, then, ln(Y) follows a normal distribution with mean $= \mu$ and a variance $= \sigma^2$.

A linear regression model with a log-transformed dependent variable and two predictor variables can be expressed with the following equation:

$Ln(Y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2$

A linear regression model with one log-transformed predictor variable can be expressed with the following equation

$Y = \beta_0 + \beta_1 ln(X_1) \, x1 + \beta_2 x_2$

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When both dependent and independent variables are log transformed, the model can be expressed with the following equation

$$\ln(Y) = \beta_0 + \beta_1 ln(X_1) \, x1 + \beta_2 x_2$$

Thus, either dependent variable or independent variable and both dependent and independent variables can be log-transformed.

The Logistic regression model was applied to find out the factors influencing the agricultural credit availed by the farmers. The log values of agricultural credit availed by the farmers are taken as dependent variable and the log values of age of farmers, area under cultivation, interest rate, visiting frequency to bank and distance to credit source are taken as independent variables.

3.5.3 Factor analysis

Factor analysis is used to examine the correlation between the pairs of variables measured on a rating scale (for example a Likert scale) and the analysis identifies sets of interrelated variables on the basis that each variable in the set could be measuring a different aspect of some underlying factor (Field, 2000). The resulting factor scores represent the relative importance of the variables to each other. Factor analysis holds the concept that, multiple observed variables have similar patterns of responses because they are all associated with a latent (i.e. not directly measured) variable. Thus, the factor analysis is useful tool for investigating variable relationships for complex concepts such as psychological scales. In particular, factor analysis can be used to explore the data for patterns, confirm our hypotheses, or reduce the many variables to a more manageable number.

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Factor analysis is applied for

i. Identification of underlying factors i.e. converts the cluster variables into homogeneous sets and creates new variables which are called factors which gives insight to categories.

ii. Screening of variables that identifies groupings which allow selecting one which represents many variables.

iii. Sampling small group of variables of representative from the larger set and thus easy of sampling of variables.

Factor analysis encompasses a number of techniques and principal component analysis is one among them and is widely used to reduce data to a smaller set of composite variables. It reduces the information in a model by reducing the dimensions of the observations. Then the correlation between two factors is zero, which eliminates problems of multi collinearity in regression analysis. Factor loadings are basically the correlation coefficient of the variable factor. Factor loadings show the variance by the variable on the particular factor. As a rule of thumb, 0.7 or higher factor loading represents that the factor extracts sufficient variance from that variable. The factor analysis generates eigen values is also called characteristic roots. Eigen values show the variance explained by that particular factor out of the total variance. Factor scores which are also called component scores used as an index of all variables and can be used for further analysis. According to Kaiser Criterion, the number of factors is determined by the eigen values. If eigen value is greater than one, then, one should consider that factor. According to the variance extraction rule, it should be more than 0.7. if the variance which are less than 0.7 need not be considered.

The factor analysis in the study is applied for analyzing the preference of farmers for different institution based on the attributes identified and are reduced to few considerable factors so as to analyse the preference of farmers. The analysis has

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been also used for analyzing the constraints of the farmers in availing credit from both institutional and non institutional sources.

3.5.4 Independent samples Kruskal- Wallis Test

Kruskal Wallis test is a non parametric test used when the assumptions of ANOVA are not met. Both the analysis assess for significant differences on a continuous dependent variable by grouping independent variable. In kruskal Wallis there is no assumption that distribution of each group is normally distributed and there is approximately equal variance on the scores for each group.

Kruskal wallis assumes the null hypotheses to be samples are identical where as alternate hypotheses assumes that samples come from different populations. The data of the samples drawn were arranged and are ranked in ascending order. In case of repeated value, or a tie, then the ranks are assigned to them by averaging their rank position.

The Kruskal wallis test is approximately a Chi-square distribution with k-1 degrees of freedom. iF the calculated value of the Kruskal-wallis test is less than the critical chi-square value, the null hypotheses cannot be rejected. If the calculated value of Kruskal Wallis is greater tha the critical Chi square value, then reject the null hypotheses and the it can be concluded that samples comes from different population.

The formula for calculating the Kruskal –wallis H test value is represented below.

$$ H = \frac{12}{n(n+1)} \sum \frac{T_i^2}{n_i} - 3(n+1) $$

Where, T_i = rank sum for the ith sample i= 1, 2,.....k

H= Kruskal Wallis Test statistic

N= Total number of observations in all samples

The kruskal Wallis test has been applied in the study to anlyse the significant difference between institutions in their preferring the factors that affect the farmers preferences. The test has been also applied as a further analysis by taking the factor scores of factor analysis for analyzing the relationship between preferences of farmers with individual institutional factors. The same procedure applied in anlaysing the constraints faced by the farmers in availing credit from both institutional and non institutional sources as a further analysis of factor analysis by recording the factor scores.

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RESULTS AND DISCUSSIONS

CHAPTER 4

RESULTS AND DISCUSSIONS

Service utilization and management of resources available for the farmers can play a pivotal role in enhancing the agriculture productivity as well as in boosting the economic condition of farmers. Delivery of financial services for the targeted groups by identifying the risk prone farmers in order to revive their confidence gives the indication of sustaining co-operation policy. Although informal credit institutions have proved relatively successful in meeting the credit needs of small enterprises in some countries including India, their limited resources, riskiness, strict policies of repayment and behaviour towards the borrower pose serious concerns. Institutions which are aimed to satisfy the farmer needs by financing for their immediate needs are facing the problem of loan administration, which results in the co-existence of both formal and informal credit sources in Kerala.

The results and discussion of the analysis of the present study undertaken with the objectives of understanding the existing sources and extent of credit availed by the farmers in the selected area of Kasaragod district, analyzing the preference of farmer borrowers in availing credit for agriculture in order to focus on factors affecting their preference and identifying the constraints faced by them in availing credit from both formal and informal sources have been depicted mainly under six sections. The study has been conducted using primary data collected from 90 farmers. A picture of socio - economic characteristics of the respondent farmers is most essential especially to find out whether there is any significant relation between these characteristics, use and awareness of credit schemes as well as preference. Thus, demographic profile and details of the agricultural activity as well as sources and extent of credit availed by the farmers constitute the first three sections of this chapter. The fourth section is devoted to the awareness about institutional schemes. The fifth section has occupied the detailed analysis of the second objective of the study which explains the preference of farmers according to the attributes

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investigated and relation of the institutional attributes among the categories of farmers. The further section deals with the constraints of the farmers and analysis of each constraint individually by taking categories of farmers into account, constituting the third and last objective of the study.

4.1 Sources and extent of credit availed by the farmers

Finance is required for every investment activity including agriculture. Farmers avail credit for agriculture and allied activities as well as for consumption purposes. Both institutional and non institutional sources are playing a part in providing finance for agriculture. Institutional sources like commercial banks both public and private, co-operative banks, RRBs, microfinance institutions and other non institutional sources like money lenders and friends and relatives are prevalent and are contributing to the financing needs of farmers.

Out of total geographical area of 38.86 lakh hectares in Kerala, 53 per cent is used for agriculture purposes (Economic Review 2014). Kasaragod is the district of Kerala which has more cash crops than food crops. Agriculture operations have become progressively more costly in matters of investment and is more capital demanding. Even after the presence of number of institutional sources, often farmers are being deprived of credit for agriculture. In this context, the present study evaluates the existing pattern and related features of borrowing of farmers and identifies the commonly experienced problems by farmers. The study also probes into farmers' preferred source of financier for agricultural operations.

The discussion is divided into following sections:

4.1.1 Demographic profile of respondents

4.1.2 Profile of agricultural activities of respondents

4.1.3 Existing sources and extent of credit availed by farmers

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4.1.4 Awareness of institutional schemes by farmers

4.1.5 Farmers' preference for financing institution and factors influencing preference

4.1.6 Constraints in availing agricultural credit

4.1.1 Demographic profile of the respondents

Demographic profile depicts the social and economic situation of the respondent farmers. This section portrays the age, gender, level of education, occupation, income and other related aspects of the respondent farmers. Further analysis has been carried out to find the underlying relations between demographic profile and observed variables in the study.

Table 4.1 Socio-economic profile of the respondents: Farmer-wise

Sl.No.	Characteristics	Farmer category			Total
		Marginal	Small and Medium	Large	
1	**Sex**				
1.1	Male	29	30	30	89(98.9)
1.2	female	1	0	0	1(1.1)
2	**Age level**				
2.1	Below 35	4	3	4	11(12.2)
2.2	35-45	5	5	5	15(16.7)
2.3	45-55	12	9	7	28(31.1)
2.4	55-65	5	11	10	26(28.9)
2.5	65 and above 65	4	2	5	11(12.2)
3	**Education level**				
3.1	Below SSLC	11	5	4	20(22.2)
3.2	SSLC	13	11	9	33(36.7)
3.3	Higher secondary	3	6	5	14(15.6)
3.4	Graduation	3	7	11	21(23.3)
3.5	Post graduation	0	1	1	2(2.2)
4	**Family size**				
4.1	Nuclear	24	23	25	72(80)

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4.2	Joint	6	7	5	18(20)
5	**Occupation**	0	0	0	
5.1	Agriculture only	24	25	29	78(86.70)
5.2	Agriculture & business	3	4	1	8(8.9)
5.3	Agriculture& private	3	0	0	3(3.3)
5.4	Government sector	0	0	0	0 (0)
6	**Income**				
6.1	Less than 1 lakh	12	10	10	32(35.6)
6.2	1 lakh – 2 lakhs	14	9	13	36(40)
6.3	2 lakhs – 3 lakhs	3	9	4	16(17.8)
6.4	3 lakhs – 4 lakhs	0	1	1	2(2.2)
6.5	Above 4 lakhs	1	1	2	4(4.4)

Source: Compiled from primary data
Note: Figures in parentheses represents percentage share of each to total

Table 4.1 reveals that most of the farmers covered under the survey are male with the exception of a single female farmer. Sixty per cent of the respondents are less than 55 years of age, of which 28 per cent are in the age group of 45 to 55 years. The remaining forty per cent of respondents fall in the category above 55 years. Seventy five percent of farmers have gained education till higher secondary level. Majority of the respondents (80%) are belong to nuclear family and only 20 per cent of the respondents are having joint family main occupation of 86 per cent of respondents is agriculture and the rest 14 per cent of the sample respondents undertake agriculture as subsidiary occupation. Income from agriculture varies according to sample respondents land holdings as well as productivity. Exactly 76 per cent of the farmers are having income less than Rs. 2 lakhs per annum. 6 per cent of the respondents fall above Rs. 3 lakhs per annum.

4.1.2 Profile of agricultural activity

4.1.2.1 Area cultivated by farmers

Kasaragod is well known for its commercial crops cultivation and is highly oriented towards organic farming. Cash crop cultivation is increasing in Kasaragod as well as in Kerala and food crops cultivation is decreasing because of lack of timely labour availability. The Table 4.2 represents the farmer-wise land use pattern of the respondents.

Table 4.2 Average area cultivated by farmers (in ha.)

Type of farmers	Area of cash crops	Area of food crops	Average area under cultivation
Marginal	0.66	0.52	0.96
Small	1.96	0.79	2.34
Large	7.90	2.78	10.31
Average area cultivated by all farmers	**3.50**	**1.47**	**4.98**

Source: Compiled from primary data

From the Table 4.2 it is revealed that, the farmers are devoting most of their land for the cultivation of cash crops such as rubber, cashew, coconut, arecanut, coffee, and pepper compared to food crops such as paddy, tapioca, and vegetables. This is because the land feature is hilly area with slopes and is suitable for cultivation of cash crops rather than food crops. Due to higher cost of cultivation the paddy farmers are increasingly converting their land area into rubber cultivation. Even the farmer who is having land less than 70 cent is also cultivating rubber, coconut and arecanut.

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4.1.3 Extent of credit availed by the farmers

The amount of credit available to the farmers depends mainly on the scale of finance and area under cultivation. Generally, by comparing the area under cultivation, large farmers are eligible for higher amounts of credit than marginal and small farmers. The commercial crop growers like rubber, arecanut, coconut, cocoa farmers are having high expenses for labour, fertilizer, maintenance charges etc. Credit availed by farmers need depth analysis as this can provide insights into existing condition of farmers regarding availability of credit. Credit availability provides the farmer with an enhanced opportunity for investment into agricultural purposes and timely focus on farm management practices.

Table 4.3 Credit availability to respondent farmers: Summary analysis

Purpose of credit availed	Category of credit	No. of Farmers			Total
		Marginal	**Small**	**Large**	
Cash crops	No credit	15 (50)	7 (23.30)	10 (33.33)	32 (35.56)
	Credit availed	15 (50)	23 (76.67)	20 (66.67)	58 (64.44)
	Total	**30**	**30**	**30**	**90**
Food crops	No credit	29 (96.67)	29 (96.67)	27 (90)	85 (94.44)
	Credit availed	1 (3.33)	1 (3.33)	3 (10.00)	5 (5.56)
	Total	**30**	**30**	**30**	**90**
Total agricultural credit	No credit	15 (50)	7 (23.33)	7 (23.33)	29 (32.22)
	Credit availed	15 (50)	23 (76.67)	23 (76.67)	61 (67.78)
	Total	**30**	**30**	**30**	**90**

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

As regards total credit, only 50 per cent of the marginal farmers availed credit, whereas 77 percent of small and large farmers made use credit for agricultural purposes. Overall, 68 per cent of farmers availed credit. It could be seen that credit

availed for food crops is comparatively lesser as few farmers doing food crops cultivation. The incidence of non borrowing nature is existing among the respondents in the district. The farmers are interested to avail the credit if the repayment period is extended. Some farmers have opted for leaving their farms uncultivated as there is no one to look after the farm and tendency to avail the credit is less.

Another reason for non borrowing could be improved economic condition of farmers due to alternative additional earners of the family. Detailed account of amount of credit availed by the farmers follows in the ensuing analysis.

Table 4.4 Agriculture credit availed by the farmers for cash crops: category-wise

Sl. No.	Amount of credit (Rs)	Marginal farmers	Small farmers	Large farmers	Total
1	No credit	15 (50.0)	7 (23.3)	10 (33.3)	32(35.6)
2	Up to Rs. 50000	5 (16.7)	4 (13.3)	0 (0.0)	9(10.0)
3	Rs.50001-Rs.100000	5 (16.7)	8 (26.7)	6 (20.00)	19(21.1)
4	Rs.100001- Rs.150000	2 (6.7)	3 (10.00)	1 (3.3)	6(6.7)
5	Rs.150001- Rs.200000	1 (3.3)	1 (3.3)	2 (6.7)	4(4.4)
6	Above Rs.200000	2 (6.7)	7 (23.3)	11 (36.7)	20(22.2)
7	Total	30 (100)	30 (100)	30 (100)	90(100)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

From Table 4.4, 36 per cent of farmers cultivating cash crops are not availing credit, of which majority are marginal farmers (50%). Also majority of marginal farmers have availed less than Rs. 1 lakh, due to the reason that eligibility condition for availing loans is related to land holding. Attributing the same reason, it can be seen that about 40 per cent of the large farmers have availed more than Rs. 1.5 lakh for cash crop cultivation.

The major food crops grown in the region is paddy and vegetables. The farmers have availed the finance for food crops too and the distribution of farmer's availed agricultural credit for food crops is shown in Table 4.6

Table 4.5 Agriculture credit availed by farmers for food crops: category – wise

Sl. No.	Amount of credit	Marginal	Small	Large	Total
1	No credit	29 (96.7)	29 (96.7)	27 (90.0)	85 (94.4)
2	below 50000	1(3.3)	1(3.3)	0 (0.0)	2 (2.2)
3	50001-1 lakh	0 (0.0)	0 (0.0)	1(3.3)	1(1.1)
4	1.5 lakh-2 lakh	0 (0.0)	0 (0.0)	1 (3.3)	1 (1.1)
5	Above 2 lakh	0 (0.0)	0 (0.0)	1 (3.3)	1(1.1)
6	**Total**	**30 (100)**	**30 (100)**	**30 (100)**	**90 (100)**

Source: Compiled from primary data
Note: Figures in paranthesis represent percentage share of each to total

It was found that 94.4 per cent of the farmers are not availing credit for food crop cultivation. Three large farmers and one small farmer and marginal farmer each were only found to tap sources of credit. One reason is that majority of the farmers have confined themselves to cash crops cultivation due to inherent problem of non availability of labour associated with food crops cultivation which has restricted food crops and hence lesser demand for food crop credit. Small and marginal farmers were found to avail facility of KCC, which is a small amount.

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Table 4.6 Total agricultural credit availed by the farmers category - wise

Sl. No.	Total crop credit class	No. of farmers who availed credit			Total
		Marginal	**Small**	**Large**	
1	No credit	15(50.0)	7(23.3)	7(23.3)	29(32.2)
2	below 50000	5(16.7)	4(13.3)	0(0.0)	9(10.0)
3	50001-1 lakh	5(16.7)	8(26.7)	7(23.3)	20(22.2)
4	1 lakh-1.5 lakh	2(6.7)	2(6.7)	1(3.3)	5(5.6)
5	1.5 lakh-2 lakh	1(3.3)	2(6.7)	3(10.0)	6(6.7)
6	Above 2 lakh	2(6.7)	7(23.3)	12(40.0)	21(23.3)
7	**Total**	**30(100)**	**30(100)**	**30(100)**	**90(100)**

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

As evident from Table 4.6, 68 per cent of the farmers have availed the agriculture credit for both food crop and cash crop cultivation. Forty per cent of large farmers have availed loan above 2 lakhs in case of cash crop cultivation but their credit level is below Rs. 50000 in case of food crop cultivation. This is because farmers are giving more importance to cash crops cultivation than food crops. Altogether 50 per cent of the marginal farmers have not availed agricultural credit for any crops which depicts the figure of marginal farmers' credit availing condition for cash crops which is already explained in Table 4.3. However the farmers who availed credit above 1 lakh remains slightly high. Many farmers are facing difficulty in repayment of loan as their family expenses are very high and are hesitant to avail larger amount of credit from institutional and non institutional sources. Among the farmer respondents, only a single farmer availed a loan amount of Rs. 6 lakh from a Commercial Bank as he is having 23 acres of land. Few large farmers who are well educated have the opinion of performing debtless agriculture. However this might be very difficult for the marginal farmers.

The information regarding the amount of credit availed by different institutions for the respective purposes were accounted to assess the credit availed by each farmer respondent in the selected area. The farmers availed credit for

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agricultural purpose as well as non agricultural purpose such as marriage, purchase of vehicle, business loan, educational loan, medical purpose and other personal purposes. The proportion of credit availed depends upon their socio-economic status but not in the case of every respondent. Further it depends upon the individual perception and ability to avail external finance. The average amount of credit availed by the farmers for both agriculture and non agricultural purposes are calculated and are represented in Table 4.7

Table 4.7 Average amount of total credit availed by farmers

(Amount in Rs)

Sl. No.	Type of farmers	Total agriculture credit	Total non agriculture credit	Total credit availed
1	Marginal	57,500	34,333	91,833
2	Small	1,91,833	26,667	2,18,500
3	Large	3,29,167	5,000	3,34,167
	Total	**1,92,833**	**22,000**	**2,14,833**

Source: Compiled from primary data

Table 4.7 reveals that the average amount of credit availed by the farmers for agricultural activities (Rs. 1,92,833) are more than that of non agricultural activities (Rs.22000). Among the farmers categories, the total credit amount is high for large farmers (Rs.3, 34,167) when compared with marginal (Rs. 91,833) and small farmers (Rs. 2,18,500), which is in accordance with the area possessed by them. The average credit for non agricultural purpose is less than the agricultural credit availed and the marginal farmers are borrowing more for non agriculture purpose (Rs. 34,333) than the others. This is because of their poor economic status.

Even if majority have availed credit, considerable percentage of them could not access it as evident from Table 4.3. Thus indicates that the credit have not yet reached to many of the farmers especially the marginal farmers. Further it can be

inferred from Table 4.7 that the farmers' dependency for finance in agriculture is high compared to non agricultural credit.

4.2.2.1 Credit availed by different types of farmers

As already seen, the credit availed by the farmers for agriculture is high. All the categories of farmers have availed the credit at different levels. The credit availed by the different categories of farmers is discussed in this section.

Farmers have availed credit for both agriculture and non agriculture purpose. The requirement of credit differs for different categories of farmers as there is difference in the requirement of funds according to the area of cultivation. The fund also varies with the type of requirement by the borrower. Agricultural credit is for the production and cultivation purpose of crops and other agriculture allied activities. The average amount of credit availed by different categories of farmers is already discussed in Table 4.7. The ANOVA test has been performed to identify whether there is any significant difference between agricultural and non agricultural credit availed by farmer categories'.

H_0= There is no difference between credit availed by different type of farmers

H_1= Credit availability differs according to type of farmers

Table 4.8 ANOVA of credit availed by the farmers: Farmer category - wise

Sl. No.	Variables	p-value
1	Agricultural credit	.018**
2	Non agricultural credit	.627
3	Total credit availed	.056

**Significant at 5%

In the case of agricultural credit, there exist a significant difference in the credit availed by all categories which is significant at 5 per cent level. Farmers based on their area i.e. the loan amount disbursed are different for all the categories of

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farmers. The need for the funds varies with farming expenses as it is influenced by the area under cultivation of farmers' i.e. farmer categories. The farmers of area generally take loans from Co-operatives for agricultural purposes and no respondent have availed loan for consumption purpose from the Co-operative Banks. The Commercial Banks are taking care of the farmers for the consumption needs of the farmers too. There is no significant difference exist in the credit availed for non agricultural purposes.

As there is significant difference among the farmer category with respect to agriculture credit availed, an attempt is made to identify the groups between which there is a significant difference. The result is depicted in Table 4.9.

Table 4.9 Multiple Comparison ANOVA test for agriculture and non agriculture credit

Multiple Comparisons (Turkey HSD)			
Dependent Variable	**Farmer category**	**Farmer category**	**Sig.**
Total agricultural credit	Marginal	Small	.330
		Large	.013
	Small	Marginal	.330
		Large	.314
	Large	Marginal	.013
		Small	.314
Total non-agricultural credit	Marginal	Small	.968
		Large	.620
	Small	Marginal	.968
		Large	.770
	Large	Marginal	.620
		Small	.770
Total credit availed	Marginal	Small	.412
		Large	.043
	Small	Marginal	.412
		Large	.477
	Large	Marginal	.043
		Small	.477

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From Table 4.9 of multiple comparison, it could be observed that there is significant difference in the total agricultural credit availed by large and marginal farmers and there is no significant difference in the credit availability between marginal and small farmers and small and large farmers.

In order to analyse the amount of agriculture credit availed by the farmers for both food crops and cash crops, the average amount of credit availed by the farmers for agriculture for all the categories is depicted in Table 4.10.

Table 4.10 Average amount of credit availed by farmers for agricultural purposes (Amount in Rs.)

Sl. No.	Type of farmers	Credit availed for cash crop	Credit availed for food crops	Total agri credit
1	Marginal	56,667	833	57,500
2	Small	1,90,500	1,333	1,91,833
3	Large	3,09,167	20,000	3,29,167
	Total	**1,85,444**	**7,389**	**1,92,833**

Source: Compiled from primary data

It could be observed that small farmers have availed 3 times and large farmer has availed 5.8 times than the marginal farmer. The disparity between small and large farmers is not so wide in the sense that, large farmer avails 1.7 times higher amount than that of the small farmers.

It could be observed that credit availed by farmers have increased with land holdings. This is because of the reason that borrowings from formal sources warrant furnishing of collateral security or land mortgage. Hence large farmers are in a position to take advantage of these schemes of banks due to their asset holdings. Another reason is that the loans like KCC or crop loan etc follows the scale of finance for crops per hectare, which is proportionate to the land holdings.

Table 4.11 Average amount of credit availed per hectare by farmers for agricultural purpose (in Rs.)

Sl. No.	Type of farmers	Credit availed for cash crop	Credit availed for food crops	Total agri credit
1	Marginal	85,859	1,601	59,895
2	Small	97,193	1,687	81,979
3	Large	39,135	7,194	31,926
	Total	**52,984**	**5,026**	**38,721**

Source: Compiled from primary data

In order to Standardize the comparison of credit off take, average amount of credit availed per hectare was calculated for all types of farmers. It was found that small farmer enjoyed maximum credit per ha. Whereas it was surprising to find that large farmer availed least credit per hectare against all existing convention. However this may be explained on the grounds that most of the agricultural related bank schemes put a cap on the agriculture loans (Eg: Gold loan can be availed at differential rate of interest only up to Rs. 3 lakh per borrower). It may be also noted that average land holding of a farmer is a high as 7.90 hectare when compared to 0.66 hectare for marginal and 1.96 ha for small farmer. In case of food crop, large farmer has managed to get loans four times higher than that of small and marginal farmers.

4.2.3 Sources of credit availed by the farmers

Credit plays a vital role in the agricultural economy. In India there is dire need for agricultural credit as Indian farmers are very poor. From the very beginning the prime source of agricultural credit in India was money lenders. After independence the government adopted institutional credit approach through various agencies like co-operatives, commercial banks and RRB's to provide adequate credit to farmers, at cheap rate of interest. Moreover, with growing modernization of agriculture, during

the post green revolution period, the requirement of agricultural credit has ever increased.

The volume of credit accessed by the farmers is dependent upon the type of banks or credit sources. The analysis on sources of credit availed by the farmers includes details like source of credit, associated features such as distance to the credit source, expenses incurred for transportation, processing charges, other expenses such as food and refreshments and number of visits to the bank by the farmer.

Table 4.12 Number of farmers availing agricultural credit from various sources of credit

(Amount in Rs.)

Source of credit	Marginal	RANK #	Small	RANK #	Large	RANK #	Number of farmers availing agri credit	RANK #
Public sector	3 (10.00)	3	5 (16.67)	3	4 (13.33)	3	12 (13.33)	3
Private sector	1 (3.33)	5	1 (3.33)	5	2 (6.67)	4	4 (4.44)	4
Co-operative bank	7 (23.33)	1	10 (33.33)	1	16 (53.33)	1	33 (36.67)	2
Regional Rural Bank	5 (16.67)	2	9 (30.00)	2	10 (33.33)	2	24 (26.67)	1
Microfinance Institutions	2 (6.67)	4	2 (6.67)	4	0 (0)	0	4 (4.44)	4
Private sources	0 (0.00)	0	0 (0.00)	0	1 (3.33)	5	1 (1.11)	5
Total	18		27		33		78	

Ranking done on the basis of number of farmers accessing each of the sources of finance for agricultural purposes
Percentage denotes percentage to total farmers in each category
Note: Figures in parenthesis represent percentage share of each to total

As regards number of farmers depending on various sources of finance, most of the farmers depend upon cooperative banks followed by RRBs and PSBs. Small and marginal farmers have access to micro finance institutions in addition to other sources. It can be observed that number of farmers depending on private sector banks and private sources is very meager (5.55%).

Table 4.12 reveals that most of the farmers (36.67%) have availed the credit from co-operatives compared to other sources. Among the farmer categories, it was found that a single large farmer alone availed credit from non- institutional credit sources like money lenders. Hence it can be inferred that the farmers are completely dependent on the institutional sources and are reluctant towards the non –institutional sources to avail finance for agriculture.

Taking an aggregate overview of number of farmers tapping the sources of finance and loan amount availed for agricultural purposes, the following conclusions can be drawn.
(i) Co-operatives remain a major source of finance to most of the farmers, especially marginal and small farmers.
(ii) Public Sector Banks tops the list of amount disbursed as agricultural loans.

Both these findings imply that cooperatives have specialized in small ticket loans benefitting large number of small and marginal farmers, whereas large loans are disbursed by Public Sector Banks.

Table 4.13 Average amount of agricultural credit availed from different credit sources

(Amount in Rs.)

Source of credit	Marginal	RANK #	Small	RANK #	Large	RANK #	Average agricultural credit advanced	RANK #
Public sector	41667	3	455000	1	437500	1	370833	1
Private sector	50000	4	300000	2	350000	2	262500	2
Co-operative bank	113571	1	144000	4	195937	4	162727	4
Regional Rural Bank	84000	2	156667	3	224000	3	169583	3
Microfinance Institutions	17500	5	15000	5	—		16250	6
Private sources	—		—		50000	5	50000	5
Average borrowing of the farmers	57500		168500		262500		162833	

Ranking done on the basis of average amount of loan granted by each of the sources of finance for agricultural purposes. The highest amount received by the farmer is ranked first

It could be inferred from Table 4.13 that, farmers of Kasaragod district have availed finance mainly from formal sources. Cooperatives are having an upper hand in disbursal of credit since farmers find cooperative Banks as easily accessible sources compared to others. Among the other sources, farmers were found to have more dependence on Public Sector Banks.

Regarding the average amount of agricultural credit availed by farmers, it is found that Public Sector Banks topped the disbursal list with an average amount of Rs. 3.70 lakh. Other sources of finance like private sector banks which follows the PSBs released Rs 2.62 lakhs, whereas RRB s and co-operatives occupied third and fourth positions respectively. It can be inferred that, when it comes to quantum of credit for agriculture, commercial banks have upper sag.

Examining Table deeply, it could be found that marginal farmers have a different pattern of borrowing from that of small farmers. The marginal farmers are benefitted with the highest average loan from co-operative bank, followed by RRB in the second place and Public Sector Banks in the third place.

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The Public Sector Banks in both selected grama panchayats Parappa and Manjeshwaram are working well with the farmers with good service in disbursing credit for small and large farmers but not for marginal farmers. This is because of the non approachability nature of farmers again is ultimately due to their smaller land holdings. The marginal farmers have to depend upon co-operative banks and Regional Rural Banks for their credit needs. There is less role for money lenders and Micro Finance Institutions like Kudumbasree and other private Self Help Groups in disbursing credit to the farmers of Kasaragod district.

The study results are in contrary with the results obtained by Peters *et al.* (2015) which concluded that there is no significant difference in preferences over formal and informal finances and also quoted that even if formal credit were widely accessible, people would still utilize informal finance.

The findings of the study are in contrary to the results obtained by Zander in a study conducted in Sri Lanka, which demonstrated that informal sources provided largest average loan volume.

The results obtained by the study are in conformity with the findings of Singh that, the commercial banks were involved in lending larger amount of credit whereas co-operatives were lending small share of loans and are concentrating on small and marginal farmers. From the results, it was seen that, share of commercial banks in institutional credit varied from 37.50 per cent in lowest category (1 ha to 5 ha) to 76.39 per cent in the highest category (above 5 ha) of cultivation, whereas the relative share of co-operatives in the institutional credit varied from 23.6 per cent in the highest category to 62.50 per cent in lowest category.

The study of role of distance in banking helps by exploring whether one might expect distance or more specifically geographic proximity, to play important role in the transacting and use of banking services (Bravoort & Wolken, 2008). The distance

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from the credit source to farmer house has been analysed and is presented in the Table 4.14.

Table 4.14 Average distance from various sources of credit (in Km)

Source of credit	Marginal	Small	Large	Average distance from credit source per source of credit
Public sector	11.5	8.5	1.1	7.2
Private sector	1.0	1.0	1.0	1.0
Co-operative bank	2.0	2.4	3.3	2.7
Regional Rural Bank	1.2	1.1	1.1	1.1
Microfinance Institutions	0.1	0.2	—	0.2
Private sources	—	—	1.0	1.0
Average distance from credit source per farmer	3.17	2.61	1.50	2.19

Source: Compiled from primary data

From Table 4.14, it could be inferred that average distance from the loan source for farmers was 2.19 km; while large farmers claim least distance, marginal farmers tend to be farthest from the loan sources. Micro finance, being semi formal institutions in the homesteads form the nearest source. Though co-operative banks are placed at an average distance of 2.7 km apart, marginal farmers (2km) and small farmers (2.4km) have co-operatives nearer than large farmers (3.3km).

The distance from farmers' residence to financial institutions is also analysed by classifying the number of farmers in ranges of high, medium and low distance and is presented in Table 4.15

Table 4.15 Distribution of loanee farmers : Distance from loan source

Farmer type	Source	Low distance (1-2 Km)	Medium distance (2-5 Km)	High distance (5 & Above)
Marginal	Public	0	1	3
	Private	1	0	0
	RRB	6	0	0
	Co-operatives	5	1	1
	MFI	1	0	0
	Friends and Relatives	0	0	0
	Money lenders	0	0	0
Small & Medium	Public	1	0	2
	Private	1	0	0
	RRB	8	0	0
	Co-operatives	7	1	1
	MFI	0	0	0
	Friends and Relatives	0	0	0
	Money lenders	0	0	0
Large	Public	3	0	0
	Private	2	0	0
	RRB	10	0	0
	Co-operatives	11	3	2
	MFI	0	0	0
	Friends and Relatives	1	0	0
	Money lenders	1	0	0

Source: Compiled from primary data

From Table 4.15 it could be inferred that, most of the farmers are having less distance for co-operatives followed by RRBs irrespective of farmer category. Five farmers are having high distance to Public Sector Banks in case of marginal and small and farmers.

Interest rates charged on agricultural advances vary from bank to bank depending upon their policy. Average interest rates are calculated from the interest rates as reported by farmers for outstanding agricultural credit during the time of survey.

Table 4.16 Average interest rates charged on agricultural advances from various sources of credit

Source of credit	Marginal	Small	Large	Average rate of interest by source
Public sector	5.75	8.90	10.00	8.27
Private sector	7.00	4.00	9.50	7.50
Co-operative bank	4.43	6.09	4.16	4.84
Regional Rural Bank	5.33	6.44	4.30	5.32
Microfinance Institutions	12.00	18.00	---	15.00
Private sources	---	---	24.00	24.00
Average Rate of Interest per type of farmer	6.90	8.69	10.39	10.82

Source: Compiled from primary data

As expected, private sources charged the highest rate of interest (24%) followed by microfinance agencies. Agricultural finances are eligible for interest subvention, on prompt repayment of loans within due date. Hence farmers are able to avail loans at 4 per cent rate of interest given the subsidy component of 3 per cent while the banks charge an aggregate of 7 per cent inclusive of subsidies. The average interest rates are the borrower experienced rates, variations may be due changes in schemes, eligibility, prompt repayment condition etc.

Farmers have to visit to the lending institutions for requesting the finance and for enquiries. It is different in case of both formal and informal sources. The formal sources of finance are having many procedures in order to disburse the loans to the clients and separate guidelines in case of farmers as prescribed by RBI. The farmers have to visit the lending institutions for all these processes however the prevalence business correspondents made it easy that farmers need not visit the bank frequently.

Table 4.17 Number of times of visit to the credit sources by the farmer

Source of credit	Marginal	Small	Large	Average no. of visits made to source of credit
Public sector	4	3	3	3
Private sector	6	7	5	6
Co-operative bank	2	3	3	2
Regional Rural Bank	4	4	3	3

Source: Compiled from primary data

It can be inferred from the Table 4.17 that farmers are visiting more frequently to Private Banks than Public Sector Banks. Co-operative Banks are offering a quick service and the farmer need not travel more time to bank for each and every procedure and they have to visit the bank only for the submission of loan application with appropriate documents. However RRBs rate for frequency of visit is high from farmers; this is because of the RRB service norms.

The respondents were asked about for the expenses incurred while availing loan apart from interest rate such as processing charge, stamp charge etc.

Table 4.18 Average expenses incurred other than interest[#] while availing loans from various sources of credit

Source of credit	Marginal	Small	Large	Average expenses for availing credit per source of credit
Public sector	1013	1088	1042	1047
Private sector	1950	1600	2738	2096
Co-operative bank	587	630	592	603
Regional Rural Bank	1417	2078	1379	1624
Average expenses of availing credit by type of farmer	1242	1349	1438	1343

includes processing charges and other expenditure for travelling to the bank for the purpose of processing the applications

Average expenses incurred other than the interest rate is a major determinant for availing finance from a source of borrowing. Expenses include processing charges, miscellaneous expenses and opportunity cost of labour forgone by visiting the bank for loan purposes. It was found that cooperatives had the least processing charges followed by PSBs and RRBs. Private Sector Bank recorded the highest processing charge of 2,096 per loan. Farmers are comfortable in approaching cooperative banks due to their inherent flexibility and absence of hidden charges.

The results obtained in case comparison with the formal and informal finances are parallel to a comparative study conducted by Gunawardena (1981) found that loan transaction costs for borrowers from banks were considerably higher than for customers of moneylenders and traders.

Ho: There is no difference the farmers in average distance from the credit source, average interest paid by the farmer and average expenditure incurred by the farmer in availing the loan

H1: According to types of farmers variation can be seen in average distance from the credit source, average interest paid by the farmer and average expenditure incurred by the farmer in availing the loan

Table 4.19 Analysis of variance of average distance from loan source, loan availed and expenses

Particulars	F	Sig.
Average distance from loan source	.095	.910
Average interest on loan availed	2.309	.108
Average expenses on loan	1.069	.350

The results of ANOVA indicates that the there is no significant difference between the farmers in all the factors of average distance, interest on loan availed and also the expenses.

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Linear Regression Model

The Log regression model is applied to find out the factors influencing the agricultural credit availed by farmers. The variables identified for performing regression analysis are transformed logarithmically to handle the existence of non linear relationship between independent and dependent variables. This is because, using the logarithm of one or more variables instead of the un-logged form makes the effective relationship non-linear, while defending the linear model.

The function of logistic regression equation is represented as follows:

For single predictor:

$$\left[\frac{P\,(Y\,=\,1\,|\,X_i)}{(1\,-\,P\,(Y\,=\,1\,|\,X_i))} \right] = \left[\frac{\hat{\pi}}{(1\,-\,\hat{\pi})} \right] = \exp(b_0\,+\,b_1 X_{1i})$$

For multiple predictors:

$$\ln\left[\frac{\hat{\pi}}{(1\,-\,\hat{\pi})} \right] = b_0\,+\,b_1 X_1\,+\,b_2 X_2 \,...\,+\,b_k X_k$$

Agricultural credit availed by the farmers depends upon the socio demographic factors such as age of the farmers, area under cultivation, and credit features of the bank such as interest rate, visiting frequency to bank and distance to credit source. The model is used to analyze the impact of selected variables on the dependent variable agriculture credit availed by the farmers. Independent variables that are suppose to influence the credit availed by farmers are age of farmers, area under cultivation, interest rate, visiting frequency to bank and distance to credit source. The following table deals with the result of regression analysis.

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Table 4.20 Result of Regression Analysis

Mode	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.508[a]	.258	.176	.90775561

a. Predictors: (Constant), logdistance, logarea, logvisits, logage, logexp, loginterest

The R^2 which is called 'coefficient of determination" is 0.258 indicates that 25.8 per cent of variation in agricultural credit availed by the farmers can be explained by variables considered for analysis. A lower R^2 can be acceptable in case of regression models using primary data, hence the model may be accepted for consideration.

Table 4.21 ANOVA results for the regression analysis of credit availed by the respondents

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	15.503	6	2.584	3.136	.010[b]
Residual	44.497	54	.824		
Total	60.000	60			

a. Dependent Variable: Zscore(log agri credit)

b. Predictors: (Constant), logdistance, logarea, logvisits, logage, logexp, loginterest

Table 4.22 Coefficients of regression model for credit availed by the farmers

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-4.123	2.322		-1.776	.081
Logarea	.496	.127	.463	3.905	.000
Logexp	.187	.190	.117	.982	.330
loginterest	.037	.290	.016	.128	.899
Logvisits	.316	.306	.123	1.031	.307
Logage	.507	.449	.134	1.128	.264
logdistance	.162	.124	.161	1.306	.197

a. Dependent Variable: Z score (log agri credit)

Table 4.21 reveals that, these ANOVA is significant at 1 per cent with F value of 3.36. The coefficients of regression analysis presented in Table 4.22 shows that only one independent variable, namely area is significant and have influence on the agricultural credit availed by the farmers. The results are in conformity with the observation that bank schemes are open to farmers provided it matches the eligibility criteria of owning large farm land. A large farmer owning large area of farm land hence will be able to avail large amounts of loans when compared to marginal and small farmers. Though loan schemes often have limits like the 3 lakhs per borrower, farmers tend to manage this by approaching alternate banks, thus availing more loans, just because they have possession of landed holdings.

The findings of the regression analysis is in conformity with that of Sidhu, *et al*. 2008 that large farmers (holding more than 5acres) account for 73.7 per cent of the institutional agricultural credit and only a meager 26.3 per cent is availed by farmers holding less than 5 acres. Whereas contrary results obtained by Bard *et al*. 2002 that the demographic dimensions such as age, education, farm size and credit supplier does not influence on credit availed by farmers.

Overall, analysis of sources and extent of credit availed by the farmers revealed that 50 per cent of marginal farmers and 23 per cent each of small & medium and large farmers were found to be devoid of institutional credit. Some farmers have opted for leaving their farms uncultivated as there was no one to look after the farm and tendency to avail the credit is less. Co-operatives are having an upper hand in disbursal of agricultural credit for all the farmer categories followed by RRBs and Public Sector Banks by concentrating on smaller ticket loans. The farmers were found to have availed lesser borrowing from micro finance institutions and private sources like moneylenders.

4.2.4 Awareness and utilization of different agriculture schemes from institutional sources

Banks are offering many schemes for the agriculture segment and the necessary awareness regarding those schemes and activities enhances utilization among targeted groups. The awareness of farmers about the schemes has been analysed to know how far they are having information on the schemes which further affects their utilization level irrespective of awareness. The rationale behind non utilization of schemes even after having awareness are also followed by many such as, lack of interest in availing the particular scheme, non coverage under those schemes, weak service level of the institutions in disseminating procedure related information to the farmers, lack of beneficiary satisfaction of the scheme etc. Higher awareness and utilization gap gives an alarming indication which needs to be fulfilled by improving the scheme benefits and increasing promotional activities. Also, the information and the awareness and utilization of schemes are important factors that have bearing on the borrower preference for the institutions as well as their credit availability.

As regards assessment of awareness and utilization of schemes, farmers were asked to give the information on their awareness and level of utilization of bank schemes. Information was collected as to whether the farmers were denied loan after applying for it. The schemes included for the evaluation are Crop loan scheme, Kisan Credit Card, Agriculture Gold Loan, General Credit Card, Crop insurance and Livestock Purchase Schemes.

Table 4.23 Awareness and gap in scheme utilization of crop loan scheme

Farmer category	Commercial Bank		Co-operative Society		Regional Rural Bank	
	Gap in scheme utilisation	Scheme utilised	Gap in scheme utilisation	Scheme utilised	Gap in scheme utilisation	Scheme utilised
Marginal farmer	26 (86.7)	4 (13.3)	26 (86.7)	4 (13.3)	27 (90.0)	3 (10.0)
Small farmer	25 (83.3)	5 (16.7)	24 (80.0)	6 (20.0)	24 (80.0)	6 (20.0)
Large farmer	27 (90.0)	3 (10.0)	23 (76.7)	7 (23.3)	23 (76.7)	7 (23.3)
All farmers	78 (86.7)	12 (13.3)	73 (81.1)	17 (18.9)	74 (82.2)	16 (17.8)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.1 Crop loans

Crop loans are also called short term loans for "Seasonal Agricultural Operations (SAOs)." The SAO incurred during raising of crops include activities such as land preparation, sowing, weeding, transplantation, purchase of seeds, fertilizers, pesticides, insecticides, and labour charges. Hence the expenditure required to meet the current expenditure for raising crops till the completion of harvesting are fulfilled with the credit amount. The farmers are presently availing a minimum of Rs. 3 lakhs as crop loan at an interest rate of 7 percent per annum. The banks provide interest subvention of 3 per cent per annum for the farmers in line of prompt repayment. Above Rs. 3 lakhs the loans are disbursed at the rate of interest prescribed by RBI. The present Table deals with utilization of crop loans by farmers and the gap in utilization.

Table 4.23 depicts the awareness and gap in scheme utilization of crop loan scheme. It was found that all farmers are aware about crop loans. However scheme utilization has been pathetic with 13.3 per cent utilizing the scheme from commercial bank, 18.9 per cent from cooperative bank and 17.8 per cent from RRBs. Overall crop loan scheme utilization of 50 per cent is observed (i.e. 45 out of 90 respondent farmers are availing crop loan from either of the institutional sources).

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Table 4.24 Awareness and gap in scheme utilization of Kisan Credit Card loan scheme

Farmer category	Commercial Bank			Co-operative Society			Regional Rural Bank		
	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilization	Scheme utilised	Gap in awareness	Gap in scheme utilisation	Scheme utilised
Marginal farmer	3 (10.0)	23 (76.7)	4 (13.3)	3 (10.0)	22 (73.3)	5 (16.7)	3 (10.0)	23 (76.7)	4 (13.3)
Small farmer	0 (0.0)	29 (96.7)	1 (3.3)	0 (0.0)	22 (73.3)	8 (26.7)	0 (0.0)	26 (86.7)	4 (13.3)
Large farmer	0 (0.0)	28 (93.3)	2 (6.7)	0 (0.0)	19 (63.3)	11 (36.7)	0 (0.0)	26 (86.7)	4 (13.3)
All farmers	3 (3.3)	80 (88.9)	7 (7.8)	3 (3.3)	63 (70.0)	24 (26.7)	3 (3.3)	75 (83.3)	12 (13.3)

Source: Compiled from primary data

Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.2 Kisan Credit Card

The crop loans are generally disbursed through the mode of Kisan Credit Card (KCC) by the banks. The scheme was introduced in August 1998 and is an innovative delivery mechanism to meet the production requirements of the farmers. The card provides cash credit facilities to the farmers without going through bank credit screening procedures which is time consuming. The card is valid for 5 years and subject to annual renewals. The Table 4.24 deals with the utilization of KCC scheme by farmers.

Table 4.24 depicts the awareness and gap in utilization of crop loan scheme. It was found that, only 3.3 percent of farmers are not aware about the KCC scheme: solely being marginal farmers. However the scheme utilization has been weak with only 7.8 per cent of farmers availing scheme from utilizing from commercial bank, 26.7 per cent from cooperative bank and 13.3 per cent from RRBs. More number of large farmers utilized the schemes in co-operatives compared to marginal and large farmers. Overall almost 50 per cent utilization is observed (i.e. 42 out of 90 respondent farmers are availing KCC from all the institutional sources).

It is interesting to note that, almost 97 per cent of the farmers are having awareness about the KCC scheme irrespective of banks, however there is lack of utilization of schemes due to other factors, which needs to be probed into.

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Table 4.25 Awareness and gap in scheme utilization of Agriculture Gold loan scheme

Farmer category	Commercial Bank			Co-operative Society			Regional Rural Bank		
	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilization	Scheme utilised	Gap in awareness	Gap in scheme utilisation	Scheme utilised
Marginal farmer	6 (20.0)	24 (80.0)	0 (0.0)	7 (23.3)	23 (76.7)	0 (0.0)	6 (20.0)	24 (80.0)	0 (0.0)
Small farmer	3 (10.0)	25 (83.3)	2 (6.7)	2 (6.7)	27 (90.0)	1 (3.3)	2 (6.7)	27 (90.0)	1 (3.3)
Large farmer	3 (10.0)	27 (90.0)	0 (0.0)	4 (13.3)	26 (86.7)	0 (0.0)	3 (10.0)	26 (86.7)	1 (3.3)
All farmers	12 (13.3)	76 (84.4)	2 (2.2)	13 (14.4)	76 (84.4)	1 (1.1)	11 (12.2)	77 (85.6)	2 (2.2)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.3 Agricultural Gold Loan

The Agricultural Gold Loan (AGL) is the scheme available for agricultural and non agricultural activities and also for domestic requirements such as education, consumption needs, medical expenses etc. The scheme is open for all the farmers/ cultivators engaged in agriculture irrespective of land holding. Hypothecation of crop/asset created out of bank loan and pledge of gold jewellary/ornaments is needed for availing loan in this scheme.

From the Table 4.25 it can be inferred that, farmers have made low utilization of agricultural gold loan scheme as most of them are availing crop loan and KCC. Almost 40 per cent of the farmers are unaware about the AGL scheme. Overall 5.5 per cent of the farmers have utilized the scheme from all the institutions which is very meager. None of the marginal farmers have availed this scheme. The small and large farmers are using the scheme in a very countable number.

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Table 4.26 Awareness and gap in scheme utilization of General Credit Card scheme

Farmer category	Commercial Bank		Co-operative Society			Regional Rural Bank		
	Gap in awareness	Gap in scheme utilisation	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilisation	Scheme utilised
Marginal farmer	15 (50.0)	15 (50.0)	16 (53.3)	14 (46.7)	0 (0.0)	16 (53.3)	14 (46.7)	0 (0.0)
Small farmer	12 (40.0)	18 (60.0)	11 (36.7)	18 (60.0)	1 (3.3)	11 (36.7)	18 (60.0)	1 (3.3)
Large farmer	13 (43.3)	17 (56.7)	15 (50.0)	15 (50.0)	0 (0.0)	12 (40.0)	18 (60.0)	0 (0.0)
All farmers	40 (44.4)	50 (55.6)	42 (46.7)	47 (52.2)	1 (1.1)	39 (43.3)	50 (55.6)	1 (1.1)

Source: Compiled from primary data

Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.4 General Credit Card

General Credit Card (GCC) is the scheme introduced by RBI in its Financial Inclusion Plan as a special credit card facility along with KCC which are issued to specific category of rural/ semi-urban people for their agriculture production needs and other small farm entrepreneurial credit needs. GCC is not intended for the consumption purpose. People who are qualified under Priority Sector Lending (PSL) can avail this facility. A maximum of Rs. 25,000 can be availed by the farmers through this scheme. All credit cards such as Artisan Credit Card, Laghu Udyami Card, Swarojgar Credit Card, and Weaver's Card etc. that are catering to the non – farm entrepreneurial credit needs of individuals are covered as per the priority sector guidelines by General Credit Card Scheme.

From the Table 4.26 it can be inferred that an average of 45 per cent of the farmers are not aware of the GCC scheme. The gap in awareness as well as utilization of this scheme is very less. It is evident from the survey that only entrepreneurial activity taken up by some of the farmers in Manjeshwaram is dairying.

It will be beneficial to the farmers, if awareness programmes on GCC can be given by financing institutions. Also information and training on taking up alternative livelihoods with agriculture and allied activities may be attempted by government and other agencies.

Table 4.27 Awareness and gap in scheme utilization of crop insurance scheme

Farmer category	Commercial Bank			Co-operative Society			Regional Rural Bank		
	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilisation	Scheme utilised
Marginal farmer	11 (36.7)	19 (63.3)	0 (0.0)	13 (43.3)	16 (53.3)	1 (3.3)	12 (40.0)	17 (56.7)	1 (3.3)
Small farmer	4 (13.3)	24 (80.0)	2 (6.7)	3 (10.0)	25 (83.3)	2 (6.7)	5 (16.7)	25 (83.3)	0 (0.0)
Large farmer	5 (16.7)	22 (73.3)	3 (10.0)	5 (16.7)	25 (83.3)	0 (0.0)	5 (16.7)	24 (80.0)	1 (3.3)
All farmers	20 (22.2)	65 (72.2)	5 (5.6)	21 (23.3)	66 (73.3)	3 (3.3)	22 (24.4)	66 (73.3)	2 (2.2)

Source: Compiled from primary data

Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.5 Crop Insurance

The crop insurance or agriculture insurance covers the risks of anticipated loss in yield of various crops. Coverage is compulsory for loanee farmers who avail loan from RFIs (Rural Financial Institutions) for the cultivation of crops. The non–loanee farmers can also insure their crops under the same schemes. There are many schemes available to farmers with respect of crop insurance.

a) National Agricultural Insurance Scheme (NAIS) of Government of India
b) National Crop Insurance Program (NCIP) of Government of India
     I.   Modified National Agricultural Insurance Scheme (MNAIS)
    II.   Weather Based Crop Insurance scheme (WBCIS) and
    III. Coconut Palm Insurance Scheme (CPIS)

(Pradhana Mantri Fasal Bhima yojana has recently started in 2016)

The insurance is provided for both Kharif and Rabi for the annual commercial/ horticultural crops with the actuarial rates of 4.6 percent. The scheme of weather based crop insurance coverage is also extended to Kasaragod district for paddy crop and also for cashew and mango.

The results from the Table 4.27 reveal that, almost 63.9 per cent are unaware of this scheme. The disinterest of farmers in availing crop insurance is also evident from the fact that only 10 farmers availed this facility. The premium of insurance is considered as burden by the farmers to undergo insurance for the crops and they have neglected about worse situations to be faced in the event of natural disasters. Further crop insurance is only for few crops and the farmers are unaware of this.

Table 4.28 Awareness and gap in scheme utilization of live stock scheme

Farmer category	Commercial Bank		Co-operative Society			Regional Rural Bank	
	Gap in awareness	Gap in scheme utilisation	Gap in awareness	Gap in scheme utilisation	Scheme utilised	Gap in awareness	Gap in scheme utilisation
Marginal farmer	9 (30.0)	21 (70.0)	11 (36.7)	19 (63.3)	0 (0.0)	10 (33.3)	20 (66.7)
Small farmer	6 (20.0)	24 (80.0)	4 (13.3)	25 (83.3)	1 (3.3)	5 (16.7)	25 (83.3)
Large farmer	4 (13.3)	26 (86.7)	4 (13.3)	26 (86.7)	0 (0.0)	5 (16.7)	25 (83.3)
All farmers	19 (21.1)	71 (78.9)	19 (21.1)	70 (77.8)	1 (1.1)	20 (22.2)	70 (77.8)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

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4.2.4.6 Live stock schemes

The National Program for Bovine Breeding and Dairy Development (NPBBD) has been initiated in February 2014 by merging four ongoing schemes of the Department of Animal Husbandry, Dairying and Fisheries in the dairy sector, viz National Project for National Project for Cattle and Buffalo Breeding (NPCBB), Intensive Dairy Development Programme (IDDP), Strengthening Infrastructure for Quality & Clean Milk Production (SIQ & CMP) and Assistance to Co-operatives (A-C). Apart from this, Livestock purchase schemes are associated with the Kisan Credit Card as well. Many other dairy loan schemes are offered by all the banks.

From the Table 4.28 it can be inferred that overall 64.4 per cent of the farmers unaware about the live stock schemes. Only one respondent have availed the benefits of livestock scheme of cooperative banks (Service Cooperative Society, Perla) in Manjeshwaram under the NCDC fund for the activity of dairy. From this it is evident that, there is need to promote the cattle rearing and dairy activity in the area so that institutions can support these activities by creating the awareness.

Thus it is found that agripreneurial activities can be promoted with the support of necessary finance. By encouraging cattle rearing dairy activities can be enhanced. The farmers are renewing the schemes that are existing and are less oriented towards any other schemes.

4.3 Institutional preference of farmers towards agricultural credit and factors influencing their preference

Credit market gives wide opportunities to the borrowers but the broad categorization accounts for formal and informal credit sources which give the borrower a platform for arriving decision to finalize his lender. However, a borrower considers multiple attributes when making a decision about a potential lender. Continuous improvement and changes in the financial services and agriculture impacts delivery of financial services and products which attracted the new players into credit market. The pathetic condition of the farmers caused due to the exorbitant interest rates and conditions from the traditional non institutional sources provoked the Indian government to take the decision for the establishment of formal (institutional) agencies to cater to the timely credit needs of the farmer. However on the veiled side, the informal lending practices are still prevalent and is bringing solicitous situation. It was found that, demographics change have influenced farmers' preferences towards the lenders features (Farley & Ellinger). Previous studies conducted by NSSO (debt and investment survey), RBI and researches by many scientists are evident of the persistence of moneylenders in the credit market. The evaluation of farmers' borrowing preferences gained importance due to the aggressiveness of emerging sources of agricultural credit pressurizing the lenders to be more responsive and also borrowers to choose their decision towards the lender category.

4.3.1 Institutional preference of farmers while borrowing

The respondents of the selected villages in the Kasaragod district are examined for the preference of the credit sources. There are many sources from which the farmers are having access to agricultural credit. The choice of agricultural credit source depends upon various features and factors of credit sources. The farmers approach both institutional and non institutional sources whichever is convenient. The institutional sources Public Sector Banks, private sector banks, co-operative societies,

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Regional Rural Banks and other micro finance institutions. The non-institutions such as money lenders, financing agencies, shop keepers and friends and relatives.

The preferences of the selected respondent farmers of the Kasaragod district are classified below, source wise in the Table 4.29.

Table 4.29 Institutional preference of the farmer while borrowing

Credit sources	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Public Sector Bank	3	7	15	25
	(10.0)	(23.3)	(50.0)	(27.8)
Private sector bank	0	1	3	4
	(0.0)	(3.3)	(10.0)	(4.4)
Cooperative bank	14	10	5	29
	(46.7)	(33.3)	(16.7)	(32.2)
RRB	13	12	7	32
	(43.3)	(40.0)	(23.3)	(35.6)
Total	**30**	**30**	**30**	**90**
	(100.0)	**(100.0)**	**(100.0)**	**(100.0)**

Table 4.29 conveys the details of preference of borrowers which is ranked by the farmers as best preferred bank as their favorite credit source. Most of the marginal farmers have preferred the cooperative banks as their best preferred source since they are having most close relationship with the members and staff of cooperative banks. The approachability of cooperative banks with the farmers is sustained well on the base of service motto and good personal relationship. The Public Sector Banks are much appreciated by the large farmers. None of the marginal farmer preferred the private sector bank as their source of finance and marginal farmers of both the villages are having much faith towards the cooperative banks. The farmers of Manjeshwaram are fully oriented towards the cooperative banks as the staff is much friendly and services are very easily available to farmers and at all the time. The farmers do not hesitate to meet and talk to any officials of the cooperative bank and the environment of the bank is much comfortable to the farmers and as they feel it as

their own. Even though the distance to banks accounts for the farmers preference, the personal relationship as well the cost of financing plays important role as opined by the farmers.

The regional rural banks are also preferred by the marginal farmers of 43.3 per cent. Taking farmers as a whole, preferred by most of the farmers followed by cooperatives. The Public Sector Banks still preserve confidence in the minds of farmers as it occupies third position. Almost 28 per cent of farmers found Public Sector Banks as their most preferred bank.

However, there are many factors which influence the farmers' rankings. Proximity, easy procedures, bankers' behavior, approachability, flexibility, cost of credit, adequacy and timeliness are some of the factors that are considered for the study. The farmers were asked to rank the each bank based on all these factors using likert scale of excellent, very good, fair, poor, very poor. The mean scores of all the farmers of each factor were found out and are represented the Table 4.30.

4.3.2.1 Factors affecting the farmer borrowing preferences

Table: 4.30 Mean scores of financing institutions preferred by different types of farmers

[Scoring pattern- 5: Excellent, 4: Very Good, 3: Fair; 2: Poor, 1: Very Poor]

Institutional sources (Farmer-wise)	Proximity	Easy procedures	Bankers behaviour	Approach ability	Flexibility	Cost of credit	Adequacy	Timeliness	Mean score
Marginal farmer									
Public Sector Bank	3.67	3.00	3.00	3.00	2.33	2.67	3.00	3.00	2.96
Cooperative bank	4.71	4.64	4.29	4.29	4.36	4.00	4.43	4.43	4.39
RRB	4.69	4.31	4.23	4.08	4.08	3.62	4.00	4.15	4.15
Small farmer									
Public Sector Bank	4.14	3.14	3.43	3.57	3.57	3.71	4.14	4.14	3.73
Private sector bank	4.00	3.00	3.00	4.00	3.00	4.00	4.00	4.00	3.63
Cooperative bank	4.70	5.00	4.90	4.70	4.60	4.40	4.30	4.70	4.66
RRB	4.75	4.50	4.58	4.33	4.17	3.33	4.08	4.17	4.24
Large farmer									
Public Sector Bank	4.33	4.27	4.27	4.07	3.93	4.27	4.40	4.53	4.26
Private sector bank	4.67	4.33	4.33	4.67	4.33	4.33	4.67	4.67	4.50
Cooperative bank	4.60	4.80	4.60	4.80	4.20	4.40	4.80	4.40	4.58
RRB	4.86	4.43	4.29	4.71	4.86	4.43	4.86	4.43	4.61
All farmers									
Public Sector Bank	4.20	3.80	3.88	3.80	3.64	3.92	4.16	4.24	3.96
Private sector bank	4.50	4.00	4.00	4.50	4.00	4.25	4.50	4.50	4.28
Cooperative bank	4.69	4.79	4.55	4.52	4.41	4.21	4.45	4.52	4.52
RRB	4.75	4.41	4.38	4.31	4.28	3.69	4.22	4.22	4.28

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The Table 4.30 conveys the mean score of each factor farmer-wise as well as institution-wise. The marginal farmers prefer both cooperative banks and RRBs but are having not good opinion for preferring Public Sector Banks. Especially flexibility and cost of credit are the most affecting factors for the farmers while approaching Public Sector Banks. While ranking the institutional preference on the basis of mean scores of factors it was found that marginal farmers' preferred co-operative banks in the first place, followed by RRBs and Public Sector Banks. They have not preferred private sector banks. Small farmers have also stated similar preference for co-operative followed by RRBs, public and private sector banks.

Institutional preference computed from mean scores of factors as noted by large farmers was in favour of RRB closely followed by co-operatives banks. Procedures were found to be easier in case of co-operative banks, but were tough in case of Public Sector Banks. It was found that bankers behavior too followed the same pattern with co-operatives preferred most and least preferred was the Public Sector Banks.

Evaluating the factors it could be found that RRB is proximate source to all farmers, followed by co-operative banks, but were tough in case of Public Sector Banks. It was found that bankers behavior too followed the same pattern with co-operatives preferred most and least preferred was the Public Sector Banks. Similar pattern is observed for all other variables including approachability, flexibility, cost of credit and timeliness.

Small farmers were found have preference to cooperative banks as well as RRBs. The affiliation towards cooperative banks is high as the farmers can speak in their own vernacular language and are having good personal relationship with them. Farmers have aversion to Public Sector Banks as they have rigid procedures and the problem with the Public Sector Banks is related to flexibility of the bank.

Kruskal-Wallis test was used for finding the relation between each factor and preference. The result gives the best evaluation of how far the factors are influencing the institutional preference. The each factor is having influence on the choice of the borrower to approach and avail the finance from the specific source. Hence research found worthwhile to analyse the relation between these the factors and preference and are represented as follows.

The results obtained are in accordance with that of Turvey, *et al.* which reports that farmers are inclined towards lenders who are friendly to farm households and behaves well.

Preference of farmers towards institutions as identified by Bard, S. K *et al.* 2002 includes timeliness, relationship with banker, annual interest rate, adequate amount of credit and flexibility. The present study also conforms all of afore said variables. Analysing borrower's decision to avail credit, Zander found factors that have influence are average distance of lenders to borrowers, procedures, interest rate, timeliness and adequacy which is also found true for the present study.

4.3.2 Relation between each of the factors and institutional preference

Kruskal-Wallis test is a rank based non parametric test used to determine if there are statistically significant differences between two or more groups of an independent variable or ordinal dependent variable. In the present study, this test is performed in order to assess whether there is any difference between categories of all the institutions Public Sector Banks, private banks, RRBs and co-operatives in preferring the factors that affect their preferences of proximity, procedure hassles, approachability, timeliness, flexibility, easy procedures and bankers' behavior by the farmer.

The Hypotheses for the test is as follows.

H_o: The distribution of all the eight factors across the categories of institutional preference is identical

H_a: At least one of the factors across the categories of institutional preference tends to yield un-identical

The test statistic of Kruskal-Wallis is as follows:

$$H = \frac{12}{N(N + 1)} \left[\frac{R^2_1}{n_1} + \frac{R^2_2}{n_2} + \ldots + \frac{R^2_k}{n_k} \right] - 3(N + 1)$$

The distribution across the factors considered for analysis is tested using Independent Samples Kruskal-Wallis test and the results are presented in Table 4.31.

Table 4.31 Independent Samples Kruskal - Wallis test results

Sl. No	Null hypotheses (X_0)	Sig.
1	The distribution of proximity is same across the categories of institutional preference	0.062***
2	The distribution of procedure hassles is same across the categories of institutional preference	0.000**
3	The distribution of bankers behavior is same across the categories of institutional preference	0.040**
4	The distribution of approachability is same across the categories of institutional preference	0.042**
5	The distribution of flexibility is same across the categories of institutional preference	0.011**
6	The distribution of cost of credit is same across the categories of institutional preference	0.073***
7	The distribution of adequacy is same across the categories of institutional preference	0.601[NS]
8	The distribution of timeliness is same across the categories of institutional preference	0.352 [NS]

Sig- 5%, * Sig -10%, NS- Not significant

From Table 4.31 it can be inferred that institutional preference is affected by factors like procedure hassles, banker behavior, approachability and flexibility, proximity, cost of credit. Adequacy and timeliness are not significant factors affecting institutional preference.

Results of the study are consistent with the results of the study conducted by Akram *et al.* enforcing the fact that distance from the loan source i.e. proximity is also a factor which affects the borrower decision on choosing the source of finance and also suggested the government for developing policies that would ensure adequate expansion of banking facilities in unbanked and under banked areas.

Factor analysis is a multivariate data reduction technique. All the variables under investigation are analysed together to extract the underlying factors. Factor analysis helps in structure of the data. The most important step in factor analysis is to decide about how many factors are to be extracted from the set of data. For this, the principal component method is used. Here the first factor is extracted in such a way that it explains the largest portion of total variance. This explained variance is subtracted from the original input matrix so as to yield a residual matrix. A second principal factor is extracted from the residual matrix in such a way that the second takes care of most of the residual variance and so on, and this procedure is repeated until there is a very little variance to be explained. (Chawla and Sondhi, 2011).

To establish the by examining the correlation between the pairs of variables measured on the Likert scale, the relation between the factors is established. The Table 4.32 shows the result of the factor analysis. Principal component analysis method of extraction is used for the analysis which presents the Eigen values based upon which the factors were extracted.

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Table 4.32 Total variance explained by factor analysis

Com pone nt	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Varianc e	Cumul ative %	Total	% of Varian ce	Cumu lative %	Total	% of Varianc e	Cumula tive %
1	3.608	45.101	45.10	3.60	45.10	45.10	2.879	35.986	35.986
2	1.590	19.873	64.97	1.59	19.87	64.97	2.319	28.987	64.973
3	.855	10.687	75.66						
4	.566	7.070	82.73						
5	.518	6.476	89.20						
6	.348	4.350	93.55						
7	.304	3.799	97.35						
8	.212	2.646	100.0						

The correlation matrix supports the components identified in the rotation component analysis. The extraction of sum of squares gives the variance attributable to each factor after extraction. This value is very significant as the determination of factors which contribute towards why would the respondents prefer the specific institution. It could be seen that the varimax rotation converged in 3 iterations and 2 components were extracted which together account for 64.97 per cent of the variance. The two components extracted define the significance of all the individual factors through rotated component matrix.

This rotated matrix reduces the number of factors on which the variables have high loadings and interprets the factors. The factors which are more than 0.7 are identified and are classified in both the components and is presented in Table 4.33

Table 4.33 Rotated Component Matrix of factor analysis for factors affecting the preference of farmers

Sl. No.	Variables	Factor 1 Institutional factors	Factor 2 Credit related factors
1	Proximity	.523	.028
2	Easier procedures	.800	.171
3	Bankers behaviour	.806	.020
4	Approachability	.855	.230
5	Flexibility	.727	.362
6	Cost of credit	.145	.797
7	Adequacy	.130	.888
8	Timeliness	.134	.825

*Extraction Method: Principal Component Analysis.
*Rotation Method: Varimax with Kaiser Normalization
*Rotation converged in 3 iterations.

From the Table 4.33, it can be seen that two major factors are influencing institutional preference of borrower's namely institutional factors (proximity, easy procedures, banker's behavior, flexibility and approachability) and product (credit) related factors (cost of credit, adequacy and timeliness). Institutional factors explain 36 per cent of the choice of institutional source and credit related factors are responsible for 29 per cent choice of source of finance.

The factor scores obtained from the factor analysis were used for further analysis. After identifying the two factors responsible for institutional preference, the relationship between institutional preferences recorded in terms of preference for a particular institution is analysed. First factor is identified as institution related variables and are considered for further analysis by using Kruskal-Wallis test. To test the equality of more than two population means under a parametric test, the one–way ANOVA is based on the assumption is that each population from where the sample is drawn follows a normal distribution. If this assumption is violated, non- parametric version of this is given by the Kruskal- Wallis test, which is based on Chi-square

distribution. The Kruskal-Wallis test is performed to analyse the choice of institution driven by institutional preference factors.

The hypotheses for the analysis are as follows:

H_0: Institutional preference of respondents do not vary with institutional factors

H_1: Institutional preference of respondents vary with the institutional factors

Table 4.34 Results of Independent Samples Kruskal -Wallis test

Test	Test statistic	Significance at 5%
Independent Samples Kruskal-Wallis test	14.340	0.02**

** Significant at 5% level

The Kruskal-Wallis test gives p-value of 0.02, hence there is significant difference at 5 per cent level and is evident that farmers have choice of institution is motivated by institutional factors.

The test results are exhibited under plot generated below.

Fig. 4.1 Box plot of Kruskal-Wallis test for variation of institutional preference with institutional factors

Institutional preference
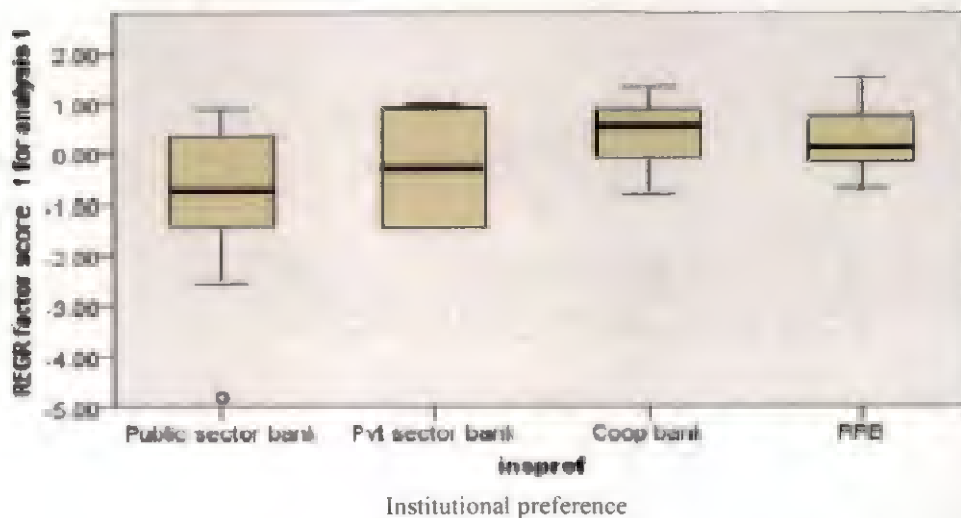
Fig. 4.2 Pair-wise comparison of institutional preference
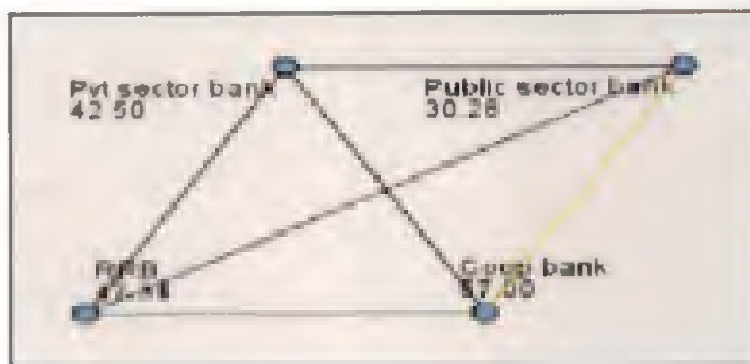
Note: Each node shows the sample average rank of institutional preference

Table 4.35 Pair-wise comparison among categories of institutions

Sl. No.	Pair-wise institutional preference	Significance
1	Public Sector Bank – Private sector bank	0.385NS
2	Public Sector Bank – Regional Rural Bank	0.014**
3	Public Sector Bank – Co-operative bank	0.000*
4	Private sector bank – Regional Rural bank	0.726 NS
5	Private sector bank – Co-operative bank	0.298 NS
6	Regional Rural Bank – Co-operative bank	0.149 NS

*Sig at 1% level, ** Sig at 5% level, NS Not significant

From the results, it could be interpreted that based on institutional factors, farmers differentiate when they have to make choice between Public Sector Banks and RRB and Public Sector Banks and Co-operative bank and Co-operative Bank. Whereas the dilemma of institutional preference do not occur in case of making a choice between other pairs of institutions.

The Kruskal-Wallis test is once again performed to analyse the choice of institution driven by credit preference factors.

The hypotheses is framed as below

Ho: Institutional preference of respondents do not vary with credit aspects

H_1: Institutional preference of respondents vary with credit aspects

Table 4.36 Results of Kruskal -Wallis test for credit aspects

Test	Test statistic	Significance at 5%
Independent samples Kruskal -Wallis test	11.393	0.010**

** Sig. at 5% level

The Kruskal-Wallis test gives p-value of 0.010, hence there is significant difference at 5 per cent level.

The results are depicted in the box plot below.

Fig. 4.3 Box plot of Kruskal Wallis test for variation of institutional preference with credit factors
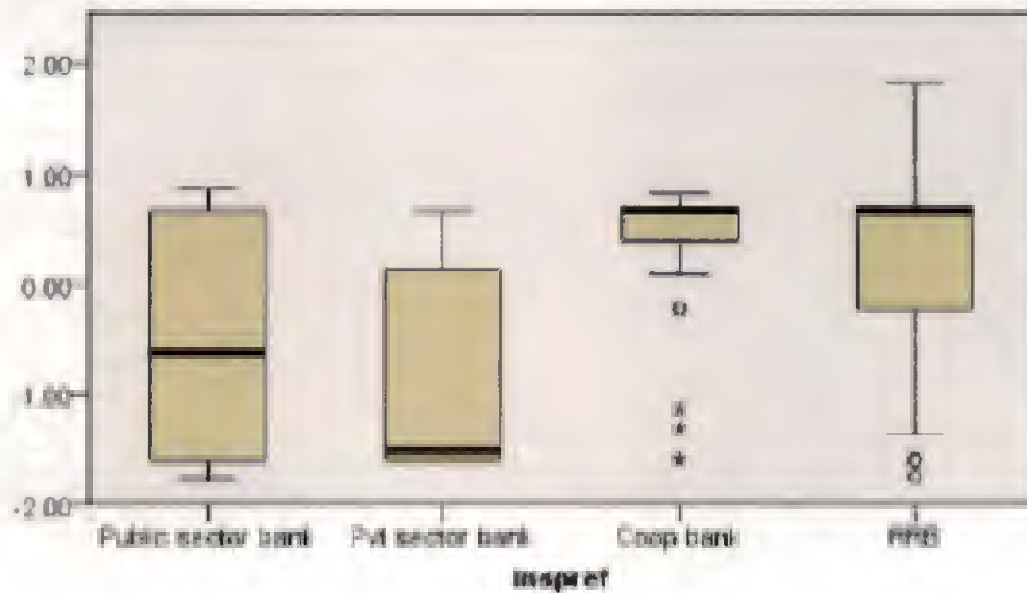
Fig. 4.4 Pair-wise comparison among categories of institutions
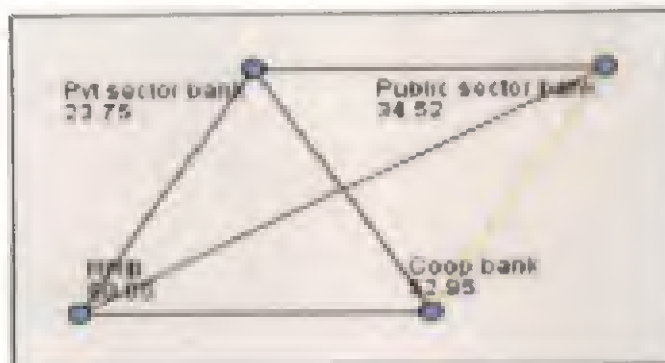
Table 4.37 Pair-wise comparison among categories of institutions.

Sl. No.	Sample 1- Sample 2	Significance
1	Private sector bank – Public Sector Bank	0.426
2	Private sector bank – Regional Rural Bank	0.048**
3	Private sector bank – Co-operative bank	0.029**
4	Public Sector Bank – Regional Rural Bank	0.020**
5	Public Sector Bank - Co-operative bank	0.007*
6	Regional Rural Bank – Co-operative bank	0.652

*Sig. at 1% level
** Sig. at 5% level

From the results, it could be interpreted that based on credit factors, farmers differentiate when they have to make choice between Public Sector Banks and RRB and Public Sector Banks and co-operative bank. Whereas the dilemma of institutional preference do not occur in case of making a choice between other pairs of institutions.

The respondents have not availed much loan from the private sector banks and are not having any difference in choosing between Private sector banks and RRBs, Public Sector Banks and RRBs, private sector banks and co-operative banks, private banks and Public Sector Banks, RRBs and co-operatives. Respondents have not experienced any difference in opinion in the interest charge levied by other institutions which are compared between.

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It can be concluded that the farmers are interest rate sensitive in choosing the institutions between commercial banks and co-operatives which affects their decision in obtaining finance for agriculture. The approachability towards the institutions for availing credit tend to be influenced by the high lending charges of Public Sector Banks in the region which makes the difference in opinion while availing finance of both long term and short term.

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4.4 Constraints in availing agricultural credit

Third and last objective of the study is to analyse the constraints faced by the farmer in availing agriculture credit so as to enable the measures for supporting the farmers. Problems in availing credit are persisting from traditional lending practices with the higher interest rates, delay in sanction, and still many problems are existing with the rural farmers.

In order to analyze their problems associated with availing agriculture credit, their agreement towards some problems from institutions and non institutions were listed.

Table 4.38 Problems identified to be experienced by most of the respondent farmers

Source of finance	Assigned code	Description of the problems encountered
Institutional financiers	P-I-1	Banks are very reluctant to give agricultural loans
	P-I-2	Terms and conditions of banks for giving agricultural loans, particularly regarding repayment are not acceptable to me
	P-I-3	Fail to understand the schemes offered by the banks and I am ignorant about how to fill up the forms
	P-I-4	Commercial Bank Managers and Officers are not friendly with local people
	P-I-5	Loan cannot be availed in time of agricultural operations hence have to approach other sources in addition to going to the bank
	P-I-6	I find it difficult to arrange lot of documents for furnishing for loan servicing
Non-Institutional financiers	P-NI-1	Higher rate of interest is unbearable
	P-NI-2	Threatening in case of non repayment of installments happen frequently
	P-NI-3	We have to borrow from other sources for repaying the installments on time

Borrower always wants that lender should understand their problems and wants them to act accordingly. The constraints are with the mean ranks and are presented in Table 4.39. The mean scores of all the problems experienced by the farmers are explained by taking the mean scores of their ranking.

The problems listed in the study are in accordance with Mehmood *et al.* 2013, stressing farmer's difficulty in borrowings are associated with acquiring information and guidance, inadequate amount of credit, delay in disbursement and problem of high interest rate.

Table 4.39 Average scores of problems experienced by farmers in availing credit

Farmer category	Problems associated with Institutional financiers						Problems associated with Non-Institutional financiers		
	P-I-1	P-I-2	P-I-3	P-I-4	P-I-5	P-I-6	P-NI-1	P-NI-2	P-NI-3
Marginal farmer	3.97	4.03	3.93	3.73	4.07	4.07	4.87	4.67	4.33
Small farmer	3.70	3.93	3.97	3.87	4.00	3.93	4.83	4.63	4.37
Large farmer	2.43	2.17	2.47	2.23	2.30	2.43	4.70	4.67	4.50
Mean score	3.37	3.38	3.46	3.28	3.46	3.48	4.80	4.66	4.40

Source: Compiled from primary data

The overall mean score hovers round 3 to 3.5 indicating a 'fair' attitude towards problems experience in availing agricultural credit. While attempting for a farmer group segregated analysis, it could be observed that, small and large farmers reported to have lesser problems while marginal farmers experienced many of the problems listed above.

It is well said fact that banks are very reluctant to give agricultural loans, leading to historic developments in banking sector like social control, nationalization drives and directed and directed credit. Lender analyses the capacity of the borrower in terms of capacity to repay credit. The general notion is that, banks are reluctant to

prioritize agricultural loans. The criteria that banks see are repayment capacity, safety and profitability, security for the loan for issuing loan to customers. The statement of reluctance of banks towards lending to farmers is anlaysed with the mean scores obtained from responses of farmers as presented in Table 4.39.

Table 4.40 Farmers response on problem: Bank's reluctance to issue agricultural credit

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	2 (6.7)	4 (13.3)	4 (13.3)	10 (11.1)
Disagree	0 (0.0)	0 (0.0)	15 (50.0)	15 (16.7)
No opinion	0 (0.0)	0 (0.0)	7 (23.3)	7 (7.8)
Agree	23 (76.7)	23 (76.7)	2 (6.7)	48 (53.3)
Strongly agree	5 (16.7)	3 (10.0)	2 (6.7)	10 (11.1)
Total	**30 (100.0)**	**30 (100.0)**	**30 (100.0)**	**90 (100.0)**

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

From the Table 4.40, it can be inferred that most of the farmers agree towards the statement that banks are reluctant to finance the framers. It could be observed that 93 per cent of the marginal and small farmers have agreed with the statement while 63 per cent of the large farmers opined conversely implying that there is a variation between farmers categories in assessment of banker's reluctance to provide agricultural loans as experienced by them.

Lending institutions are having their own norms, rules and conditions for lending finance to its customers. Guidelines laid by the RBI for priority sector

lending has to be followed by the banks with respect to collateral, scale of finance, interest rate, repayment schedule etc. Farmers always want flexibility in repayment rules since farming activity does not warrant regular income. The acceptance level of farmers were analysed by their agreement towards the statement. The representation of mean scores is given in Table 4.41.

Table 4.41 Farmers response to problem: Terms and conditions of banks for giving agricultural loans.

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	0 (0.0)	1 (3.3)	0 (0.0)	1 (1.1)
Disagree	0 (0.0)	0 (0.0)	27 (90.0)	27 (30.0)
No opinion	0 (0.0)	0 (0.0)	1 (3.3)	1 (1.1)
Agree	29 (96.7)	28 (93.3)	2 (6.7)	59 (65.6)
Strongly agree	1 (3.3)	1 (3.3)	0 (0.0)	2 (2.2)
Total	**30 (100.0)**	**30 (100.0)**	**30 (100.0)**	**90 (100.0)**

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

It can be observed that the terms and conditions do not fit small and marginal categories of farmers than the large farmers. This is because large farmers have more resources to depend upon which easy repayment of loan even if agricultural incomes are not systematic.

Banks are introducing many schemes that help the farmers. Many farmers who are uneducated cannot understand the technical words which explain the schemes. They want the banking personals to explain them and make them understand all those schemes which are necessary for them. The lengthiest procedures

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and application etc often presses the farmer to approach the bankers for each and every clarification regarding application and schemes. Thus respondents of Kasaragod are analysed for the problems faced by them in understanding bank schemes and risk in paper work. The results are shown in Table 4.42.

Table 4.42 Farmers response on problem: Ignorance of schemes and about how to fill up the forms

Opinion of the Farmers	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	1 (3.3)	1 (3.3)	2 (6.7)	4 (4.4)
Disagree	0 (0.0)	0 (0.0)	20 (66.7)	20 (22.2)
No opinion	0 (0.0)	0 (0.0)	4 (13.3)	4 (4.4)
Agree	28 (93.3)	27 (90.0)	0 (0.0)	55 (61.1)
Strongly agree	1 (3.3)	2 (6.7)	4 (13.3)	7 (7.8)
Total	30 (100.0)	30 (100.0)	30 100.0	90 (100.0)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

Table 4.42 reveals that, 68.7 per cent of the farmers do not understand schemes and are facing difficulty in filling up application. Exactly 66.7 per cent of large farmers are having disagreement towards the statement as they have good experience of knowing from bank staff. They are able to fill up can understand the schemes as it was seen that most of the large farmers are graduates (Table 4.1). Marginal and small farmers are experiencing problem in filling applications and understanding the schemes.

Personal relationship of the lender and borrower is important in order to keep the promising borrower loyalty in the future. Especially banks in the rural areas must have the good relationship through communication so that rural people can approach them for financing needs. Experience of the respondents regarding the role of commercial banks in communicating with the local people was analysed in order to analyse the prevailing condition. The respondents were asked to rank the statement. The mean scores of responses are shown in Table 4.43

Table 4.43 Farmers response to problem: Commercial bank managers and officers are not friendly with local people

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	3 (10.0)	2 (6.7)	4 (13.3)	9 (10.0)
Disagree	0 (0.0)	0 (0.0)	21 (70.0)	21 (23.3)
No opinion	0 (0.0)	0 (0.0)	1 (3.3)	1 (1.1)
Agree	26 (86.7)	26 (86.7)	2 (6.7)	54 (60.0)
Strongly agree	1 (3.3)	2 (6.7)	2 (6.7)	5 (5.6)
Total	30 (100.0)	30 (100.0)	30 (100.0)	90 (100.0)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

From Table 4.43 it could be found that, 65.67 per cent were of the opinion that commercial bank managers/officers are not friendly with the farmers. A contradiction may be observed among farmer categories responses, with 83.3 per cent of the large farmer disagreeing with the statement while more than 90 per cent of small and marginal farmers agreed to the statement. Hence it is clear enough to state that banks have a partial approach towards large farmers.

Timeliness in availing loan is the major constraint from the decades which is considered as the major reason that farmers have to approach non institutional sources for availing agriculture credit. The farmers were asked about the problem of availing credit at the time of agriculture operations. The situation becomes worse for them if they are not in a position to tap.

Table 4.44 Farmers response to problem: Timely loan for agricultural operation are not available.

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	0 (0.0)	1 (3.3)	1 (3.3)	2 (2.2)
Disagree	0 (0.0)	0 (0.0)	25 (83.3)	25 (27.8)
No opinion	28 (93.3)	26 (86.7)	2 (6.7)	56 (62.2)
Agree	2 (6.7)	3 (10.0)	2 (6.7)	7 (7.8)
Strongly agree	0 (0.0)	1 (3.3)	1 (3.3)	2 (2.2)
Total	30 (100)	30 100.00%	30 (100)	90 (100)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

From Table 4.44, it could be inferred that, large farmers are not having any problem regarding timeliness of loans. Exactly 83.3 per cent of large farmers have disagreement towards the statement. Most of the farmers have not expressed their opinion for this statement as they neither had any such experiences nor they want to favour or unfavor the statement.

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Banks need to collect the documents such as identity proof, Pan Card details, land documents, Affidavits from court etc to service the loan application for the sanction of loan. The loan documents collection and arrangement is the crucial task which is experienced by the farmers which was proved by many previous researches. Respondent farmers are still facing the same problem.

Table 4.45 Farmers response to the problem: Difficulty in compiling loan documents.

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Strongly disagree	0 (0.0)	1 (3.3)	0 (0.0)	1 (1.1)
Disagree	0 (0.0)	0 (0.0)	22 (73.3)	22 (24.4)
No opinion	0 (0.0)	0 (0.0)	4 (13.3)	4 (4.4)
Agree	28 (93.3)	28 (93.3)	3 (10.0)	59 (65.6)
Strongly agree	2 (6.7)	1 (3.3)	1 (3.3)	4 (4.4)
Total	30 (100)	30 (100)	30 (100)	90 (100)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

From Table 4.45, it can be observed that, the 70 per cent of the farmers are strongly agreed with this statement from which 93.3 per cent of marginal and small farmers are facing problems in pooling the documents for submitting the loan application. All the marginal and small farmers are having problem in arranging the documents. Most of the farmer's i.e. 73.3 per cent are disagreed towards the statement. Farmers are finding it difficult to process the documents. Only 24.4 per cent of the farmers are having disagreement and majorities of those are large farmers.

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Farmers' starts to approach the informal sources when there are no other sources to cater their financial needs. The respondents have not availed any credit from private informal sources as they are not having any interest to avail from them. The farmers are already having bad experience with the money lenders and other finance agencies. The primary reason that farmers are reluctant to approach money lenders is high interest rates imposed on them for loans availed for the immediate need. The money lenders take the advantage of farmer's immediate requirements for their personal loan and agriculture loans and impose high interest rates for making profit. The farmers were asked to express their ratings towards the high interest rates imposed by moneylenders and the responses are represented in Table 4.46

Table 4.46 Farmers response on the problem: unbearable rate of interest

Farmers opinion	Type of farmers			Total
	Marginal farmer	Small farmer	Large farmer	
Agree	4	5	9	18
	(13.3)	(16.7)	(30)	(20.0)
Strongly agree	26	25	21	72
%	(86.7)	(83.3)	(70)	(80.0)
Total	**30**	**30**	**30**	**90**
%	**(100)**	**(100)**	**(100)**	**(100)**

Source: Compiled from primary data

From Table 4.46 it could be inferred that, all farmers agree for interest rate problem faced by them through moneylenders. Presently they have inhibition to approach the moneylenders for availing agriculture credit or any other personal credit and are keen in approaching institutions. The higher rate of interest levied by the moneylenders who caused for the stress and many farmers attempted suicide are some examples witnessed by the farmers is the reason they are avoiding private lenders into their premises.

Repayment schedule does the important role for lenders as they are very particular and follow strict rules for collection of money. These ways of collecting

money exasperates the borrower that makes him to regret their borrowing from them. They adopt many ways which includes the slavery of the borrower family member in the ancient periods. However these ways are not adopted now a day but still taking hold of property pledged and land is still in practice.

Table 4.47 Farmers response to the problem: Threatening for non-payment of loan dues.

Farmers opinion	Type of farmers			Total
	Marginal farmer	Small farmer	Large farmer	
Disagree	1 (3.3)	0 (0.0)	1 (3.3)	2 (2.2)
Agree	7 (23.3)	11 (36.7)	7 (23.3)	25 (27.8)
Strongly agree	22 (73.3)	19 (63.3)	22 (73.3)	63 (70.0)
Total	30 (100.0)	30 (100.0)	30 (100.0)	90 (100.0)

Source: Compiled from primary data
Note: Figures in parenthesis represent percentage share of each to total

Table 4.47 conveys mean scores of the problem of threatening by money lenders in case of non timely repayment of loan availed. Among all the categories of farmers, 70 per cent of the farmers agreed with the statement and is evidenced by many literatures that substantiate the behavior of moneylenders. Primary reason for these financial agencies and money lenders is to raise the profit in the form of interest and thus avail income. Farmers have already experienced and they don't want to create a situation where their family reputation can be put in harm by availing credit from these private sources.

The emergency situations push the farmers to avoid the threatening of moneylenders for repayment of interest and loan. The farmer borrower often adopts the way to again borrow from any other source in order to repay the primary loan availed earlier. Thus the loan link goes which creates the stress for them and this will

continue and takes less time to the farmer to become indebted unless he earns additional income.

Table 4.48 Farmers response to the problem: Borrowing from other sources for repaying installments.

Farmers opinion	Type of farmer			Total
	Marginal farmer	Small farmer	Large farmer	
Disagree	2	3	1	6
	(6.7)	(10.0)	(3.3)	(6.7)
Agree	14	10	12	36
	(46.7)	(33.3)	(40.0)	(40.0)
Strongly agree	14	17	17	48
	(46.7)	(56.7)	(56.7)	(53.3)
Total	**30**	**30**	**30**	**90**
	(100.0)	**(100.0)**	**(100.0)**	**(100.0)**

Source: Compiled from primary data

Table 4.48 represents the mean scores of the statement. Exactly 73 per cent of the farmers agree that the situation pushes them to avail alternate loan to repay the existing. Six farmers are having disagreement to the statement implies that there is no such situation experienced by them.

Factor Analysis

To establish the relation between all these the problems faced by the farmers, by examining the correlation between the pairs of variables measured in Likert scale, the factor analysis has been used. The factors were rated using the rating scale of 1 to 5. The table shows the result of the factor analysis.

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Table 4.49 Factor analysis result for constraints of farmers in availing agricultural credit

Compo nent	Initial Eigen values			Extraction Sums of Squared Loadings		
	Tota l	% of Variance	Cumulative %	Tota l	% of Variance	Cumulativ e %
1	4.14 0	69.007	69.007	4.14 0	69.007	69.007
2	.893	14.888	83.895			
3	.394	6.563	90.458			
4	.293	4.878	95.335			
5	.205	3.414	98.749			
6	.075	1.251	100.000			

The rotation component analysis is supported by the correlation matrix. The extraction of the sum of squares gives the variance attributable to each factor after extraction. It could be seen that varimax rotation were converged and one component was extracted that defines the significance of all the individual factors through component matrix

This component matrix reduces the number of factors on which the variables have high loadings and interpret the factors. The factors which are more than 0.7 are identified and are classified as represented in Table 4.50.

Table 4.50 Rotated Component Matrix of factor analysis for constraints in availing Agricultural credit

Sl.No.	Variables	Component
1	Banks are very reluctant to give agricultural loans	.703
2	Terms and conditions of banks for giving agricultural loans, particularly regarding repayment are not acceptable to me	.893
3	Fail to understand the schemes offered by the banks and I am ignorant about how to fill up the forms	.859
4	Commercial Bank Managers and Officers are not friendly with local people	.770
5	Loan cannot be availed in time of agricultural operations hence have to approach other sources in addition to going to the bank	.840
6	I find it difficult to arrange lot of documents for furnishing for loan servicing	.901

*Extraction Method: Principal Component Analysis
*Rotation Method: Varimax with Kaiser Normalization
*rotation converged in 3 iterations.

From Table 4.50 it could be understood that, all the problems listed are faced by the farmers from institutional sources and are grouped under one factor. Constraints faced by the respondents are explained by 69 per cent of the factors. Banks reluctance to lending, terms and conditions and awareness about the schemes, friendliness of bank employees, and difficulty in arranging documents all these influences the respondents for availing loan from the formal financial institutions.

The factor scores obtained from the factor analysis were used for further analysis. After the identification of a single factor which explains the problems faced by the institutions by the respondent, study found necessary to analyse the relationship between existing agriculture borrowing and problems faced by the farmers in availing credit. Hence Mann-Whitney U test was conducted.

This test is used to compare outcomes between two independent groups to test whether two samples are likely to derive from the same population. Accordingly null hypotheses was formulated

H_0 = Borrowing for agricultural purposes from institutional sources is not affected by problems experienced by farmers in availing credit

H_1 = Borrowing for agricultural purposes from institutional sources is affected by problems experienced by farmers in availing credit

Fig. 4.5 Results of Mann-Whitney U test
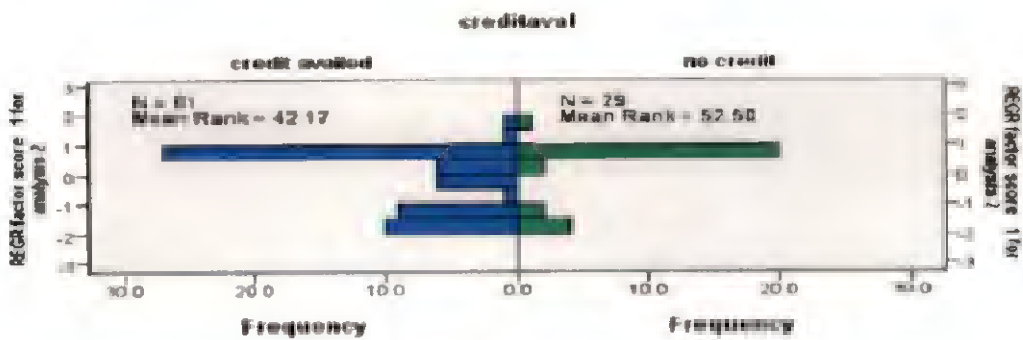
As revealed by the Figure- 4.5, there is no significant difference between the mean ranks for both borrowers as well as non borrowers. It is evident that the borrowing for agriculture purpose is not affected with the problem experienced by the farmers in availing agriculture credit.

The pair-wise comparisons were performed so as to analyse the preference of farmers between institutions even though their borrowings are not affected by the problems of institutional sources.

Fig. 4.6 Pair-wise comparison among categories for constraints

Pairwise Comparisons of Inspref

Each node shows the sample average rank of inspref
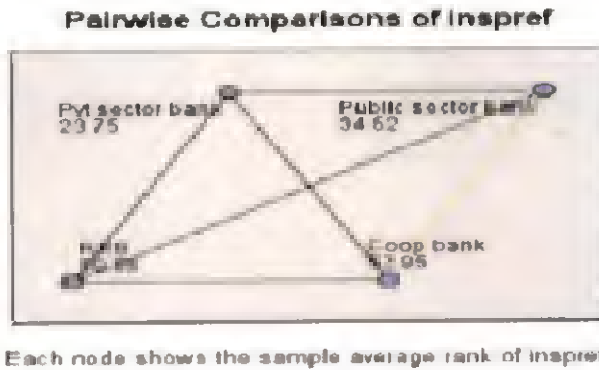
4.51 Pairwise comparisons for preference of farmers between the institutions

Sl.No.	Pair-wise comparison	Significance
1	Private bank- Public Sector Bank	0.426
2	Private sector bank- RRB	0.048**
3	Private sector bank- Co-operative bank	0.029**
4	Public Sector Bank- RRB	0.020**
5	Public Sector Bank- Co-operative bank	0.007**
6	RRB- Co-operative bank	0.652

**Significant at 5% level

The results of pair –wise comparisons revealed that, farmer's decision to choose an institutions is affected by problems while choosing between there pair of public sector and co-operative banks, private sector banks and RRB, private sector banks and co-operative banks and Public Sector Banks and co-operative banks. The farmers give preference to co-operative banks than the Public Sector Banks when the decision is to choose between these two. It was also proved when the analysis was carried out separately for each type of farmer, institutional preference was found to be affected by commonly experienced problems while availing credit by only one category of farmers' i.e. marginal farmers. Among all the remaining pairs of banks the respondents are indifferent opinion while making choice of institutions.
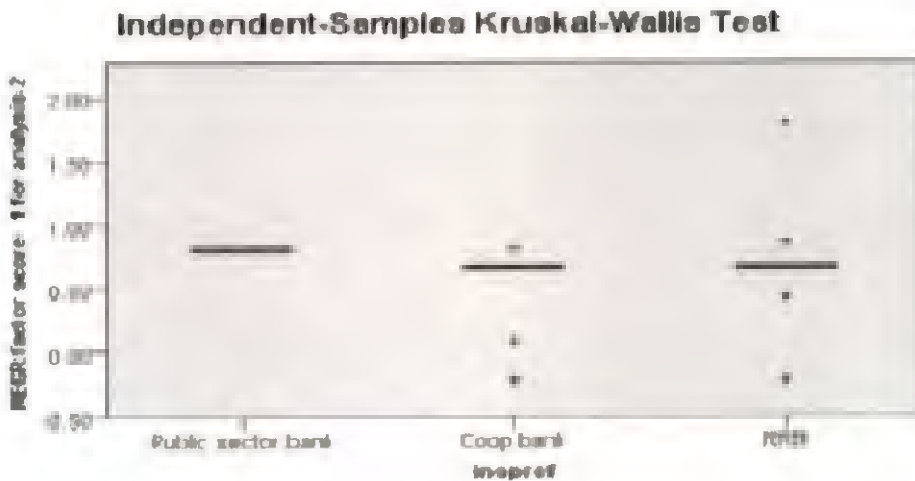
4.52 Independent Samples Kruskal-Wallis test results for all the farmer categories

Sl. No.	Farmer category	Significance
1	Marginal farmers	0.022**
2	Small and medium farmers	0.784
3	Large farmers	0.724

**Significant at 5 % level

From the Table 4.52, it could be inferred that, while conducting Independent Samples Kruskal-Wallis test, there is a significant difference at 5 per cent level for marginal farmers which implies that the problems faced by the marginal farmers affects the preference of marginal farmers. There is no significant difference for small & medium and large farmers implies that the preference for institutions of these categories does not depends on problems faced by them.

Fig.4.7 Results of Independent Samples Kruskal-Wallis Test

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4.53 Results of independent Kruskal Wallis test for marginal farmers

Sl. No	Test	Significance value
1	Independent Samples Kruskal Wallis Test	0.022**

**Significant at 5% level

Hence the pairwise comparisons were made separately for marginal farmers to analyse the preferences between the institutions and is presented in Table 4.54.

Fig.4.8 Pair-wise comparison among categories of institutions for marginal farmers
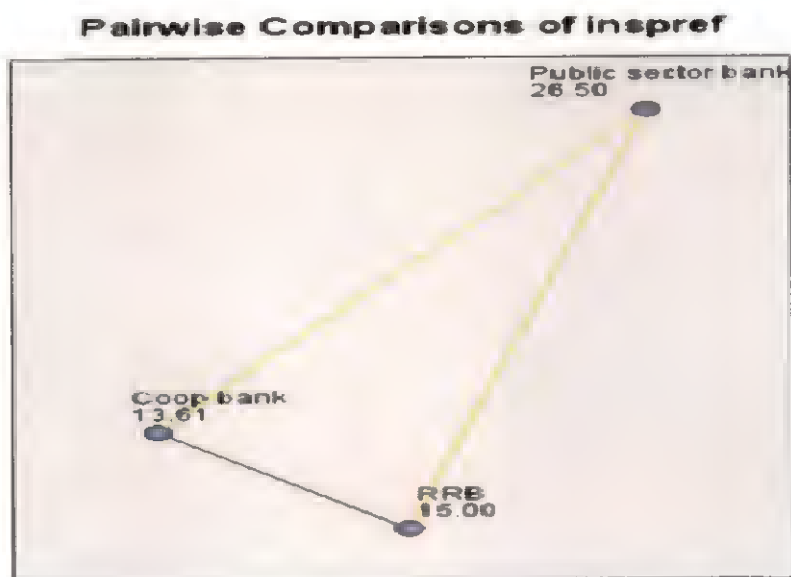
Table 4.54 Pair-wise comparison between institutions for marginal farmers.

Sl.No.	Pair-wise comparison	Significance
1	Co-operative bank- RRB	0.624
2	Co-operative bank – Public Sector Bank	0.006**
3	RRB- Public Sector Bank	0.015**

**Sig. at 5% level

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As presented in Table 4.54, farmer borrowers do not differentiate between co-operative banks and Regional Rural Banks. Farmers have to think deeply while choosing between co-operative banks and Public Sector Bank as well as between Regional Rural banks and Public Sector Banks. From the results shown the previous analysis we can infer that marginal farmers prefer cooperative banks and Regional Rural Banks.

Overall, marginal and small farmers are experiencing the problem in filling applications and understanding the schemes. Eighty per cent of small and marginal farmers are not satisfied with interaction pattern of commercial bank managers. Almost 93 per cent of marginal and small farmers are facing problems in pooling the documents for submitting the loan application. When the analysis was carried out separately for each type of farmer, institutional preference was found to be affected by commonly experienced problems while availing credit by marginal farmers.

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SUMMARY AND CONCLUSION

CHAPTER 5
SUMMARY OF FINDINGS AND CONCLUSION

Credit is one of the important interventions for improving agricultural production and productivity and helps to mitigate farmers' distress. Often, institutional sources contribute only meager percentage of agricultural credit to the cost of cultivation. Non-institutional sources are often tapped by the farmers to meet the gaps in demand for agricultural finance, in spite of inherent weaknesses of higher interest rate and rigid loan collection strategies.

However problems in availing agricultural credit from institutional sources continue to persist including procedural delays experienced by farmers, inadequacy of finances, lack of information regarding schemes etc. Further farmers' demographics determine their preferences for lender attributes (Farley & Ellinger, 2006). Thus there is a need to identify institutional preference of the farmers in availing loan, the extent of financing by various institutional agencies, and the constraints in availing agricultural credit which can help financial institutions to design and deliver financial credit services suited to the farming community.

Kasaragod district in Kerala has been selected for the study because of its uniqueness of being declared as the organic farming district in the State. Further the study can be beneficial in evolving policy decisions by identifying thrust areas to improve services by financial institutions to promote agriculture.

The study has been fundamentally based on primary data. The sample size of the study was 90 respondents, consisting of 30 each from two grama panchayats of Kasaragod district viz., Parappa and Manjeshwaram from two blocks Kasaragod and Hosadurg respectively selected by multi stage sampling method. Data were collected through pre tested structured interview schedule.

Percentages, one way ANOVA, Log linear regression model, Independent Samples Kruskal- Wallis test, Factor analysis and Mann- Whitney U test were employed to analyse the data. Household location, sources of agricultural credit and

credit market location of the selected respondents in the sample panchayats were plotted.

5.1 Major findings

The major findings of the study are summarized and presented in the sequence given below.

5.1.1 Demographic profile and profile of agricultural activity of respondents

5.1.2 Existing sources and extent of credit availed by the farmers

5.1.3 Awareness of institutional schemes by farmers

5.1.4 Farmers' preference for financing institution & Factors affecting such preference

5.1.5 Constraints in availing agricultural credit

5.1.1 Demographic profile and profile of agricultural activity

Majority of the respondents included in the study was males (98.9 per cent). There are no illiterate respondents and large number of respondents has attained secondary level of education. Of the sample population, 86 per cent of them have agriculture as main occupation whereas 14 per cent engaged in agriculture as subsidiary occupation. 76 per cent of them have an annual income of less than 2 lakh. Average area under cultivation by respondent farmers was established to be 4.98 ha, where the average area of each crop was 3.50 ha and area of food crops was found to be 1.47ha. Dominant crops grown in the study area are cash crops such as coconut, arecanut, rubber, cashew, pepper. The food crops grown are paddy, banana and vegetables. The area possessed by the farmers for cash crops is high compared to food crops. This is because the farmers of the district are converting their paddy land

to rubber plantations. The proportion of cash crops and food crops is high in case of large farmers.

5.1.2 Existing sources and extent of credit availed by the farmers

As regards total credit, only 50 per cent of the marginal farmers availed credit, whereas 77 per cent of small and large farmers used credit for agricultural purposes. Overall, 68 per cent of farmers availed credit (29 farmers, out of 90, did not tap any source of finance for agricultural activities). Among the categories of farmers, 50 per cent of marginal farmers and 23 per cent each of small & medium and large farmers were found to be devoid of institutional credit. Some farmers have opted for leaving their farms uncultivated as there is no one to look after the farm and tendency to avail the credit is less. Another reason for non borrowing could be improved economic condition of farmers due to alternative additional earners of the family. Almost 36 per cent of farmers carrying out cultivation of cash crops and 94.4 percent of farmers cultivating food crops have not availed credit. Also, majority of marginal farmers have availed less than Rs. 1 lakh, due to the reason that eligibility condition for availing loans is related to land holding. Attributing the same reason, it can be seen that about 40 per cent of the large farmers have availed more than Rs. 1.5 lakh for cash crop cultivation. However the farmers who availed credit above 1 lakh remains slightly high. Many farmers are facing difficulty in repayment of loan as their family expenses are very high and are hesitant to avail larger amount of credit from institutional and non institutional sources.

Average amount of loan availed by the marginal farmer is Rs. 91,833, while that of a small farmer is high as Rs. 2,18,500 (2.4 times higher than that of marginal farmer) and Rs. 3,34,167 for large farmer (3.6 times than that of a marginal farmer and 1.52 times that of a small farmer). The multiple comparison test proved that there is significant difference in the total agricultural credit availed by large and marginal farmers. It could be observed that small farmers have availed 3 times and large farmer has availed 5.8 times than the marginal farmer. The disparity between small and large

farmers is not so wide in the sense that, large farmer avails 1.7 times higher amount than that of the small farmers.

Public sector banks topped the list of amount disbursed as agricultural loans. Co-operatives were having an upper hand in disbursal of agricultural credit for all the farmer categories followed by RRBs and public sector banks. However, public sector banks disbursed highest amount of loans followed by Private Banks and RRBs. Hence, it could be inferred that co-operatives have concentrated on small ticket loans. The farmers were found to have availed lesser borrowing from microfinance institutions and private sources like moneylenders. Regarding the average amount of agricultural credit availed by farmers, it was found that Public sector banks topped the disbursal list an average amount of Rs. 3.70 lakh. Other sources of finance like private sector banks which followed the PSBs released Rs 2.62 lakhs, whereas RRBs and Co-operatives occupied third and fourth positions respectively. The marginal farmers were benefitted with highest average loan from co-operative bank followed by RRB in the second place and public sector banks in the third place.

The factors such as distance to the credit source, frequency of visit to the bank, expenses incurred while visiting the bank, interest rate were analysed. Further Log linear regression analysis was carried out to find the relationship between agricultural credit availed by the farmer with that of factors like age, interest rate on loans, area of cultivation, expenses, number of visits made to a bank and distance. It was found that, area is the main predictor that influenced the credit availed by farmers while other factors failed to have any influence.

5.1.3 Awareness and utilisation of institutional schemes by farmers

The awareness level of different credit schemes like crop loan, KCC, AGL GCC, crop insurance and livestock purchase schemes were analysed. Overall crop loan scheme utilization of 50 per cent is observed (i.e. 45 out of 90 respondent farmers are availing crop loan from either of the institutional sources). However

scheme utilization has been pathetic with 13.3 per cent utilizing the scheme from commercial bank, 18.9 per cent from co-operative bank and 17.8 per cent from RRBs. For KCC, Overall almost 50 per cent utilization is observed (i.e. 42 out of 90 respondent farmers are availing KCC from all the institutional sources). It is interesting to note that, almost 97 per cent of the farmers are aware about the KCC scheme irrespective of banks. For AGL scheme, overall 5.5 per cent of the total farmers have utilized the scheme from but none of the marginal farmers have availed this scheme. Almost 40 per cent of the farmers were unaware about the AGL scheme. Results showed that an average of 45 per cent of the farmers was not aware of the GCC scheme and gap in awareness as well as utilization of this scheme is very less. It is evident from the survey that only entrepreneurial activity taken up by some of the farmers in Manjeshwaram is dairying. With regard to crop insurance, the disinterest of farmers in availing crop insurance is also evident from the fact that only 10 farmers availed this facility. Further crop insurance is only for few crops and the farmers are unaware of this. Overall 64.4 per cent of the farmers unaware about the live stock schemes. From this it is evident that, there is need to promote the cattle rearing and dairy activity in the area so that institutions can support these activities by creating the awareness.

5.1.4 Farmers' preference for financing institutions & factors affecting such preference

The institutional sources such as public sector banks, private sector banks, co-operative banks, RRBs and other MFIs and non institutional agencies such as money lenders, financial agencies, shop keepers and friends and relatives are involved in lending to the farmers in the credit market. The overall institutional preference was estimated by combining the scores obtained for factors like proximity, procedural hassles, banker's behavior, approachability, flexibility, cost, adequacy and timeliness. Reviewing the overall scores, marginal, small and large farmers indicated co-operative banks to be their most preferred choice, followed by RRBs as the next best alternative. The farmers do not hesitate to meet and talk to any officials of the co-

operative bank and the environment of the bank is much comfortable to the farmers and as they feel it as their own. The public sector banks still preserve confidence in the minds of farmers as it occupies third position. Almost 28 per cent of farmers found public sector banks as their most preferred bank.

The marginal farmers prefer both co-operative banks and RRBs but are having not good opinion for preferring public sector banks. Especially flexibility and cost of credit are the most affecting factors for the farmers while approaching public sector banks. Institutional preference computed from mean scores of factors as noted by large farmers was in favour of RRB closely followed by co-operatives. Procedures were found to be easier in case of co-operative banks, but were tough in case of Public Sector Banks. It was found that bankers behavior too followed the same pattern with co-operatives preferred most and least preferred was the public sector banks. Similar pattern is observed for all other variables including approachability, flexibility, cost of credit and timeliness. Small farmers were found to have preference to co-operative banks as well as RRBs. Farmers have aversion to public sector banks as they have rigid procedures and the problem with the public sector banks is related to flexibility of the bank. Independent Samples Kruskal-Wallis Test was conducted to test the hypothesis that institutional preference of respondents is affected by several factors. It was found that factors including proximity, cost of credit, adequacy and timeliness do not have any influence on the institutional preference by farmers. However, factors like procedural hassles, approachability, banker's behavior and flexibility are found to affect the choice of source of finance.

Using factor analysis, attempt was made to estimate the factor scores of each of the factors; extracting two major factors influencing institutional preference of borrowers namely institutional factors (proximity, easy procedures, banker's behavior, flexibility and approachability) and credit (product) related factors (cost of credit, adequacy and timeliness). Institutional factors explain 36 per cent of the choice of institutional source and credit related factors are responsible for 29 per cent

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of choice of source of finance. Further, hypothesis on choice of institution driven by institutional preference factors was tested using independent samples Kruskal-Wallis test, which was found to be significant. Results of pair-wise comparisons of institutional preference reveal that there is a clear differentiation between farmers who exercised the choice between public sector banks and RRB (at 10per cent level), public sector banks and co-operative banks (at 1per cent level).

After testing the hypothesis on choice of institutions driven by credit factors, difference exists between farmers who exercised choice between private sector bank and RRB (5per cent level), private sector bank and RRB (5per cent level), public sector bank and RRB (5per cent level), public sector bank and co-operative bank (1per cent level). However, the dilemma of institutional preference does not occur while making a choice between other pairs of institutions. So it can be concluded that the farmers give due importance to product (credit) related factors i.e. cost of credit, adequacy and timeliness when they are choosing institutions.

5.1.5 Constraints in availing agricultural credit

The constraints of the farmers in availing agricultural credit was also anlaysed and the results revealed that, marginal and small farmers are experiencing the problem in filling applications and understanding the schemes. Eighty per cent of small and marginal farmers are not satisfied with interaction pattern of commercial bank managers. Almost 93 per cent of marginal and small farmers are facing problems in pooling the documents for submitting the loan application. Overall, the count of the farmers who do not understand the schemes and difficulty in filling the application is high.

It was found that, all the farmers have experienced high interest rate while approaching moneylenders. Threatening by the money lenders in case of non repayment have forced the farmers to stay away from non institutional sources even if they have money crunch.

Mann Whitney U test was conducted to find the relation between status of credit off take by farmers and problems experienced by farmers in availing credit. The problems were singled out into factor score using factor analysis. It was found that problems are significant at 10 per cent level which affected the credit off take by farmers. When the analysis was carried out separately for each type of farmer, institutional preference was found to be affected by commonly experienced problems while availing credit by only one category of farmers – i.e. marginal farmers. For small and large farmers the problems did not affect the institutional preference.

Conclusion

The study has probed into the status of credit off-take of farmers for agricultural purposes and found that overall credit coverage was 68 per cent. 29 farmers, out of 90, did not tap any source of finance for agricultural activities. Among the categories of farmers, 50 per cent of marginal farmers were found to be devoid of institutional credit which shows clear apathy towards marginal farmers. The difference has been obvious in case of loan amount also. 23.4 per cent of the marginal farmers and 40 per cent of the small farmers have availed loans of less than an amount of Rs. one lakh, whereas 50 per cent of the large farmers were found to have availed loans higher than Rs. 1.5 lakh. Regarding sources from where farmers have availed finance, co-operatives were having an upper hand in disbursal of agricultural credit for all the farmer categories followed by RRBs and public sector banks. However, public sector banks disbursed highest amount of loans followed by private banks and RRBs. Hence it could be inferred that co-operatives have concentrated on small ticket loans targeted at marginal and small farmers. The farmers were found to have lesser dependence on microfinance institutions and private sources like moneylenders. Modeling the credit off-take with the plausible factors, the only variable affecting farmer borrowing was found to be farm area owned by the farmer. It was found that credit off-take is higher for farmer categories having larger areas of farm land, implying denial of low cost credit to those holding low value assets. Thus,

status of farmers in the study area seem to be no different from other transects in the country, where marginal and small farmers are devoid of access to adequate low cost credit for agriculture purposes.

One of the objectives of the study was to identify the preference of farmers towards types of institutional sources where most of the farmers expressed their affinity towards co-operatives. Analysis revealed that factors including proximity, cost of credit, adequacy and timeliness do not have any influence on the institutional preference by farmers. However, factors like procedural hassles, approachability, banker's behavior and flexibility are found to affect the choice of source of finance. Regarding problems experienced by the farmers, marginal and small farmers are experiencing the problem in filling applications and understanding the schemes. Eighty per cent of small and marginal farmers are not satisfied with interaction pattern of commercial bank managers. Almost 93 per cent of marginal and small farmers are facing problems in pooling the documents for submitting the loan application. When the analysis was carried out separately for each type of farmer, institutional preference was found to be affected by commonly experienced problems while availing credit by marginal farmers.

Thus it may be concluded that demand for agricultural credit by farmers are still not being satisfied in the expected pattern where marginal and small farmers remain underprivileged due to various institutional and credit related factors affecting credit delivery. Co-operatives are most preferred source of finance which needs revival keeping in view of the present issue of demonetization.

Suggestions

Considering the overwhelming interest of the farmers, especially small and marginal farmers in co-operative banks as their preferred source of financing, Governments, both Central and State may take efforts to resolve the problems related to looming issues raised before co-operatives in the wave of demonetization.

As micro credit could not make any significant contribution for financing agrarian activity in the study area, micro credit channels have to be improved for providing farmers with necessary finance. One of the major criticisms against micro credit is its failure to contribute to productive credit. However, it can be seen that, micro credit can serve as bridge loans, i.e. as term loans which help the farmers till their term credit/working capital finances are sanctioned.

One of the major constraints faced by the farmers is with respect to the procedural delays and submission of large number of documents while applying for loans. Financing institutions, especially commercial banks should simplify their applications for loans by removing the irrelevant details in the application forms. It is a welcoming feature that, in recent days banks have simplified their loan procedures in many cases. This may be extended to farmers also, especially the marginal and small farmers.

Since Kasaragod district has been declared as an organic district, banks and co-operatives may give priority to those farmers who are engaged in organic cultivation while disbursing credit. The scale of finance for short term crops or crop loans and medium and long term agricultural loans in case of organic farming may also be calculated and circulated to financing institutions by the District Level Technical Committee (DLTC) and NABARD respectively.

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The study has concentrated on preferences of institutions for different categories of farmers while availing credit in Kasaragod district. Their extent of utilization or misutilisation in the disbursed credit in the District was not an area of enquiry in this study, which can be taken up for further inquiry by researchers, which will be beneficial to the financing institutions also to expand their extent of credit and also to contain their Non Performing Assets (NPA) in agriculture.

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ABSTRACT

INSTITUTIONAL PREFERENCE FOR AGRICULTURAL CREDIT IN KASARAGOD DISTRICT OF KERALA

By

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ABSTRACT OF THE THESIS

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ABSTRACT

Credit is one of the important interventions for improving agricultural production and productivity and helps to mitigate farmers' distress. Often, institutional sources contribute only meagre percentage of agricultural credit to the cost of cultivation. Non institutional sources are often tapped by the farmers to meet the gaps in demand for agricultural finance, inspite of inherent weaknesses of higher interest rate and rigid loan collection strategies. The study entitled 'Institutional preference for agricultural credit in Kasaragod district of Kerala' was conducted with the following objectives of (a) identifying the sources and extent of credit availed by the farmers, (b) identifying the institutional preference for agricultural credit with a view to analyse the factors affecting the institutional credit and (c) identifying the constraints in availing agricultural credit.

The sample size of the study was 90 respondents, consisting of 30 each from two grama panchayats of Kasaragode district viz., Parappa and Manjeshwaram from two blocks Kasaragode and Hosadurg respectively selected by multi stage sampling method. Data were collected through pre tested structured interview schedule. The major statistical tools used for the study were Percentages, One way ANOVA, Log Regression model, Independent samples Kruskal- Wallis test, Factor analysis, Mann-Whitney U test were employed to analyse the data. Household location, sources of agricultural credit and market location of the selected respondents in the sample panchayats were plotted.

The results obtained after the analysis of sources and extent of credit availed by the farmers revealed that 50 per cent of marginal farmers and 23 per cent each of small & medium and large farmers were found to be devoid of institutional credit. Some farmers have opted for leaving their farms uncultivated as there was no one to look after the farm and tendency to avail the credit is less. About 40 per cent of the large farmers have availed more than Rs. 1.5 lakh for cash crop cultivation and the

farmers who availed credit above 1 lakh remains slightly high. Marginal farmers availed an average loan amount of Rs. 91,833, while that of a small farmer is as high high as Rs. 2,18,500. The multiple comparison test proved that there is significant difference in the total agricultural credit availed by large and marginal farmers.

Cooperatives are having an upper hand in disbursal of agricultural credit for all the farmer categories followed by RRBs and public sector banks by concentrating on smaller ticket loans. The farmers were found to have availed lesser borrowing from microfinance institutions and private sources like moneylenders. The Log linear regression analysis results showed that, area is the main predictor that influenced the credit availed by farmers while other factors such as distance, number of visits to bank, expenses, interest rate, age failed to have any influence.

Overall crop loan scheme utilization of 50 per cent is observed (i.e. 45 out of 90 respondent farmers are availing crop loan from either of the institutional sources). For KCC, Overall almost 50 per cent utilization is observed (i.e. 42 out of 90 respondent farmers are availing KCC from all the institutional sources). Almost 40 per cent of the farmers are unaware about the AGL scheme. Results showed that an average of 45 per cent of the farmers is not aware of the GCC scheme and gap in awareness as well as utilization of this scheme is very less. . Overall 64.4 per cent of the farmers unaware about the live stock schemes.

The second objective of the study was to identify the institutional preference and factors affecting the institutional preference of farmers. The overall institutional preference was estimated by combining the scores obtained for factors like proximity, procedural hassles, banker's behavior, approachability, flexibility, cost, adequacy and timeliness. Reviewing the overall scores, marginal, small and large farmers indicated co-operative banks to be their most preferred choice, followed by RRBs as the next best alternative. The results of factor analysis showed that institutional factors explain 36 per cent of the choice of institutional source and

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credit related factors are responsible for 29 per cent choice of source of finance. Further Independent samples Kruskal-Wallis test revealed that factors including proximity, cost of credit, adequacy and timeliness do not have any influence on the institutional preference by farmers. However, factors like procedural hassles, approachability, banker's behavior and flexibility are found to affect the choice of source of finance.

Regarding problems experienced by the farmers, marginal and small farmers are experiencing the problem in filling applications and understanding the schemes. Eighty per cent of small and marginal farmers are not satisfied with interaction pattern of commercial bank managers. Almost 93 per cent of marginal and small farmers are facing problems in pooling the documents for submitting the loan application. When the analysis was carried out separately for each type of farmer, institutional preference was found to be affected by commonly experienced problems while availing credit by marginal farmers.

Thus it may be concluded that demand for agricultural credit by farmers are still not being satisfied in the expected pattern where marginal and small farmers remain underprivileged due to various institutional and credit related factors affecting credit delivery. Co-operatives are most preferred source of finance which needs revival keeping in view of the present issue of demonetization.

Further it was suggested that, as micro credit could not make any significant contribution for financing agrarian activity in the study area, micro credit channels have to be improved for providing farmers with necessary finance. Financing institutions, especially commercial banks should simplify their applications for loans by removing the irrelevant details in the application forms. The scale of finance for short term crops or crop loans and medium and long term agricultural loans in case of organic farming may also be calculated and circulated to financing institutions by the District Level Technical Committee (DLTC) and NABARD respectively.

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The study has concentrated on preferences of institutions for different categories of farmers while availing credit in Kasaragod district. Their extent of utilization or misutilisation in the disbursed credit in the District was not an area of enquiry in this study, which can be taken up for further inquiry by researchers, which will be beneficial to the financing institutions also to expand their extent of credit and also to contain their Non Performing Assets (NPA) in agriculture.

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ANNEXURE

Kerala Agricultural University

College of C-operation, Banking & Management

INTERVIEW SCHEDULE
(For Academic Purpose only)

Respondent No.-

1. Name of the Panchayat:
2. Type of farmer: SF/MF/LF=   Block: Ward:
3. Demographic Details of Respondent: Phone No.:

Sl. No.	Name of Family Members	R	sex	Age	Education	Main occupation	Monthly income (Setting Limits)	Subsidiary occupation	Monthly income	Other occupation
								-		

4. Asset Details

Sl. No.	Types of Assets	Unit	Volume	Annual Asset Income	Present Value of the Asset
A	Physical Assets				
1	Land				
2	Building				
B	Financial Assets				
3	Deposits				
4	Investment and gold				
5	Others (specify) Tractors Tillers Farming Equipments				

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	Furniture's				
C	Agri Allied Assets				
6	Poultry				
7	Piggery				
8	Animals	Milching			
		Non-Milching			
9	Fish				
10	Others (specify)				

5. Land Use Pattern

Sl. No.	Pattern	Area
1	Gross land	
2	Area used for cultivation	
3	Homestead land	
4	Area under cash crops	
5	Area under food crops	
6	Uncultivable area	
7	Fallow land (Not cultivated)	

6. Details of Cropping Pattern

Sl. No.	Crops	Area under Cultivation	Cost of Cultivation p.acre	Amount taken as credit from Institutions	Amount taken as credit from Non-Institutional sources
1.					
2.					
3.					
4.					

7. Sources of Credit   .

1. Agricultural production purpose								
Source	Name of Institution	Specific purpose	Type ST/MT /LT	Secu rity	Sanctioned amount of credit	Amoun t repaid	Inter est rate	Schem e
Public SB								
Pvt SB								
RRB								
Co-operatives								
MFI								
Friends & Relatives								
Money lenders								
2. Non agricultural production								
Public SB								
Pvt SB								
RRB								
Co-operatives								
MFI								
Friends & Relatives								
Money lenders								
3. Consumption purpose								
Public SB								
Pvt SB								
RRB								
Co-operatives								
MFI								
Friends & Relatives								
Money lenders								

8. Distance from Farmers house

Sl. No.	Source from where the loan was taken	Distance (Kms)
1		
2		
3		
4		

9. Expenses

Sl. No.	Source of loan	No. of times the bank was visited in connection with loan	Expense for visiting the bank for loan	Other expenses	Wages / Income lost while visiting the bank	Processing charges
1						
2						
3						
4						

10. Awareness of various schemes (Institutional Agricultural)

Sl. No.	Schemes	Commercial banks	Reason if denied	Co-operatives	Reason if denied	RRB's	Reason if denied
1	Crop loan						
2	KCC						
3	AGL						
4	GCC						
5	Crop insurance						
6	Livestock purchase schemes						

a- Not Aware

b- Aware but not availed (due to not applying for it)

c- Aware and availed

d- Applied but denied

11. What is your preferred source of finance for agricultural purposes (rank in the order of preference)

SOURCE OF FINANCE	RANK
Public Sector commercial bank	
Private sector commercial bank	
RRB	
Co-operative Banks	
Microfinance	
Moneylenders	
Friends and Relatives	

12. Evaluate various sources of finance on the basis of below criteria's (Excellent, Very Good, Fair, Poor, Very Poor)

B A	Proximity	Procedural hassles	Timeliness	Approach ability	Flexibility	Cost of credit	Adequacy	Bankers Behaviour
Public								
Private								
RRB								
Co-op.								
PACS								
MFI								
Friends								
Moneylenders								

13. Rank various sources of finance on the basis of below criteria's

B A	Proximity	Procedural hassles	Timeliness	Approachability	Flexibility	Cost of credit	Adequacy
Public							
Private							
RRB							
Co-op.							
PACS							
MFI							
Friends							
Moneylenders							

14. Constraints in Availing Credit from both Institutional and Non –Institutional sources.

Sl. No.	Constraints	SA, A, MA, DA, SDA	Rank according to severity of problem
	INSTITUTIONAL SOURCES		
1	Banks are very reluctant to give agricultural loans		
2	Terms and conditions of banks for giving agricultural loans, particularly regarding repayment are not acceptable to me		
3	Fail to understand the schemes offered by the banks and I am ignorant about how to fill up the forms		
4	Commercial Bank Managers and Officers are not friendly with local people		
5	Loan cannot be availed in time of agricultural operations hence have to approach other sources in addition to going to the bank		
6	I find it difficult to arrange lot of documents for furnishing for loan servicing		
7			
8			
9			
	NON INSTITUTIONAL SOURCES		
1	Higher rate of interest is unbearable		
2	Threatening in case of non repayment of installments happen frequently		
3	We have to borrow from other sources for repaying the installments on time		
4			
5			
6			