# ECONOMIC ASPECTS OF STUDY ON FINANCING OF CROP PRODUCTION, FINANCE THROUGH BANK OF INDIA IN KHANDWA DISTRICT OF MADHYA PRADESH

THESIS

*Submitted to the*

**Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya**

**( In partial fulfillment of the requirements for the Degree of )**

**MASTER OF SCIENCE**

*In*

**AGRICULTURE**

**(AGRICULTURAL ECONOMICS AND FARM MANAGEMENT)**

*By*


***NAND KISHOR PAWAR***

**Department of Agricultural Economics & Farm Management**
**Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior**
**R.A.K. College of Agriculture**
**Sehore (M.P.)**


**2017**

# CERTIFICATE-I

This is to certify that the thesis entitled **"ECONOMIC ASPECTS OF STUDY ON FINANCING OF CROP PRODUCTION, FINANCE THROUGH BANK OF INDIA IN KHANDWA DISTRICT OF MADHYA PRADESH"** submitted in partial fulfilment of the requirements for the Degree of **MASTER OF SCIENCE/DOCTOR OF PHILOSOPHY** in **Agriculture Economics & Farm Management** of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior is a record of the bona-side research work carried out by **Mr. Nand Kishore** under my guidance and supervision. The subject of the thesis has been approved by the student's Advisory Committee and the Director of Instruction.

No part of the thesis has been submitted for any other degree or diploma or has been published. All the assistance and help received during the course of this investigation has been acknowledged by scholar.

Signature

Place:

Date: **(Dr. P.K. Malviya)**

Chairman of the Advisory Committee

**MEMBERS OF STUDENT'S ADVISORY COMMITTEE**

**(Chairman) Dr. P.K. Malviya** **……...**

**(Member) Dr. S.N. Soni** **……...**

**(Member) Dr. K.N. Pathak** **……...**

## CERTIFICATE-II

This is to certify that thesis entitled **"ECONOMIC ASPECTS OF STUDY ON FINANCING OF CROP PRODUCTION, FINANCE THROUGH BANK OF INDIA IN KHANDWA DISTRICT OF MADHYA PRADESH"** submitted by **Mr. Nand Kishore** to the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior in partial fulfilment of the requirements for the degree of Master of Science in **Agriculture** in the Department of **Agriculture Economics & Farm Management** has been accepted after evaluation by the External Examiner and approved by the Student's Advisory Committee after an Oral examination on the same.

Signature

Place:

Date: **(Dr. P.K. Malviya)**

Chairman of the Advisory Committee

**MEMBERS OF STUDENT'S ADVISORY COMMITTEE**

**(Chairman) Dr. P.K. Malviya** **……...**

**(Member) Dr. S.N. Soni** **……...**

**(Member) Dr. K.N. Pathak** **……...**

**Head of the Department: ……**

**Dean of the College: ……**

**Director of Instructions: ……..**

## ACKNOWLEDGEMENT

Thanks to Almighty God for giving me this opportunity to express my heartfelt gratitude to all the dedicated people whose support and kind co-operation encouraged me during the course of investigation. I avail this opportunity to express my deep sense of gratitude to my guide and Chairman of the Advisory Committee, **Dr.P.K.Malviya**, Professor, Department of Agricultural Economics and Farm Management, Sehore for his inspiring guidance, untiring interest, immense labour, thought provoking comments, constructive criticism, constant encouragement and generous help throughout the course of investigation and the course of writing this manuscript.

I am deeply obliged to all the members of my Advisory Committee, namely, **Dr.S.N.Soni**, Head Of Department and Professor, Department of Agricultural Economics and **Dr.K.N.Pathak**, Professor, Department Extension Education, R.A.K. College of Agriculture, Sehore. I also express my deep sense of gratitude to **Dr.P.S.Raghuwanshi**, Professor, Department of Agricultural Economics and Farm Management, Sehore for their valuable guidance.

I am also thankful to **Dr.A.K.Singh** Hon'ble Vice Chancellor, RVSKVV, Gwalior, **Dr.B.S.Baghel**, Director of Instruction, RVSKVV, Gwalior and **Dr.Rajesh Verma**, Dean R.A.K. College of Agriculture, Sehore for providing me the necessary facilities during the studies.

I feel short of words to express my gratitude to my parents Shri.Dariyad Singh, Mother Smt.Amruti Bai, Brother Mr.Deepak Pawar for their utmost co-operation, love and encouragement during the course of this work. I am also thankful to Friend Durgesh Yadav.

Last, but not least, my grateful thanks are due to all the respondents for the study and staff of R.A.K. College of Agriculture, Sehore of their co-operation during thesis work.

*Place : Sehore*

*Date : / /* **(Nand Kishore Pawar)**

# CONTENTS

# LIST OF TABLES

# LIST OF FIGURE

# CHAPTER - I
# INTRODUCTION

The country faced a huge deficit of agricultural production in about 1960's. The state of Madhya Pradesh in India at that time was poor endowed in respect of production resources and productivity of agricultural produce. To achieve a higher level of production, the growth model adopted by Indian agriculture is popularly called 'Green Revolution Model' introduced in the year of 1965. Under this modes of production have undergone major transformation, stimulating change in the forces of production as well as production relations in the country as well as in Madhya Pradesh also. The whole mechanism of transformation was and is being targeted at surplus generation, but is closely linked with growth of rural credit system in the country.

After the Green Revolution the agriculture sector transforms from traditional towards commercialized, the demand for capital increases for variable and fixed expenses. The agriculture was largely the traditional and subsistence before 1965, and the savings of the farmers were not sufficient to meet even their small production requirements. The position of the small and marginal farmers was even more pathetic. The farming community of the country was badly caught in the clutches of moneylenders. Major proportion of the credit demand of farmers was provided by non-institutional sources of finance and rest was being met by the cooperative credit institutions. The participation of the commercial banks in the agricultural credit was negligible due to low rates of return. Whatever the small surpluses were generated by even medium and large farmers, were usurped by the moneylenders in the shape of interest payments. Under these circumstances, the possibility of adoption of new production technology was very less. So, in agricultural finance, many formal institutional arrangements were initiated to reduce uncertainty, to prevent the transactions from being too costly and thus to allow realization of the productivity gains to large scale.

Looking the importance and need of agricultural credit during the various plan period agricultural credit policy have been given priority in the country. The emphasis has been given for crop production on adequate availability of credit at lower rates of interest and at a time when it is required. Since the recommendations of Rural Credit

Survey of 1954, institutional agricultural credit policy has undergone many changes to meet this objective. The cooperative credit institutions catering to the farming community were reorganized and strengthened and commercial banks after their nationalization in 1969 were directed to lend to the agriculture sector, by fixing the norms for priority sector lending. The mandate of financial institutions dealing with agriculture sector was three pronged. First, the farmers should be saved from the cruel hands of the moneylenders by increasing the inflow of institutional agricultural credit. Second, they should be encouraged to adopt new production technology by meeting their credit requirements, short-term as well as long-term, so that the agricultural production, especially the food grains production, could be increased. Thirdly, special attention should be paid to the credit requirements of small and marginal farmers and other weaker sections of rural areas so that they could also participate in technology driven agricultural growth process and reap their due share. Even some credit linked programmes were initiated for this target group, like Integrated Rural Development Programme, Small Farmers Development Programme, Marginal Farmers and Agricultural Labour Development Programme etc. Special credit institutions i.e. Regional Rural Banks were also created to cater to the needs of weaker sections of the rural areas. At the apex level, National Bank for Agricultural and Rural development was established by merging the Agricultural Credit Department of RBI and Agricultural Refinance and Development Corporation to streamline and strengthen the institutional credit flow to the rural sector. New initiatives like Kisan Credit Cards (KCC) and micro-finance are the recent developments in this field.

With the introduction of green revolution as adoption of improved crop production technology and availability of fund for cultivation crop through institutional source of credit the agricultural sector witnessed high growth in India as well as in Madhya Pradesh also. Institutional credit is considered to have played a significant role in fast and widespread adoption of modern production technology and promotion of private investments on farms through its increasing as well as cheap supply. The large scale adoption of seed-fertilizer, plant protection measure and irrigation facilities were found at farm level. The growth of farm mechanization along with seed-irrigation-fertilizer

technology resulted in large increase in the cropping intensity of farmers. All these technological changes in agriculture sector led to capital formation especially private capital formation at a faster rate. Thus, agricultural credit policies were geared in a right sense from time to time to meet the increasing cost of cultivation in the state as well as in the country.

The amount of credit need for crop production depends upon level of input and practices of production utilization pattern (cost of variable inputs needs) and availability of own fund. As a economist, utilization aspect of credit is as important or in a sense more important than availability of credit. If available credit is utilized for the proper uses, it helps not only in increasing the returns of the farmer, but also creates its repaying capacity with the resource-starved farmers. On the other hand, if the available funds are misutilized for unproductive purposes or diverted to other motives, the income does not increase to the desired extent, the very purpose of credit availability is defied.

In the light of all these issues, the present study has been planned to have an indepth knowledge about farmer's access to agricultural credit in terms of amount needed for cultivation of rabi crops production, finance lent by the borrowers, utilization pattern of credit and impact of credit on economic social conditions which is the main objective of the borrowers. The specific objectives of study have been as follows:

**Objectives:**

- To study socio economic features of sampled borrowers.
- To assess the cost of variable inputs needs for production of major rabi crops.
- To examine the extent of finance lent by the borrowers and utilization pattern of loans among the different inputs.
- To assess the impact of credit on production of major rabi crops.
- Identify the problems faced by the farmers and suggest the measures to overcome the problems.

**Limitations of study:**

There are certain limitations in study due to that:

1. The study covers only limited borrowers that were borrowed credit for crop production purpose only. So that study considers economic aspects of financing for crops production by Bank of India only.
2. The objectives of the study are simple and may provide a basis to assess the credit need and its utilization pattern among the different inputs of crop production.
3. The limitation of time available to the investigator is very short and the problems of accessibility of the total borrowers is a complex work, hence, in study it is necessary to select only limited borrowers, accordingly who have borrowed loans from Bank of India.
4. The data has been collected on the memory of the borrowers and only for limited time. Hence, it can not be generalized in general terms.

**Significance of the Study:**

It is not necessary to emphasize that farmers are the backbone of India agricultural economy. As we know that the economic status of the farmers is not very satisfactory, hence, finance is one of the most important aspects for adoption of improved agricultural production technology. The utilization of yield attributing inputs is the factor for increasing agricultural output and also to improve the socio economic condition of farmers at all the extent. For a long period, it has been assumed that Indian farmers born with debt and die with debt. The debt gets transferred from generation to generation. The informal loans availed from the money lender, commission agents and relative, who are charging high rate of interest as a result of this barrowers were unable to pay back the loan for long time. In some time it was the condition instead of that they were paid only interest and principal amount which would continue to accelerate whatever additional income derived by farmers was used to pay only interest. Hence, farmers were unable to invest on their socio-economic development. Apart from this, the informal sector lending loan without considering the priority to productive or non-productive proposes.

To avoid the problems of non institutional credit source, expansion of institutional credit was found to be inadequate and direct policy intervention by the government in the field of institutional credit was envisaged. This made the central government to issue special directives to give priority to farming sector. These policy interventions had an

impact and the increased the share of institutional credit to the farmers. Due to scarcity of crop loan finance by institutional bank during the green revolution period, the farmers found to enable for adoption of recommended crop production technology at their farm level. Some time there was found to inadequacy of fund for utilization of proper recommended yield attributing inputs to get optimum profit. In this regard, several studies have been conducted at different geographical areas in the state in connection with the level of inputs needs in crop production technology, extent of finance lent by the borrowers for crops production, utilization pattern of loans obtained by the farmers in different inputs and contribution made by the institutional credit in the development of economic social conditions of the borrowers. In view of this, there is a need for this kind of research at gross root level that would be very useful for the changing the socio-economic status of the farmers in the study area.

# CHAPTER - II

# REVIEW OF LITERATURE

After the problem has been decided for study, it becomes necessary to look into the previous work done on the subject or topic through the review of literature. Review of literature helps to avoid duplication of work already done earlier. Review of literature also provides useful cause and effect relationship and helpful suggestions for the significant investigation. It is said that review of literature is the guide line of present work which have already been done. So, review of literature is helpful in interpretation of results obtained during the research on the basis of the objectives of the study. Hence, in this chapter an attempt has been made to assimilate the previous works within the framework of present study.

Gadgil (1988) examined the empirical relationship between credit and agricultural development in India. Supply of credit in Punjab and Bihar, two states of India was not found to be lagging behind the growth in demand for credit. So, the basic problem is not one of expansion in amount of credit. Since agricultural development is basically related to the adoption of improved technology, it is clear that credit without a link with improved technology is not likely to be productive.

Prasad and Naidu (1988) analyzed the adequacy of cooperative credit as availability of short-term credit reflects on the quantum of output. An uncovered gap of 24 to 36 per cent was found to be existing between bulk-line costs (costs of inputs and imputed value of family labour) and scales of finance fixed by the institutions for various crops, former being on the higher side. The proportion of kind component in the crop loans was not only disproportionate but also inadequate.

Khusro (1989) reviewed the agricultural credit system in India and found it to be sound and well suited. The role of financial institutions in the growth of agricultural credit was highlighted and more autonomy was favored for these institutions for raising the flow of agricultural credit and thus agricultural production.

Anandkumar (1991) concluded that in the interest of rural poor, bankers and other policy makers must acknowledge the fact that if poor were adequately financed for productive purposes, a majority of them might cross the poverty line. Moreover, such a step would definitely reduce the private money lenders on rural areas.

He cautioned that if the banks continued to finance big farmers, it would not only increase their surplus but also help them to strengthen their economic hold in rural communities.

Suresh (1991) analyzed the impact of term loan on beneficiaries of ten lending Primary Agricultural Credit Societies (PACs) in Trichur district of Kerala. He opined that cooperative credit had no significant impact on income. The major reason for such low impact was inadequate contribution of credit in the total expenditure.

Rao and Babu (1993) studied bank finances to agriculture and allied activities and found out that low rate of interest, easy and convenient installments for repayment, possibility of getting subsidies from government agencies were the main reasons for growth in institutional loans.

Varde Varsha (1993) brought out the remarkable growth in institutional agricultural credit both in terms of disbursements and outstanding over the years, but pointed out that agricultural institutions have become weak. It was stressed that credit should not expand quantitatively, but must become a commercial and economic proposition.

Desai (1994) considered institutional credit as important source of growth in second half of 1970's and 1980's. However, contribution of self-financed investments to agricultural growth was found to be more than credit. Positive response of institutional lenders, farmers, borrowers and input agencies consistent with technological change and resource endowments were responsible for agricultural development in the country.

Gadgil (1994) discussed the likely impact of financial sector reforms on the formal agricultural credit system in India. Movements of interest rates on agricultural loan over the period 1980-94 are studied. It was observed that the new rates on crop loans to farmers have not been high enough to enable Co-operative and Regional rural banks (RRBs) to meet the financial transaction and risk costs, necessitating continued subsidization by the National Bank for Agriculture and Rural Development (NABARD) / Reserve Bank of India. The researcher then discussed the restructuring of RRBs and rural branches of Commercial banks and the future role of NABARD under the situation of total deregulation of interest rates.

Kaushik (1995) studied the impact of credit of Regional Rural Banks (RRB) on

income generation and poverty alleviation of rural beneficiaries. The educational and skill status of more than 50 per cent of sample beneficiaries was found to be poor, the poverty alleviation had been found to be highest in the case of small businesses followed by animal husbandry, rural industry and agriculture.

Mishra (1995) has observed that modernization of agriculture necessitated huge capital investment. Hence, farm credit becomes *sine qua non* of agricultural development in the country. Reports of Frederic Nicholson and Edward Law Committee on Co-operative legislation confirmed and reiterated the need for the state to actively promote co-operatives. A decade later, a Maclagan Committee (1915) advocated that “there should be one Co-operative for every village and every village should be covered by a Co-operative”. In 1928, Royal commission observed that “if co-operation fails, there will fail the best hope of rural India”.

Reddy and Reddy (1997) made a case study of borrowers knowledge on farm credit and follow up action of bank officials in Khajipet Mandalam in Cuddaph district of Andhra Pradesh. The result revealed that 54 per cent of borrowers opined that scale of finance provided by bank was sufficient but all the beneficiaries wanted technical guidance. 60 per cent of the borrowers were of the opinion that loan sanctioning procedure was easy and 82 per cent of the borrowers were of the opinion that interest charged was reasonable. The study revealed that bank personnel have visited short term loan beneficiaries once during the crop season. It was suggested that timely advance should be provided and bank authorities should change the procedure to suit local conditions and also for providing technical guidance to borrowers.

Shergill (1997) found that out of total debt of farmers, 54.72 per cent is short-term annually recurring type crop loans,25.39 per cent is amount of long-term productive loans and 7.12 per cent is

mortgage debt in Punjab.

Moorti *et al.* (1998) conducted a study in Himachal Pradesh. It was found that maximum loans were advanced for purchase of seeds followed by milch animals and bullocks. However, overdues were found to be increasing at a growth rate of 16.70 per cent due to slackness on the part of management of societies.

Benson (2000) linked the availability of credit with rural poverty. The average

income from the loan activity was found to be increasing at 76.2 per cent in a year. The net income of borrower also showed an increase of 9.4 per cent. Mean income of the borrower from loan activity was found to have increased during the post-loan period.

Kunjukunju (2000) assessed the impact of bank loans on the income of the 495 respondents in Kerala. A multi-stage sampling technique was designed to draw sample borrowers of bank. Primary data were collected from sample respondents through personal interview with the help of a schedule specifically designed for the purpose. The impact of loan on income, region-wise distribution of the mean income of the beneficiaries in the pre-loan and post-loan period was analyzed. It was concluded that the borrowers who obtained credit have improved their income in the post-loan period compared to that in the pre-loan period.

Bera and Santra (2001) found a decline in percentage of borrowers with the increase in the size of ownership holdings. Defaulting was less in lower caste groups as compared to higher castes. Also, defaulters as a percentage of borrowers of the lowest credit class are found to be highest, whereas the intensity of default is observed to be lowest in the highest loan class of borrower farmers. Defaulting was found to be less when loan is taken for cash crops than when it is taken for subsistence crop. However, no defined relationship was found between the scale of finance and intensity of default.

Sidhu *et al.* (2001) found that average productivity per hectare on credit taking farms was higher by 29 per cent in case of small farms, 47.7 per cent in semi-medium farms, 26 per cent on medium farms and 19 per cent in case of large farms due to higher use of production inputs.

Singh and Rawat (2001) found that in Deoria district farmers were using higher inputs in the expectation of promising returns. The value of MVR of seed, manure and fertilizers and irrigation were significantly higher than one in borrower farms thereby suggesting a positive impact of credit on productivity through higher inputs-use.

Singh *et al.* (2001) reported that the success of credit oriented development projects depends on soundness of credit structure. The study of tribal farmers was based in Kanke block of Ranchi district. 92 per cent of tribal farmers were found to be linked with rural credit agencies. Commercial banks were the prominent institutional sources and in non-institutional sources relatives / friends were dominant. 85 per cent of

credit share was of institutional sources, that too of term loans i.e. irrigation loan, milk production etc., while non-agriculture loans were mainly for health and education and provided by non-institutional sources.

Abate *et al.* (2002) studied the magnitude of institutional credit flow to agriculture sector in Karnataka and indicated significant growth in quantum of agricultural advances in the state despite the limited expansion of credit infrastructure.

Bhukta (2003) revealed the financial sector reforms since 1969. The share of agriculture in the total bank credit was found to be declining after 1990s. In post reform era public investment in agriculture also showed a steadily declining trend. Thus agricultural production has also started declining from 3.4 per cent to 2.2 per cent in the post reform period. This will have an adverse impact on income, employment, price level and similar macro-economic variables.

Mohanty and Haque (2003) studied the availability of institutional credit in the country. It was found that per hectare credit was higher on small and marginal farms, the medium and large farms had more credit per borrower. Also the share of institutional credit in total credit has increased in all states overtime except in Andhra Pradesh, Orissa and Rajasthan. Here, share of non-institutional sources varied from 42 to 66 per cent of total credit. Overall, highest percentage was of bank credit (33.7) followed by cooperative credit (21.6), professional moneylenders (10.5) and relatives, friends (8.7).

Rao (2003) found that about 60 per cent of the credit requirements of farmers are now met by the institutional sources and only 40 per cent by informal sources like money lenders etc. Among the formal credit institutions, the commercial banks have emerged 23 as a major player (50%) followed by cooperatives (43%) and RRBs (7%) in agricultural credit.

Singh *et al.* (2003-04) have studied the utilization of crop loans in Chhattisgarh state. The non-defaulter group was found to be having twice as better worth of assets than defaulters. Total income of non-defaulters was found to be higher by 83 per cent than that of defaulters.

Singh and Nasir (2003) studied that agricultural credit increased in Bihar at an annual rate of 2.58 per cent at constant prices. Commercial banks and cooperatives were the main providers of agricultural credit. The credit flow was found to be adequate.

Agricultural development and functional rural institutions had positive influence on the credit flow.

Ganai *et al.* (2004) from a survey of three districts in Kashmir valley noticed that either the cost of credit was too high or there were difficult procedures for obtaining the credit in the case of livestock.

Kanthimatinathan (2004) opined that without cheap credit it is not possible for small and marginal farmers to carry out their activities. Co-operative credit is the supervised credit subject to the financial and monetary discipline, which are the essentials of sound banking and vital to the health of the economy of the country as a whole. The Co-operative credit institutions occupy a place of pride in the overall credit delivery system for their role in agricultural and rural development. Initially they were concerned with the short-term loans only and later extended their services to investment loans also.

Ruston Ali Ahmed (2004) study conducted on impact of financing by Rajshahi Krishi Unnayan Bank on agricultural development of Bangladesh has revealed that variations in farm and off farm production, income from agro-based trade, intensity of cropping, amount of cultivated area of uncommon crops, total and per capita consumption expenditure of the borrowers are found statistically significant higher than the non-borrowers. On the other hand, insignificant relations of working capital investment for farming and use of inputs with demand of bank credit are observed in case of small and large farms, but those are found significant in case of medium farmers credit delivery procedures and services of the sample bank do not satisfy the expectations of the borrowers. The study embodies that, the major problems associated with the bank financing are diversion of the borrowed fund, poor recovery of loans and high default rate, which are attributed to both the borrowers and the bankers.

Shetty (2004) suggested that in order to increase the productivity of agriculture, better institutional credit delivery mechanisms were to be conceptualized, planned and executed urgently.

Sivaloganathan (2004) observed that adequate credit facilities were highly essential for agricultural growth because there was a vast gap in the vital sectors of the economy. The multi-agency approach has to be initiated as it facilitates access to

resources and service. More over credit for agriculture serves as an important instrument for stimulating increase in output, income and employment.

Thorat (2005) stressed on revamping of financial institutions to improve the credit delivery system in terms of timeliness, resource mobilization, stress on small and marginal farmers etc.

Gill and Singh (2006) had found that majority of borrowing cultivators utilized the credit for productive purposes. Even 60 per cent of informal borrowings had also been utilized for productive purposes like repair, fuel, hiring of machinery, tubewells etc. Commission agents are thriving as they interlink sale of crop with credit availability.

Mohan (2006) reviewed status and issues of agricultural credit in India and concluded that though overall flow of agricultural credit in India had increased over the years there were several gaps in the system like inadequate provision of the credit to small and marginal farmers, paucity of medium and long term lending and limited deposit mobilization and heavy dependence on borrowed funds by major agricultural credit borrowers.

Rakesh (2006) recorded the extension in rural credit in India along with flaws like legal framework and outdated tenancy laws which hamper the flow of credit. A region specific package approach with market participants and private sector suppliers was favoured.

Satish (2006) has highlighted the increase in institutional agricultural credit in Punjab. Though, share of commercial banks has increased over the years, but these have not displaced the cooperatives especially in short-term loans. Despite this a strong presence of non-institutional sources was reported by the study. Seventy-eight per cent of cooperative borrowers and 75 per cent of borrowers of commercial banks were also the borrowers of artiyas (commission agents). However, no direct causal relationship was found between institutional credit, indebtedness and suicides in rural Punjab.

Sidhu and Gill (2006) have discussed the issues related to agricultural credit and Indebtedness in India. The accessibility to institutional credit was found to be higher in the southern region and very poor in the north-eastern region. Also, it was highly related to level of agricultural development. The increase in institutional credit was highest in the northern region while lowest in the central region.

Dashawant (2007) reported that in the agriculture development, the dimensions like annual income (48.70% before and 58.30% after), asset acquisition (72.30% before and 22.30% after), consumption pattern (41.70% before and 13.90% after), cropping pattern (62.50% before and 64.60% after), employment generation (50.00% before and 55.60% after) and land productivity for groundnut (61.20% before and 51.40% after) and for cotton (61.20% before and 51.40% after) had positive and significant impact on the agriculture development of beneficiaries.

Mihir *et al.* (2007) reviewed the history of credit in 20th century in India and concluded that massive increase in natural resource generation was required, reforms of public sector banking aimed at strengthening the capacity to deliver high quantity credit was necessary. He recommended for strict vigilance including maximum permissible interest rate bands, strengthening of SHG-bank linkage programme and making PACs truly democratic member driven, professional organization based on concept of mutuality.

Kumar *et al.* (2007) have analyzed the performance of rural credit in India. The access and distribution of rural credit was found to be skewed in favour of better endowed regions. The study revealed that choice of a credit outlet was affected by a number of socio-demographic factors. The effect of education has indicated the need for capacity building of borrowers. Borrowers needed to be trained in procedural formalities, to increase their access to institutional credit. Reforms need to be initiated in case of margin money requirements and collaterals.

Kumar *et al*. (2007) reported that Government has taken several measures from time to time to increase the flow of institutional credit to the agriculture sector of the economy. Concerted efforts on the part of state have led to the expansion of the institutional network comprised of commercial banks, regional rural banks and cooperatives both in terms of location and function. Inspite of all these initiates, the moneylenders continue to play a dominating role in the delivery of credit to rural households and the flow of credit to the agricultural sector remains a matter of concern. After a significant role in the share of institutional finance, the trend seems to have reversed after 1991. The flow of institutional credit was not able to fully contain the growth of non-institutional financing which had shown a growth rate of 14 per cent per

ha and 10 per cent on per capita basis annually between 1991-92 and 2002-03.

Singh and Shakya (2007) concluded that the major problem faced by borrower farmers in the study area was not actual requirement amount of loan availed, on an average credit gap per farms about 26 per cent. The credit gap in case of marginal and small farms size groups came to 28.47 and 24.35 per cent respectively.

Satyasai (2008) examined a few structural constraints that hamper the credit delivery and has discussed some of the measures taken to improve the situation. The public policy on rural credit in India has been focused on institutionalization as a means of providing cheaper credit to farmers. As a result, the share of private moneylenders has decreased substantially from 93 per cent in early-1950s to 31 per cent by 1991. Disturbingly enough, they have emerged as an important source, more so for the resource-poor with a share of 39 per cent by 2002. The multi agency system onset for giving a wide choice to farmers has turned out to be ineffective due to deficiencies of design and architecture. Also, ailing cooperatives, backtracked RRBs and commercial banks with waning interest in rural credit have contributed to the ineffectiveness of the multi agency system, hampering the credit delivery. Several measures have been taken to revitalize the system from time to time. Cooperatives are being given package assistance for revival following the Vaidyanathan Committee Report. RRBs have been amalgamated and are being given capital to cleanse up their balance sheets.

Thamilsaran (2009) studied the impact of institutional credit on employment, income, occupation and assets of the borrowers. He found that the employment generation increased by 44.61 per cent over a pre loan period, average income increased by Rs.577.84 per house. He recommended that there should be a mechanism to monitor proper utilization of credit in order to increase employment generation. Also retail trade in consumer durables might be encouraged in rural areas to improve their living conditions.

Kaur (2010) reported that the cost of variable inputs has been found to be increasing with the increase in size of the farm. This is in consonance with the economic theory that cost and especially variable cost is a function of level of output. Study reported that average farm expenditure is found to be maximum in zone-III at Rs. 123227 per farm, followed by zone-II at Rs. 94312 per farm and zone-I with Rs. 91655

per farm. In zone-I, average per farm expenditure is maximum on hiring-in of casual labour Rs. 28593 per farm i.e. 31.20 per cent of total cost followed by expenditure on fertilizers and FYM at Rs. 18790 per farm which constitutes 20.50 per cent of total cost and seed expenditure at Rs. 11396 per farm i.e. 12.43 per cent of total cost. Category wise in zone-I, maximum expenditure on farms is on hired labour component except in case of marginal farms, where it is fertilizers and FYM component and hiring-in of machinery. In all categories, fertilizers and FYM cost component is at second highest. Expenditure on seed is at third place in semi-medium, medium and large farms, but in small farms it is at fourth place with expenditure on machinery hiring at third place. Expenditure on hiring-in machinery is found to be decreasing as the size of farm is increasing, as higher categories are owning the machinery, so hiring-in component is less prevalent.

Mahavir (2010) reported that in jowar crop, seed was used below optimum level but the fertilizers and manures were used above optimum level for both KCC and non KCC category. For the soybean crop, seeds and labours were underutilized where as irrigation and fertilizers were over-utilized for KCC category but for the non KCC category, seeds and fertilizers were underutilized and irrigation and labour were over-utilized. As far as the all farmers category under KCC was concerned (in paddy cultivation) only labour was used below optimum, all other resources were used above optimum level. On the other hand, in non KCC fertilizers and manures were used at optimum level. The farmers cultivating potato used seed and irrigation at below optimum level but fertilizers and labours were used in excess in KCC category. The non KCC farmers used seed and labours sub optimally but fertilizers and manures and irrigation were used excessively. Lastly for capital intensive sugarcane, the KCC farmers used the seed at below optimum level and labours, irrigation and fertilizers and manures were used beyond the optimum level. All farmers category of non KCC farmers used seed, fertilizers and manures and irrigation below optimum level only labour was used at above optimum level.

Devi and Govt (2012) reported that as agriculture forms the backbone of the Indian economy, The Government of India recognized the importance of free flow of credit to agriculture and allied sectors. Agricultural development, credit is an important

input which ensures adequate working capital as well as infrastructural development. Deccan Ryots Commission (1875) and Famine Commission (1880) concluded in their reports that majority of land holdings were deeply and inextricably in debt. The Central Banking Enquiry Committee (1929) observed that institutional credit provided to the agriculturists covered only a smaller portion. Black (1955) has emphasized the importance of credit and observed that credit provision was the first and foremost input to be increased, which enabled the farmers to buy more labour saving equipment, better seeds and fertilizers etc. Ford Foundation (1959) had recommended adequate supply of farm credit in order to increase the farm productivity.

Mangal (2013) reported that in respect of agriculture sector, the number of borrowers and their purposes for borrowing the amount on different purpose has also calculated in present study. The data revealed that by and large, on an average per year for tractor purpose the loan was distributed as highest (63.23%) followed by tubewell purpose (13.89%), pumpset purpose (12.25%), cultivator and thresher purpose (4.70%), dairy purpose (1.48%) and other agriculture purpose (0.24%) respectively. The amount borrowed for the purpose of tractor seems to be highest in every year of the decade i.e. on an average Rs.380.83 lakhs per year. The investment in tubewell and pumpset, these to purposes seems to be very crucial in view of increasing the irrigation facilities which ultimately resulted into development agriculture production; the amount borrowed for these purposes seems to be next important i.e. on an average Rs.83.68 lakhs and 73.77 lakhs per year. For the purpose of cultivator and thresher borrowed a sizeable amount of loan i.e. Rs.28.31 lakhs per year. It was further observed that the farmers in study area followed a mixed farming system, hence, for dairy purpose borrowed an amount of Rs.8.93 lakhs per year for their dairy enterprise maintenance as well as development followed by Rs.1.46 lakhs for other agricultural uses.

Maurya (2015) in his study "Role of Co-Operative Bank in Agriculture: A case study of District Mohali, Punjab" reported that borrowings of cultivators from institutional agencies have increased in the early seventies in the country, and so also the supply of institutional credit for agriculture.

# CHAPTER - III

# MATERIAL AND METHODS

Every research carried out on scientific line should have a research design to be applied as per the stated objectives of study. For this, in present study a design has been drawn for classification of research method adopted. The present study is concern with farm credit which have financial and social problems often without being conscious of the fact that while doing so researcher are engaged in scientific research is thus, nothing but a scientific method which, obviously, means a systematic approach to a problem under consideration. Each time researcher do research and become wiser, our behaviour changes. The distortion of observed facts because of our biases makes us difficult to be truly scientific. Once researcher follows the scientific method they have to discard their biases.

A scientific research is a systematic method of discovering new facts or verifying old facts through sequences, interrelationship, causal application and through the natural laws which cover them. When the research is in social science it involves the analysis of human behaviour or trend of social phenomenon to formulate broad principles of scientific concepts. The research than becomes a careful or diligent scientific or scholarly enquiry and a special study or experimental aimed at the discovery, interpretation or application of new facts to formulate a theory or law.

In the process of research a basic concept regarding theory and its application in present investigation is must for perfect and accurate finding of cause and effect relationship, therefore, it is important to follow the methods prescribed for empirical research. Since the empirical research has the immediate social usefulness one must take the method follow-up by work of others and must learn through the trial and error method. Empirical research is based on inductive logic so in empirical research factual and material evidences and census data are used to develop the descriptions, measurements comparison and test the hypothesized relationship that are themselves part of speculative side of scientific work. Research methodology also involves to built ability to raise significant questions and to formulate fruitful hypotheses which demands appropriate technical methods which are helpful in selection of sample, method of enquiry and statistical tools used to conserves knowledge and the dynamic approaches

which are interrelated with objectives through the process of analysis and verification for which scientific reasoning and logic is employed thus achieving rationality in the conclusion drawn. The research methodology and design are the main feet for waking, thus making the research move ahead. This chapter involves various steps applied to the study of the problem. The material and methods are described in the following sub heads:

**1.** The study area.

**2.** Sampling procedure.

**3.** Nature and collection of data.

**4.** Method of enquiry.

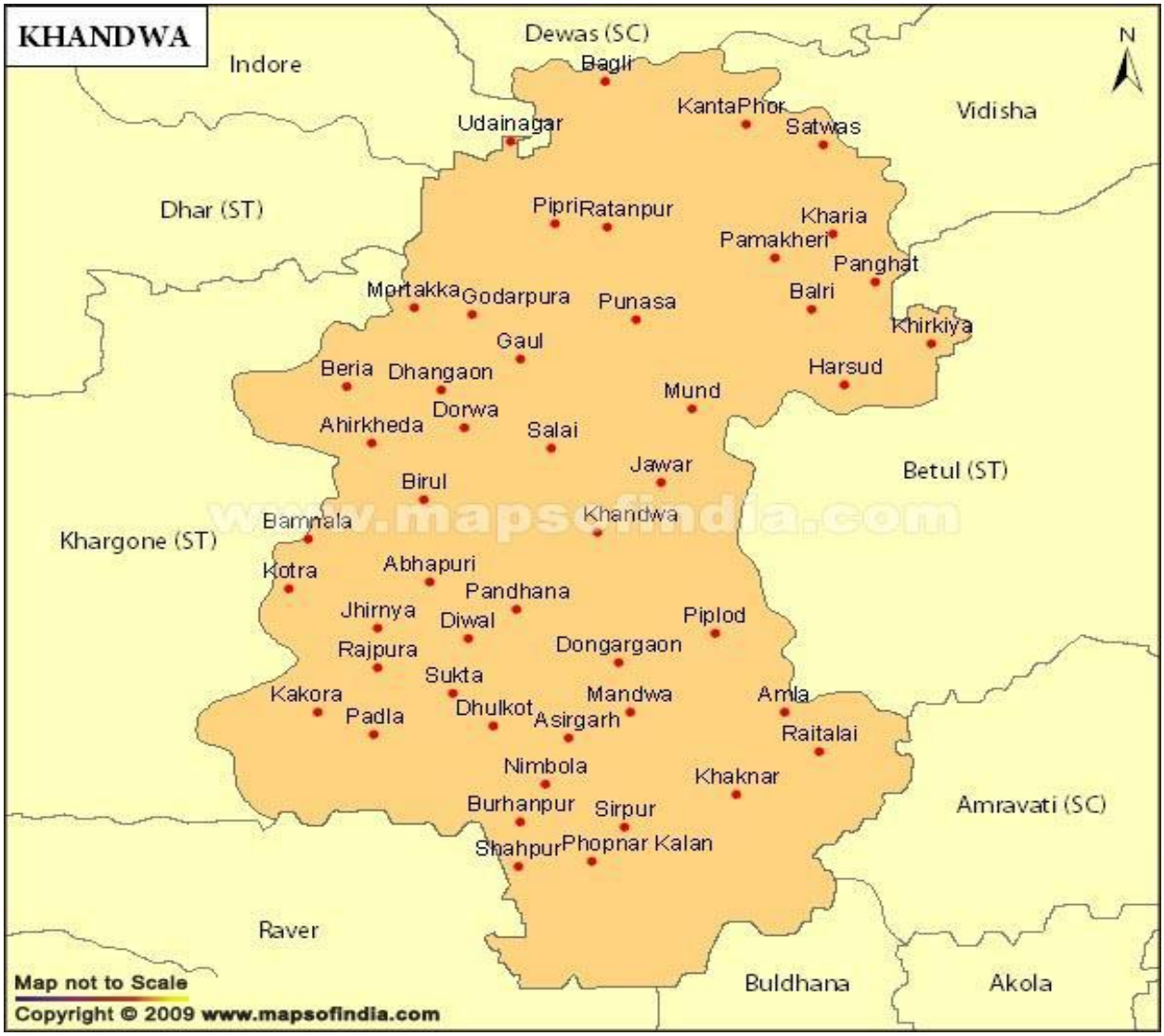
**5.** Analytical procedure.

**3.1 The study area:-**

The study is conducted in Khandwa district, hence, an attempt has been made to discuss the background information of study area. This is essential so that researchers can correlate the finding with the prevailing conditions under study because facts and findings of any problem is direct correlated with existing environment.

**Location:**

The district Khandwa is under the revenue division of Indore. This is also called East-Nimar and situated in the South-West part of Madhya Pradesh. The district boundaries run with boundaries of 4 districts of Madhya Pradesh and some part of Maharastra State. The boundaries of Madhya Pradesh's districts are Burhanpur, Betul, Harda, Dewas and Khargone respectively. The Khandwa district comprises seven blocks (Khandwa, Pandhana, Harsud, Chhaegaon Makhan,Punasa, Baladi, Khalwa.




The climate of the district is characterized by hot summer (April, May, June) and cold winter (December, January, February). The average annual rainfall in the district was 950mm.

The soil of the district is medium black and clay with variable depth. The soil of the district content low in nitrogen and low to medium phosphorus and limiting Muram layer is observed in deeper layer of the soils. These poor soils caused low productivity.

Vegetable, soybean jowar are the major Kharif crops and wheat and gram are the major rabi crops growing in the district. The vegetable is the major horticultural crop found in the district which is the main economic source of the farmers and cultivated in kharif and rabi season.

**3.2 Sampling procedure:**

In order to achieve the objectives of the study, multi stage random sample technique was used to draw the sample. In the sampling process ultimately borrowers was selected for data collection.

**Selection of Block and Bank:**

There are 7 blocks lies in district Khandwa. Among these blocks, Punasa block was selected randomly for convenience in data collection of the researcher. In selected block the Bank of India was the main agriculture credit supplier institutions, selected for the present study.

**Selection of villages:**

A list of villages was collected from Bank of India where the bank has supplied the credit for agricultural production. Among these villages 5 villages has been selected randomly for present study.

**Selection of borrowers:**

A list of borrowed farmers was prepared with the help of Bank personnel in the selected villages. Among these borrowers the farmers who lent the credit for fulfillment of variable inputs for wheat and gram production was separated. Among these borrowers, 50 borrowers were selected randomly for present study.

**3.3 Nature and collection of data:**

Depending upon the objectives of the study primary data was used. The primary data was collected from selected borrowers / respondents using pre-tested questionnaire schedule. Each selected respondents was approached personally for recording relevant data. The structural schedule was prepared with consultation to the members of advisory committee, qualified personnel and literature available regarding credit aspect from bank.

**Period of the study:**

The primary data was collected in the Agricultural year 2015-16 from borrowers through survey method.

**3.4 Method of enquiry:**

Survey method of enquiry was used for the purpose of study. It is assumed that selected number of borrower farmers would be provide adequate information for the objective set-fourth for present study.

**3.5 Analytical procedure:-**

To conduct an empirical study, a systematic approach was adopted to ensure the meaningfulness and accuracy. Hence, the collected data were scrutinized for adequacy and reliability. The data were compiled into a tabular form and analyzed in order to find out the result as per the stated objectives.

The analysis of the data was done on per farm basis. Simple as well as other Statistical and Economical Techniques were employed to analyze the collected data. Simple statistical tools like frequencies, percentage, mean and average were use to represent the data in the tabular form.

**i) Mean:**

Mean was obtained by dividing the sum of the scores by the total number of cases involved. The formula for determining mean is

$$\text{Mean} = \frac{\sum_{i=1}^{n} X_i}{n} \quad [i = 1,2,3,.....n]$$

Where,

$\bar{x}$ = mean

$\Sigma X_i$ = sum of scores

n = no. of cases

**ii) Percentage:**

The term 'percentage' means a fraction whose denomination is 100 and the numeration of the fraction is called percentage. For calculating percentage, frequency was multiplied by 100 and divided by total beneficiaries' farmers.

$$P = \frac{X}{N} X\ 100$$

Where,

P = Percentage

X = Frequency of beneficiaries' farmers

N = Total number of beneficiaries' farmers

**Cost of variable inputs:**

In production process of main rabi crops following variable costs were considered.

- Value of human, bullock and machinery labour,
- Value of owned and purchased seed,
- Value of fertilizers, manures and chemical,
- Value of insecticide and pesticides,
- Expenditure on irrigation,
- Miscellaneous expenses.

**Effect of credit on production:**

A regression of output (gross income) on credit for various inputs was measured to find out the effect of credit on production. The regression analysis was used because a joint dependence between the observed levels of credit used for different variables (labour, seed, fertilizer, plant protection measure and irrigation) with aggregate output (gross income).

Hence, in present study regression analysis was carried out to examine the effect of credit for different variables inputs on output. The functional form used was as under:

$$Y= ax_1^{b1}. x_2^{b2}. x_3^{b3} \ldots\ldots\ldots X_k^{bk}$$

It is converted in to logarithmic form, so that it can be solved by the least square method. The logarithmic form of the function is express as under:

$$\text{Log } y = \log a + b_1 \log x_1 + b_2 \log x_2 \ldots\ldots\ldots + b_k \log x_k.$$

Where:

y = Dependent variable (gross income [Rs.])

a = Constant or intercept value

$b_1$ to $b_k$ = are regression coefficients of $X_1$ to $X_k$ variables

$X_1$ to $X_k$ = are variables in Rs.

$X_1$= Lent money used for labour purpose

$X_2$= Lent money used for seed purpose

$X_3$= Lent money used for fertilizer purpose

$X_4$= Lent money used for plant protection purpose

$X_5$= Lent money used for irrigation purpose

CHAPTER - IV

# RESULT AND DISCUSSIONS

The chapter of result and discussions are the most important one which represent the findings of research problem and their description in detail as per the stated objectives. It can be said that in this chapter findings of the study and their logical interpretations have been presented according to the objectives of the study. The data collected for the study have been tabulated, analyzed and interpreted to obtained result and described in this chapter for easy understanding for further development in respect to constraints prevailing in the area. The tabulation and analysis have been done in the light of the stated objectives. As per the objectives of study, the result and their logical interpretation has been presented in following sub heads.

- Socio economic features of sampled borrowers.
- Cost of variable inputs needs for production of major rabi crops.
- Extent of finance lent by the borrowers.
- Utilization pattern of loans among the different inputs.
- Effect of credit on production of major rabi crops.
- Problems faced by the borrowers.
- Suggestions to overcome the problems.

## 4.1 Socio economic features of sampled borrowers:

The agriculture scenario of the Madhya Pradesh has witnessed fast transformation from the introduction and adoption of improved agricultural production technology. In the process of growth, though the scale neutral, new strategy has paid rich dividends to the farming community of the state, but has become more capital intensive. Thus dependence on agricultural credit has increased. The socio-economic features of sampled borrowers like personal characteristics of borrowers and agrarian structure can have some bearing on use of inputs and in turn economic surplus/deficit, investment pattern, amount borrowed, sources of borrowing, utilization of credit etc. The utilization / misutilization of loans depend on attributes of borrowers. A conscious borrower behaves differently from those of less conscious borrowers. The study of socio-economic characteristics of borrowers brings out such attributes of the sampled

households. The detail distribution of selected borrowers as per their different socio economic characteristics has been presented in following section.

**Personal characteristics:**

Since improved farming is a capital and labour intensive avocation and the progress of farm can be achieved with efficient and quick decisions by the borrowers in respect of their capital utilization. The efficient decision making and their implementation are depends upon the personnel characters of borrowers i.e. age and education. Therefore, age and level of education determined the well being of farm households. On the other hand, educational status of borrowers plays a catalytic role in the scientific management of farms, adoption of recommended technologies and efficient marketing of farm products. It further helps in enhancing skills and general standard of awareness in the family. In personal characteristics of borrowers age and level of education only are determined. The age and level of education - wise distribution of respondents has been presented in table 4.1.

**Table: 4.1 Distribution of borrowers as per their age and level of education.**

| S.No. | Particular | Frequency (n=50) |
|---|---|---|
| 1. | Average age of borrowers (years) | 41 |
| a. | Minimum age of borrowers (years) | 22 |
| b. | Maximum age of borrowers (years) | 68 |
| 2. | Education of borrowers | |
| a. | Illiterate | 8 |
| b. | Formal | 4 (9.52) |
| c. | Primary | 14 (33.33) |
| d. | Middle | 9 (21.43) |
| e. | H.S.S.C | 8 (19.05) |
| f. | College | 7 (16.67) |
| 3. | Percentage literate to total | 84.00 |
| 4. | Percentage illiterate to total | 16.00 |

**Figure in parentheses shows percentage to total literate**

Study revealed that average age of majority of the borrowers found to be about 41 years. The study also revealed that the age of borrowers range from minimum 22 years and maximum 68 years. Study implies that more youths younger farmers were involved in crop farming in the study area.

Regarding literacy position, the illiterate borrowers found to be on an average 16.00 per cent of total borrowers. The result showed that the majority of the borrowers 84.00 per cent were literate. Among the literacy position, it was found that maximum borrowers were literate upto primary education (33.33%) followed by middle education

(21.43%), H.S.S.C education (19.05%), college level (16.67%) and formal education (9.52%) respectively.

The data regarding education of borrowers determined that there are higher numbers of borrowers found to educate. This leads to know that education might be affect the adoption of improved technology and consequently motivated for credit. Education imparts changes in human behaviour through the acquisition and assimilation of information. An educated individual is likely to be more receptive to the modern facts and ideas. Educated individuals get mental strength in deciding on a matter related to problem solving in their every day life. Thus, the farming community of the study area may well be considered as a suitable ground for the introduction and execution of change programmes whatever needed in respect of credit and its utilization. In nutshell it can be said that the high level of literacy was likely to afford respondents better managerial skills in handling their businesses.

**Family structure and size:**

The family structure and size are important indicators determining the social and economic well being of the families living in the study area. Thus, a detailed study on family size and structure on sample households has been carried out and result has been displayed in table 4.2.

**Table: 4.2 Distribution of borrowers as per their family structure.**

| S.No. | Particular | Frequency (n=50) |
|---|---|---|
| 1. | Male | 1.76 |
| 2. | Female | 1.64 |
| 3. | Children | 3.44 |
| 4. | Strength of family | 6.84 |
| 5. | Male worker | 1.36 |
| 6. | Female worker | 1.32 |
| 7. | Total worker | 2.68 |
| 8. | Percentage male worker to total worker | 50.75 |
| 9. | Percentage female worker to total worker | 49.25 |

**Average size of family:**

Size of family is considered to be a factor influencing economic status of family. Family is one unit, which includes the total number of members (male, female and children). Data showed that the average sizes of family per household were found to be 6.84 persons in the family. It was included as 1.76 male, 1.64 female and 3.44 children respectively. The household size is the number of persons belonging to one household

and study depicted there was medium size of household family found in study area. The medium household size among borrowers may be a result of their nominal family labour in a family, so, need for hired labour was necessary to expanded farming operations.

**Work force:**

The distribution of borrowers (male and female) as per definition of work force has been presented in table 4.2. The data reveled that among the total work force in a family, 50.75 per cent workers was male and 49.25 per cent workers was female (adult) have been found as the working force respectively. These economically active male and female workers were performed or pursued so many works related with agriculture, dairy husbandry and other works for earning the family income. It is well known fact that the farming practices needs higher involvement of human activities when adopted the improvement production practices. On the other hand, the improve management practices is a result of credit. So it might be said that the credit utilization produces higher employment to the work force in a family.

**Structure of farm resources**:

Agriculture by and large is a land-based avocation and, as such, land resources are the basic requirement for farming. The size of holding that a farm household owns shows the basic strength of the farming family and its utilization reveals how efficiently these natural and productive resources are used by the borrowers. Borrowers' economy is depending upon size of operational land holding, as operational holding of the farmer is the basic unit of study. Hence, to known the opportunities of utilization of productive resources and other factors that effect the crops production should describe prior to decision making process. Borrowers own resource comprise mainly of land, family labour, machinery and the other available assets and inputs. The distribution of these resources and their utilization in conjunction with the hired resources has been studied as follows:

**Land utilization and irrigation pattern:**

Land use is highly a dynamic process. Land resources constitute the fundamental base for all human activities. It is the most important natural resource of a country like India where agricultural sector is relatively more prominent than the

manufacturing sector. The way and the extent to which the land is utilized set the pace of a country's economic development. Land is important not only for producing foodstuffs, cereals, pulses and other crops for consumption but also for generating surpluses to meet increasing demands created by rising population and developing industrial sector, for laying down the transport network, communication, construction of dwellings and public institution *etc.*

Land use pattern is a process, which assigns each tract of land in an area to its proper class in a system of classes. The classes in the system are defined in terms of the qualities or characteristics with which the classification is concerned. The land use pattern of a country at any particular time is determined by the physical, economic and institutional framework taken together. In other words the existing land use pattern has been evolved as the result of the action and interaction of various factors such as the physical characteristics of land, the institutional framework, the structure of other resources such as capital, labour *etc.* The land use and irrigation pattern of sampled borrowers has been presented in table 4.3.

**Table: 4.3 Land utilization and irrigation pattern of sample borrowers.**

| S.No. | Particular | ha./farm |
|---|---|---|
| 1. | Size of holding | 4.33 |
| 2. | Cultivated area | 4.12 |
| 3. | Irrigated area | 2.13 |
| 4. | Area under Kharif | 4.12 |
| 5. | Area under Rabi | 3.01 |
| 6. | Gross cropped area | 7.13 |
| 7. | Area under wheat | 1.45 |
| 8. | Area under gram | 1.07 |
| 9. | Percentage irrigated area to cultivated area | 51.70 |
| 10. | Percentage kharif area to cultivated area | 100.00 |
| 11. | Percentage rabi area to cultivated area | 73.06 |
| 12. | Cropping intensity (%) | 173.00 |
| 13. | Percentage wheat area to rabi area | 48.17 |
| 14. | Percentage gram area to rabi area | 35.55 |

Study revealed that the average size of farm per holding was found to 4.33 hectares. As observed from the table 4.3, the cultivated area, which vary with the borrowers and it was found to be on an average 4.12 hectare per farm.

The land use pattern showed that kharif crops were dominated over cultivated area. The area under kharif crops was found to 4.12 hectare per farm i.e. 100 per cent

of cultivated area. The area under rabi crops was totally depend upon availability of irrigation and due to low irrigation facility with borrowers the rabi crop area was found to 3.01 hectare per farm which is 73.06 per cent of total cultivated area. The average cropping intensity in the area was found to be 173.0 per cent.

The study is related with major rabi crops, hence, the break-up of data regarding area under major rabi crops was collected. The break-up data shows that wheat is the major rabi crops which accounted on an average 1.45 hectare per farm and i.e. 48.17 per cent to total rabi area. The next important rabi crop is gram which is mostly grown in semi irrigated and rainfed condition. Gram accounted on an average 1.07 hectare per farm and i.e. 35.55 per cent to total rabi area. The remaining of the rabi area shows very nominal and distributed among several other crops.

**Irrigation potential:**

Irrigation is the main factor for adoption of improved attributing inputs and necessary component for higher production of crops particularly in rabi season. The irrigation area of sampled farms was found to be only 51.70 per cent to cultivated area, which shows very poor irrigation facilities.

**4.2 Cost of variable inputs needs for production of major rabi crops:**

The provision of high yielding modern agriculture may remain unreachable to poor farmer as use of improved inputs requires huge capital investment. In this way agricultural credit has turned as an indispensable input in agricultural development. Crop loan known as short-term loans are provided for seasonal agricultural production activities. Another way it can be said that crop production credit refers to the amount of money that the farmers borrow to meet their production inputs requirements. Keeping the view, the needs of credit for variable cost of input in production of wheat and gram (major rabi crop) are assessed on the basis of per farm and per hectare.

The cost of input analysis is the relevant tool where the prime motive of the activity is to assess needs for capital either it may be known or credit. Economics has for obvious reasons not developed suitable measures to evaluate costs in terms other than money. Hence, in study only attempts was made measuring rod of money as capital requirement in terms of variable cost in wheat and gram cultivation. In this way the researcher has under taken the usual economic exercises and presents the cost of

variable inputs analysis in terms of rupee of the sample farmers. Hence, resource use pattern in the form of labour utilization and material utilization expenditure on variables expenditure has been made in table 4.4.

**Table: 4.4 Input use pattern (variable cost) in wheat and gram cultivation.** **(Rs.)**

| S.No. | Input utilization pattern | Wheat | | Gram | |
|---|---|---|---|---|---|
| | | per farm | per hectare | per farm | per hectare |
| 1. | Human labour charges | 19800 | 13600 | 13000 | 12000 |
| 2. | Bullock labour charges | 5600 | 4000 | 3200 | 2800 |
| 3. | Machine labour charges | 4344 | 2996 | 3209 | 2999 |
| 4. | Seed | 4460 | 3076 | 4890 | 4570 |
| 5. | Fertilizer (NPK) | 3048 | 2102 | 2136 | 1997 |
| 6. | Plant protection | 1675 | 1155 | 1891 | 1767 |
| 7. | Irrigation charges | 1920 | 1324 | 573 | 535 |
| 8. | Total variable cost | 40847 | 28253 | 28899 | 26668 |

The resource use pattern of crop growers indicates the degree of resource management, their choice and decision-making in selection among the different alternative resources of production. Besides the above, it also indicates the adoption level of technology by the farmers in wheat and gram cultivation. Labour utilization (Human, bullock, and machine), seed, fertilizers, plant protection measures and irrigation charges were the basic resources used as variable inputs in production process. Hence, in present study, these variable resources were considered in cost of variable inputs needs for production of major rabi crops.

**Cost of variable inputs needs for wheat production:**

It is concluded that in wheat cultivation the human labour utilization needs to be Rs.13600 per hectare and it is accounted Rs.19800 per farm. The bullock labour utilization pattern shows that a farmer needs to be Rs.4000 per hectare and it is accounted Rs.5600 per farm. In study area machine labour was also utilize and shows that a farmer needs to be Rs.2996 per hectare and it is accounted Rs.4344 per farm in utilization of machine.

In raising of crop, farmers use so many inputs required for its cultivation. These inputs are yield attributing and essential materials, without which farmers can not reap the crop as per their desired and economic level. It is concluded that the farmers used improved variety of seed which costing about Rs.3076 per hectare and it is accounted

Rs.4460 per farm.

With the introduction of high yielding/ improved varieties of wheat, the use of chemical fertilizers has increased considerably. This is clear from data that the use of chemical fertilizer was found to common practices amongst the wheat producers. The data depicted that application of fertilizer in wheat cultivation farmers need to be Rs.2102 per hectare and it is accounted Rs.3048 per farm.

Recommended plant protection measures should be used and haphazard use of insecticides and pesticides should be avoided to get the optimum yield. But the study revealed that there was low adoption of plant protection measures by the wheat producers. The data depicted that application of plant protection measure in wheat cultivation farmers need to be Rs.1155 per hectare and it is accounted Rs.1675 per farm.

Irrigation is essential factor of wheat production due to rabi season crop. Many study revealed that in stares moisture condition, wheat production was affected adversely. In the area due to erratic and low rainfall condition, wheat production found to low due to absence of sufficient irrigation facilities. The data depicted that in use of irrigation in wheat cultivation farmers need to be Rs.1324 per hectare and it is accounted Rs.1920 per farm.

Cost of inputs utilized known as variable cost forms a major part of the total capital requirement in production process. Variable inputs cost is necessary to find out the credit needs. The average farm expenditure on total variable cost analysis of wheat production shows that it is needs to be Rs.28253 per hectare and it is accounted Rs.40847 per farm.

**Cost of variable inputs needs for gram production:**

It is concluded that in gram cultivation the human labour utilization needs to be Rs.12000 per hectare and it is accounted Rs.13000 per farm. The bullock labour utilization pattern shows that a farmer needs to be Rs.2800 per hectare and it is accounted Rs.3200 per farm. In study area machine labour was also utilize and shows that a farmer needs to be Rs.2999 per hectare and it is accounted Rs.3209 per farm in utilization of machine.

In raising of crop, farmers use so many inputs required for its cultivation. These inputs are yield attributing and essential materials, without which farmers can not reap the crop as per their desired and economic level. It is concluded that the farmers used improved variety of seed which costing about Rs.4570 per hectare and it is accounted Rs.4890 per farm.

With the introduction of high yielding/ improved varieties of gram, the use of chemical fertilizers has increased considerably. This is clear from data that the use of chemical fertilizer was found to common practices amongst the gram producers. The data depicted that application of fertilizer in gram cultivation farmers need to be Rs.1997 per hectare and it is accounted Rs.2136 per farm.

Recommended plant protection measures should be used and haphazard use of insecticides and pesticides should be avoided to get the optimum yield. But the study revealed that there was low adoption of plant protection measures by the gram producers. The data depicted that application of plant protection measure in gram cultivation farmers need to be Rs.1767 per hectare and it is accounted Rs.1891 per farm.

Irrigation is essential factor of gram production due to rabi season crop. But in study area gram are growing in semi irrigated or rainfed areas so, production was affected adversely. In the area due to erratic and low rainfall condition, gram production found to low due to absence of sufficient irrigation facilities. The data depicted that in use of irrigation in gram cultivation farmers need to be Rs.535 per hectare and it is accounted Rs.573 per farm.

Cost of inputs utilized known as variable cost forms a major part of the total capital requirement in production process. Variable inputs cost is necessary to find out the credit needs. The average farm expenditure on total variable cost analysis of gram production shows that it is needs to be Rs.26668 per hectare and it is accounted Rs.28899 per farm.

**4.3 Extent of finance lent by the borrowers:**

Estimation of total credit requirements by wheat and gram producer were depends upon cost of variable inputs needs for production of major rabi crops and availability of own fund.

In this section attempts have been made to estimate the credit requirement or extent of finance lent by the borrowers for wheat and gram production in the study area. The detail of breakup analysis in respect of variable cost needs, utilization of own fund and extent of finance lent by the borrowers has been presented in table 4.5.

**Table: 4.5 Extent of finance lent by the borrowers in cultivation of wheat and gram.**

(Rs.)

| S.No. | Description of finance | Wheat | | Gram | |
|---|---|---|---|---|---|
| | | per farm | per hectare | per farm | per hectare |
| 1. | Needs of variable cost | 40847 | 28253 | 28899 | 26668 |
| 2. | Own fund | 25400 | 17600 | 16200 | 14800 |
| 3. | Borrowed fund or finance lent | 15447 | 10653 | 12699 | 11868 |
| 4. | Per cent of own fund to total variable cost | 62.25 | 62.25 | 55.78 | 55.78 |
| 5. | Per cent of borrowed fund to total variable cost | 37.75 | 37.75 | 44.22 | 44.22 |

Production credit is short term credit and is provided seasonally, most often, two times in a year during kharif and rabi crop seasons. That way, it is also called crop loan. Generally, it is provided to purchase current/cash inputs required in the production process. The extent of finance lent by the borrowers by the financial bank during rabi season for all crops production jurisdiction to them was not considered in study. In study, only extent of finance lent by the borrowers for production of wheat and gram was considered as per the opinion of borrowers because wheat and gram production have been taken in the study.

The source wise (own fund and borrowed fund) split up of variable cost needed for production of wheat and gram has revealed that the borrowed fund or extent of finance lent by the borrowers are the dominant players. The finance lent by bank for wheat production was found to Rs.10653 per hectare which is accounted Rs.15447 per farm with a relative share of 37.75 per cent of total variable cost.

On the other hand, the finance lent by bank for gram production was found to Rs.11868 per hectare which is accounted Rs.12699 per farm with a relative share of 44.22 per cent of total variable cost.

### 4.4 Utilization pattern of loans among the different inputs:

The borrowers obtained loan for made available to purchase of various variable inputs in wheat and gram production purposes. In the process of analysis of total credit obtained by the sampled borrowers for wheat and gram production purposes, the total

credit amount is further split up according to the various variable inputs viz. charges paid for machine labour, purchasing of seed, fertilizer, plant protection measure and irrigation charges. It is found that all the borrowers utilized the borrowed fund among these inputs only. The data discussed is the same as used of credit for investment to purchase various variable input purposes. The result has been presented in table 4.6.

**Table: 4.6 Utilization pattern of loans among the different inputs.** (Rs.)

| S.No. | Purpose of loan | Wheat | | Gram | |
|---|---|---|---|---|---|
| | | per farm | per hectare | per farm | per hectare |
| 1. | Borrowed fund | 15447 (100.00) | 10653 | 12699 (100.00) | 11868 |
| 2. | Utilized for machine labour | 4344 (28.12) | 2996 | 3209 (25.27) | 2999 |
| 3. | Utilized for purchase of seed | 4460 (28.87) | 3076 | 4890 (38.51) | 4570 |
| 4. | Utilized for purchase of fertilizer | 3048 (19.73) | 2102 | 2136 (16.82) | 1997 |
| 5. | Utilized for purchase of plant protection measure | 1675 (10.84) | 1155 | 1891 (14.89) | 1767 |
| 6. | Utilized for irrigation charges | 1920 (12.43) | 1324 | 573 (4.51) | 535 |

**Figure in parentheses shows the percentage of total borrowed fund**

The analysis of utilization pattern of loans among the different variable inputs of wheat production reveals that the highest amount Rs.4460 per farm or Rs.3076 per hectare was utilized for the purpose of purchase of seed, accounted 28.87 per cent to total borrowed fund. The next maximum amount Rs.4344 per farm or Rs.2996 per hectare was utilized for the purpose of charges paid for machine labour, accounted 28.12 per cent to total borrowed fund. The loan amount expenses for the purpose of purchase of fertilizer found to Rs.3048 per farm or Rs.2102 per hectare accounted 19.73 per cent to total borrowed fund. Irrigation is the important factor of wheat production, the irrigation charges paid by borrowed fund found to Rs.1920 per farm or Rs.1324 per hectare, accounted 12.43 per cent to total borrowed fund. In the last, the minimum amount Rs.1675 per farm or Rs.1155 per hectare was utilized for the purpose of purchase of plant protection measure, accounted 10.84 per cent to total borrowed fund.

The analysis of utilization pattern of loans among the different variable inputs of gram production reveals that the highest amount Rs.4890 per farm or Rs.2999 per hectare was utilized for the purpose of purchase of seed, accounted 38.51 per cent to

total borrowed fund. The next maximum amount Rs.3209 per farm or Rs.2999 per hectare was utilized for the purpose of charges paid for machine labour, accounted 25.27 per cent to total borrowed fund. The loan amount expenses for the purpose of purchase of fertilizer found to Rs.2136 per farm or Rs.1997 per hectare accounted 16.82 per cent to total borrowed fund. In respect of plant protection measure the amount Rs.1891 per farm or Rs.1767 per hectare was utilized, which is accounted 14.89 per cent to total borrowed fund. In the last, the minimum amount expended for irrigation charges paid by borrowed fund found to Rs.573 per farm or Rs.535 per hectare, accounted 4.51 per cent to total borrowed fund.

**4.5 Effect of credit on production of major rabi crops:**

In study area Bank of India is functioning in most efficient manner by providing adequate, easily and timely credit to the agriculture and allied sector. This credit institution at block level is serving the agriculture and allied sector to a great extent in rural areas. The bank accepts deposits and lends short-term, mid-term and long-term credit for production and investment purpose in agriculture and allied activities. It is fact that the Green Revolution results in remarkable changes in agricultural sector. This new situation calls for greater financial investment on the part of farmers for purchasing of the inputs. Consequently, the provision of credit to farmers on liberal terms and conditions become sine qua non of agricultural development in the area. The short-term loans are disbursed to meet the costs of agricultural operations, seed, fertilizer, pesticides, irrigation and other production purposes. The short-term loans are sanctioned for all crops including local, improved and HYV as per the scale of finance. These loans help the cultivators to meet the working capital needs and to generate surplus for agricultural development.

An important aspect that has emerged in last three decades is that the credit is not only obtained by poor resource farmers to meet the requirement of purchase the inputs but also by the large farmers for enhancing their income. Hence, since independence, credit has been occupying an important place in the strategy for development of agriculture. The overall thrust of the current policy of financing agencies regime assumes that credit is a critical input that affects agricultural productivity and is important enough to establish causality with productivity. Therefore, impulses in the

agricultural operations are sought through intervention in credit. This effort are resulting the flow of credit to agricultural sector has been found to increase significantly. On the other hand, the efforts of increase credit facilities have, however, not been transmitted to the growth in agriculture output. All these evidences apparently point out to the fact that higher credit to agriculture is not translated into commensurate increase in agricultural output (Das *et al.* 2009). Keeping the intension as above in this part of study, examine this basic premise empirically using micro level data as effect of credit on production of major rabi crops.

Sriram (2007) concluded that in general, it is difficult to establish a causal relationship between agriculture credit and production due to the existence of critical endogeneity problem. However, increased supply and administered pricing of credit help in the increase in agricultural productivity and the well being of agriculturists as credit is a sub-component of the total investments made in agriculture. Study also stated that the diversity in cropping patterns, holding sizes, productivity, regional variations make it difficult to establish such causality for agriculture sector as a whole, even if one had data. Finally, study argued that mere increase in supply of credit is not going to address the problem of productivity, unless it is accompanied by investments in other support services. Taking into consideration of fact in the present study, researcher takes a re-look at the problem by quantitatively assessing the impact of credit expansion on agriculture production.

As per general logic, when the farmer faces a credit constraint or in adequacy of credit, additional credit supply can raise input use upto optimum level and hence consequently output also be increase. For findout the effect of credit on production of major rabi crops, regression model is estimated with per capita crops output as the dependent endogenous variable. The per capita direct agriculture credit amount outstanding used for different inputs are used as predetermined independent endogenous variable.

In this part of study an attempt has been made to analyse the effect (contribution) of various factors inputs used for wheat and gram production on change in output of crops through regression analysis. The result has been presented as per the crop wise in following tables.

**Wheat:-**

**Table: 4.7 Regression values of factors (inputs) contributing the change in output of wheat.**

| S.No. | Factors | Regression value |
|---|---|---|
| **1.** | $X_1$ = Lent money used for labour purpose | **0.109 N.S. (13.635)** |
| **2.** | $X_2$ = Lent money used for seed purpose | **1.067** (18.589)** |
| **3.** | $X_3$ = Lent money used for fertilizer purpose | **0.053 N.S. (9.122)** |
| **4.** | $X_4$ = Lent money used for plant protection purpose | **0.154* (2.132)** |
| **5.** | $X_5$= Lent money used for irrigation purpose | **-0.393* (8.436)** |
| **6.** | **($R^2$) Coefficient of multiple determinations (%)** | **79.00** |
| **7.** | **F – Ratio** | **1100.003** |

**Note: Figures in parentheses indicated standard errors of respective co-efficient.**

*** Significant at 0.05 per cent level of probability**

**** Significant at 0.01 per cent level of probability**

**$R^2$ Coefficient of multiple determinations**

The value of coefficient of multiple determinations ($R^2$) was found to be very high (79.00%) which indicated that the selected contributing factors (credit for different inputs) in change the gross income of wheat was the best fit. The value clearly indicates that fitted function explain 79.00 per cent responsible for change in gross income of wheat.

The result of regressions in respect of effect or contributing factors (input) in change in gross income of wheat, the following important points emerged from this analysis:

1. The lent for money used seed purpose has been found to the most important factors contributing in the positive change in gross income of wheat which denoted highly significant (1.067**). It can be said that the effect of lent money used for seed purpose showed positive change in gross income of wheat in positive direction and its magnitude is very high.
2. The lent money used for plant protection purpose has been found to the next important factors contributing in the positive change in gross income of wheat which denoted significant (0.154*). It can be said that the effect of lent money used for plant protection purpose showed positive change in gross income of wheat in positive direction and its magnitude is nominal.

3. The lent money used for labour purpose has been found to the least important factors contributing in the positive change in gross income of wheat which denoted non significant (0.109 N.S). It can be said that the effect of lent money used for labour purpose showed positive but non significant change in gross income of wheat and its magnitude is very least. The non significant contribution was might be due to use of hired tractor for field preparation.
4. The lent money used for fertilizer purpose has been found to the least important factors contributing in the positive change in gross income of wheat which denoted non significant (0.053 N.S). It can be said that the effect of lent money used for fertilizer purpose showed positive but non significant change in gross income of wheat and its magnitude is very least. The non significant value in respect of fertilizer might be due to injudicious use of fertilizer.
5. In the last, it is found that the expenditure on irrigation was expressed excessive value due to higher cost of fuel and mismanagement in respect of irrigation facilities. The lent money used for irrigation purpose has been found to the negative important factors contributing in the negative change in gross income of wheat which denoted significant (-0.393*). It can be said that the effect of lent money used for irrigation purpose showed negative change in gross income of wheat and its magnitude is nominal.

On the basis of above data with their facts and findings it is concluded that the regression value of credit lent for the purpose of seed purchase and their effect on output (gross income) of wheat was positive and statistically significant at 1 per cent level. The regression value was significant of lent for plant protection measure at 5 per cent level. However, the regression values were not found significant of lent for labour utilization and fertilizer purposes. On the other hand, the regression value of credit lent for irrigation purpose and their effect on output (gross income) of wheat was negative and statistically significant.

**Gram:-**

**Table: 4.8 Regression values of factors (inputs) contributing the change in output of gram.**

| S.No. | Factors | Regression value |
|---|---|---|
| **1.** | $X_1$ = Lent money used for labour purpose | **0.901**<br>**(1.285)** |
| **2.** | $X_2$ = Lent money used for seed purpose | **0.047 N.S.**<br>**(0.403)** |
| **3.** | $X_3$ = Lent money used for fertilizer purpose | **-0.163***<br>**(1.894)** |
| **4.** | $X_4$ = Lent money used for plant protection purpose | **0.118***<br>**(2.144)** |
| **5.** | $X_5$= Lent money used for irrigation purpose | **0.131***<br>**(7.067)** |
| **6.** | **($R^2$) Coefficient of multiple determinations (%)** | **76.80** |
| **7.** | **F – Ratio** | **266.496** |

**Note: Figures in parentheses indicated standard errors of respective co-efficient.**
*** Significant at 0.05 per cent level of probability**
**** Significant at 0.01 per cent level of probability**
**$R^2$ Coefficient of multiple determinations**

The value of coefficient of multiple determinations ($R^2$) was found to be very high (76.80%) which indicated that the selected contributing factors (credit for different inputs) in change the gross income of gram was the best fit. The value clearly indicates that fitted function explain 76.80 per cent responsible for change in gross income of gram.

The result of regressions in respect of effect or contributing factors (input) in change in gross income of gram, the following important points emerged from this analysis:

1. The lent money used for labour purpose has been found to the most important factors contributing in the positive change in gross income of gram which denoted highly significant (0.901**). It can be said that the effect of lent money used for labour purpose showed positive change in gross income of gram in positive direction and its magnitude is very high.
2. The lent money used for irrigation purpose has been found to the next important factors contributing in the positive change in gross income of gram which denoted significant (0.131*). It can be said that the effect of lent money used for irrigation purpose showed positive change in gross income of gram in positive direction and its magnitude is nominal.

3. The lent money used for plant protection purpose has been found to the nominal important factors contributing in the positive change in gross income of gram which denoted significant (0.118*). It can be said that the effect of lent money used for plant protection purpose showed positive change in gross income of gram in positive direction and its magnitude is nominal.
4. The lent money used for seed purpose has been found to the least important factors contributing in the positive change in gross income of gram which denoted non significant (0.047 N.S). It can be said that the effect of lent money used for seed purpose showed positive but non significant change in gross income of gram and its magnitude is very least. The non significant effect was might be contributed due to high seed cost of gram.
5. In the last, it is found that the expenditure on fertilizer was expressed excessive value due to higher cost of fertilizer and mismanagement in respect of its utilization. The lent money used for fertilizer purpose has been found to the negative important factors contributing in the negative change in gross income of gram, which denoted significant (-0.163*). It can be said that the effect of lent money used for fertilizer purpose showed negative change in gross income of gram and its magnitude is nominal.

On the basis of above data with their facts and findings it is concluded that the regression value of credit lent for the purpose of labour purchase and their effect on output (gross income) of gram was positive and statistically significant at 1 per cent level. The regression values were significant of lent for irrigation and plant protection measure at 5 per cent level. However, the regression value was not found significant of lent for seed purpose. On the other hand, the regression value of credit lent for fertilizer purpose and their effect on output (gross income) of gram was negative and statistically significant.

Several research works supports the positive association between agricultural credit and agricultural production. Saha and Dutta (1997), in a study shows that adequate supply of credit has a positive influence on the growth of agricultural output and farms incomes which had proved in case of many countries. Miah and Sarker (2006) found in its research that agricultural credit users in Bangladesh receive 1.21

times higher rice yield compared to noncredit users. In case of India empirical analysis reveals that the agricultural credit has a positive and statistically significant on agricultural output (Das *et al.* 2009). The positive relationship between institutional credit and agricultural credit is unveiled by another study in Pakistan (Iqbal *et al.* 2003). Rahman *et al*. (2011) have shown a high level of correlation (0.938; with statistical significance 1%) between agricultural credit accessibility and greater production. In nutshell it is concluded that all these research work proves the importance of agricultural credit on agricultural production.

### 4.6 Problems faced by the borrowers:

Now a days agricultural credit has turned as an indispensable input in agricultural development. Due to Green Revolution and adoption of improved crop production technology farmers need higher capital rather than traditional farming practices. On the other hand, the provision of high yielding modern agriculture may remain unreachable to poor and marginal farmer as use of improved inputs require huge capital investment. This importance necessitates us to give proper care and concentration towards crop loan for development of the agriculture sector. Considering the pattern and present trend of agricultural credit, some policy recommendation are prescribed by government and bank personnel that can be adopted to unlock the potential in agricultural sector. Inspite of several facilities by bankers, some of the difficulties determined by farmers in perusing the credit and timely refund the credit to the bank. The main difficulties faced by farmers in securing agricultural credit from the banks have been presented in table 4.9.

**Table: 4.9 Problems faced by the borrowers in securing crop loan.**

| S.No. | Constraints | Frequency n = 50 | % to total |
|---|---|---|---|
| 1. | Diversion found | 5 | 10.00 |
| 2. | Problem in repayment plan fixed by institution | 20 | 40.00 |
| 3 | Lack of awareness | 32 | 64.00* |
| 4. | Procedure for advance is difficult | 7 | 14.00 |
| 5. | Loan supervision is not followed by bank | 18 | 36.00 |
| 6. | Communication and co-ordination is less by banker | 25 | 50.00* |
| 7. | Low saving for repayment of loan | 38 | 76.00* |
| 8. | Overall average | 21 | 42.00 |

*** Higher than mean value**

On the basis of opinion survey conducted from borrowers, it is clear that there are few unserious problems perceived by borrowers in securing the crop loan. The important constraints were found to "low saving for repayment of loan" perceived by 76.00 per of the borrowers followed by "lack of awareness" perceived by 64.00 per cent borrowers and "communication and co-ordination is less by banker" perceived by 50.00 per cent of the total borrowers.

On the other hand, the least important constraints are noted as "problem in repayment plan fixed by institution" perceived by 40.00 per cent of the total borrowers followed by "loan supervision is not followed by bank" perceived by 36.00 per cent of the total borrowers, "procedure for advance is difficult" perceived by 14.00 per cent of the total borrowers and "Diversion was found" perceived by 10.00 per cent of the total borrowers.

**Suggestions to overcome the problems:**

To sustain the growth in agriculture, credit, particularly crop loan plays a crucial role. The quantum of agricultural credit provided by the banking system increased from day to day. Crop loans constitute a major portion of disbursements for agriculture and become easier due to Kisan Credit Card system. Despite the great facilities provided by bank personnel and Government there are certain nominal constraints affects crop loan lenting by farmers. Besides, due to the existence of certain hurdle existing in securing crop loans there are certain ways and means are suggested by farmers to overcome the problems. The opinion survey conducted in respect of suggestions confronted by farmers has been presented in table 4.10.

**Table: 4.10 Suggestion confronted by the borrowers in securing crop loan.**

| S.No. | Suggestions | Frequency n=50 | % to total |
|---|---|---|---|
| 1. | The loan should be properly utilized | 42 | 84.00* |
| 2. | The training campus should be organized regarding knowledge of crop loan scheme. | 12 | 24.00 |
| 3 | The proper guidance should be given through organization personnel regarding proper utilization of credit. | 35 | 70.00* |
| 4. | The borrowers make repayment of loan at due time to avoid excess interest | 40 | 80.00* |
| 5. | The motivation should be given to adopt crop loan scheme. | 23 | 46.00 |
| 6. | Overall average | 30 | 61 |

*** Higher than mean value**

As per opinion survey, there are no any complex suggestions confronted by borrowers and all suggestions are in general type. The main suggestion suggested by 84.00 per cent borrowers was "the loan should be properly utilized". The other important suggestion suggested by 80.00 per cent borrowers was “the borrowers make repayment of loan at due time to avoid excess interest". This suggestion is also valuable because crop loan have to be repaid after sale of the produce and at that time borrowers have several other important expenditure needs. In general, farmers in rural areas are illiterate and have only basic idea of farming. In this situation they have not utilizing the credit properly. Hence, 70.00 per cent borrowers suggested "the proper guidance should be given through organization personnel regarding proper utilization of credit".

The common suggestions have low frequency is, 46.00 per cent borrowers suggested "the motivation should be given to adopt crop loan scheme" because it is found to positive effect on adoption of improved crop production technology which consequently effecting the quantum of production. In the last important suggestions "the training campus should be organized regarding knowledge of crop loan scheme" suggested by 24.00 per cent borrowers

# CHAPTER - VI

# SUMMARY, CONCLUSION AND SUGGESTIONS

**Summary:**

Capital is the most crucial input in any production and agriculture production particularly crops production is no exception to it. Agricultural sector in India is primarily small farm and characterized by low incomes, low levels of operating capital, low investment and traditional farming system. These factors caused huge deficit of agricultural production in India upto 60$^{th}$ century. At that time to achieve a higher level of production, the growth model adopted by Indian agriculture is popularly called 'Green Revolution Model'. Under this modes of production have undergone major transformation, stimulating change in the forces of production as well as production relations in the society. The whole mechanism of transformation was and is being targeted at surplus generation, but is closely linked with growth of rural credit system in the country.

For adoption of improved production technology and practices of major crops need for finance is a major element of agricultural policy. Cultivation being a time bound process, there is needs to incur costs before a saleable output is generated. These costs can be financed by two ways. The farmer has recourse either to his own resources or to borrowed resources i.e. credit. Due to poor socio economic status of farmers, raising of own resources is limited by the wealth of the individuals. So, the only option is to see the external resource i.e. credit. Looking to importance of credit in agriculture the present study was undertaken with the following specific objectives.

**Objectives:**

- To study socio economic features of sampled borrowers.
- To assess the cost of variable inputs needs for production of major rabi crops.
- To examine the extent of finance lent by the borrowers and utilization pattern of loans among the different inputs.
- To assess the impact of credit on production of major rabi crops.
- Identify the problems faced by the farmers and suggest the measures to overcome the problems.

The study is conducted in Khandwa district, hence, an attempt has been made to discuss the background information of study area. This is essential so that researchers can correlate the finding with the prevailing conditions under study because facts and findings of any problem is direct correlated with existing environment. In order to achieve the objectives of the study, multi stage random sample technique was used to draw the sample. In the sampling process ultimately borrowers was selected for data collection.

There are 7 blocks lies in district Khandwa. Among these blocks, Punasa block was selected randomly for convenience in data collection of the researcher. In selected block the Bank of India was the main agriculture credit supplier institutions, selected for the present study. A list of villages was collected from Bank of India where the bank has supplied the credit for agricultural production. Among these villages 5 villages has been selected randomly for present study. A list of borrowed farmers was prepared with the help of Bank personnel in the selected villages. Among these borrowers the farmers who lent the credit for fulfillment of variable inputs for wheat and gram production was separated. Among these borrowers, 50 borrowers were selected randomly for present study.

Depending upon the objectives of the study primary data was used. The primary data was collected from selected borrowers / respondents using pre-tested questionnaire schedule. Each selected respondents was approached personally for recording relevant data. The structural schedule was prepared with consultation to the members of advisory committee, qualified personnel and literature available regarding credit aspect from bank. The primary data was collected in the Agricultural year 2015-16 from borrowers through survey method.

Survey method of enquiry was used for the purpose of study. It is assumed that selected number of borrower farmers would be provide adequate information for the objective set-fourth for present study.

To conduct an empirical study, a systematic approach was adopted to ensure the meaningfulness and accuracy. Hence, the collected data were scrutinized for adequacy and reliability. The data were compiled into a tabular form and analyzed in order to find out the result as per the stated objectives.

The analysis of the data was done on per farm basis. Simple as well as other Statistical and Economical Techniques were employed to analyze the collected data. Simple statistical tools like frequencies, percentage, mean and average were use to represent the data in the tabular form.

**Cost of variable inputs:**

In production process of main rabi crops following variable costs were considered.

- Value of human, bullock and machinery labour,
- Value of owned and purchased seed,
- Value of fertilizers, manures and chemical,
- Value of insecticide and pesticides,
- Expenditure on irrigation,
- Miscellaneous expenses.

**Effect of credit on production:**

A regression of output (gross income) on credit for various inputs was measured to find out the effect of credit on production. The regression analysis was used because a joint dependence between the observed levels of credit used for different variables (labour, seed, fertilizer, plant protection measure and irrigation) with aggregate output (gross income).

Hence, in present study regression analysis was carried out to examine the effect of credit for different variables inputs on output. The functional form used was as under:

$$Y= ax_1^{b1}. x_2^{b2}. x_3^{b3} \ldots\ldots\ldots X_k^{bk}$$

It is converted in to logarithmic form, so that it can be solved by the least square method. The logarithmic form of the function is express as under:

$$\text{Log } y = \log a + b_1 \log x_1 + b_2 \log x_2 \ldots\ldots\ldots + b_k \log x_k.$$

Where:

$y$ = Dependent variable (gross income [Rs.])

$a$ = Constant or intercept value

$b_1$ to $b_k$ = are regression coefficients of $X_1$ to $X_k$ variables

$X_1$ to $X_k$ = are variables in Rs.

$X_1$= Lent money used for labour purpose

$X_2$= Lent money used for seed purpose

$X_3$= Lent money used for fertilizer purpose

$X_4$= Lent money used for plant protection purpose

$X_5$= Lent money used for irrigation purpose

**Conclusions:**

With the discussions on the results of the study following conclusions have been derived which have provided feed back information for further development in securing crop loan and their better results.

1. The land use pattern showed that kharif crops were dominated over cultivated area. The area under kharif crops was found to 4.12 hectare per farm i.e. 100.00 per cent of cultivated area. The area under rabi crops was totally depend upon availability of irrigation and due to low irrigation facility with borrowers the rabi crop area was found to 3.01 hectare per farm which is 73.06 per cent of total cultivated area. The average cropping intensity in the area was found to be 173.00 per cent.
2. The study is related with major rabi crops, hence, the break-up of data regarding area under major rabi crops was collected. The break-up data shows that wheat is the major rabi crops which accounted on an average 1.45 hectare per farm and i.e. 48.17 per cent to total rabi area. The next important rabi crop is gram which is mostly grown in semi irrigated and rainfed condition. Gram accounted on an average 1.07 hectare per farm and i.e. 35.55 per cent to total rabi area. The remaining of the rabi area shows very nominal and distributed among several other crops.
3. Irrigation is the main factor for adoption of improved attributing inputs and necessary component for higher production of crops particularly in rabi season. The irrigation area of sampled farms was found to be only 51.70 per cent to cultivated area, which shows very poor irrigation facilities.
4. Borrowers secured loan for crop production which was utilized in various inputs of wheat cultivation. Study revealed that farmers utilized Rs.13600 per hectare for human labour utilization followed by Rs.4000 per hectare for bullock labour utilization, Rs.2996 per hectare for machine labour utilization, Rs.3076 per hectare for seed, Rs.2102 per hectare for fertilizer, Rs.1155 per hectare for plant protection measure and Rs.1324 per hectare for irrigation charges.

5. Cost of inputs utilized known as variable cost forms a major part of the total capital requirement in production process. Variable inputs cost is necessary to find out the credit needs. The average farm expenditure on total variable cost analysis of wheat production shows that it is needs to be Rs.28253 per hectare.
6. Borrowers secured loan for crop production which was utilized in various inputs of gram cultivation. Study revealed that farmers utilized Rs.12000 per hectare for human labour utilization followed by Rs.2800 per hectare for bullock labour utilization, Rs.2999 per hectare for machine labour utilization, Rs.4570 per hectare for seed, Rs.1997 per hectare for fertilizer, Rs.1767 per hectare for plant protection measure and Rs.535 per hectare for irrigation charges.
7. Cost of inputs utilized known as variable cost forms a major part of the total capital requirement in production process. Variable inputs cost is necessary to find out the credit needs. The average farm expenditure on total variable cost analysis of gram production shows that it is needs to be Rs.26668 per hectare.
8. Study revealed that the finance lent by bank for wheat production was found to Rs.10653 per hectare. On the other hand, the finance lent by bank for gram production was found to Rs.11868 per hectare.
9. The analysis of utilization pattern of loans among the different variable inputs of wheat production reveals that the highest amount Rs.3076 per hectare was utilized for the purpose of purchase of seed, accounted 28.87 per cent to total borrowed fund. The next maximum amount Rs.2996 per hectare was utilized for the purpose of charges paid for machine labour, accounted 28.12 per cent to total borrowed fund. The loan amount expenses for the purpose of purchase of fertilizer found to Rs.2102 per hectare accounted 19.73 per cent to total borrowed fund. Irrigation is the important factor of wheat production, the irrigation charges paid by borrowed fund found to Rs.1324 per hectare, accounted 12.43 per cent to total borrowed fund. In the last, the minimum amount Rs.1155 per hectare was utilized for the purpose of purchase of plant protection measure, accounted 10.84 per cent to total borrowed fund.

**10.** The analysis of utilization pattern of loans among the different variable inputs of gram production reveals that the highest amount Rs.2999 per hectare was utilized for the purpose of purchase of seed, accounted 38.51 per cent to total borrowed fund. The next maximum amount Rs.2999 per hectare was utilized for the purpose of charges paid for machine labour, accounted 25.27 per cent to total borrowed fund. The loan amount expenses for the purpose of purchase of fertilizer found to Rs.1997 per hectare accounted 16.82 per cent to total borrowed fund. In respect of plant protection measure the amount Rs.1767 per hectare was utilized, which is accounted 14.89 per cent to total borrowed fund. In the last, the minimum amount expended for irrigation charges paid by borrowed fund found to Rs.535 per hectare, accounted 4.51 per cent to total borrowed fund.

**11.** The data with their facts and findings it is concluded that the regression value of credit lent for the purpose of seed purchase and their effect on output (gross income) of wheat was positive and statistically significant at 1 per cent level. The regression value was significant of lent for plant protection measure at 5 per cent level. However, the regression values were not found significant of lent for labour utilization and fertilizer purposes. On the other hand, the regression value of credit lent for irrigation purpose and their effect on output (gross income) of wheat was negative and statistically significant.

**12.** The data with their facts and findings it is concluded that the regression value of credit lent for the purpose of labour purchase and their effect on output (gross income) of gram was positive and statistically significant at 1 per cent level. The regression values were significant of lent for irrigation and plant protection measure at 5 per cent level. However, the regression value was not found significant of lent for seed purpose. On the other hand, the regression value of credit lent for fertilizer purpose and their effect on output (gross income) of gram was negative and statistically significant.

**13.** On the basis of opinion survey conducted from borrowers, it is clear that there are few unserious problems perceived by borrowers in securing the crop loan. The important constraints were found to "low saving for repayment of loan" perceived by 76.00 per of the borrowers followed by "lack of awareness" perceived by 64.00 per

cent borrowers and "communication and co-ordination is less by banker" perceived by 50.00 per cent of the total borrowers.

**14.** The main suggestion suggested by 84.00 per cent borrowers was "the loan should be properly utilized". The other important suggestion suggested by 80.00 per cent borrowers was “the borrowers make repayment of loan at due time to avoid excess interest". This suggestion is also valuable because crop loan have to be repaid after sale of the produce and at that time borrowers have several other important expenditure needs. In general, farmers in rural areas are illiterate and have only basic idea of farming. In this situation they have not utilizing the credit properly. Hence, 70.00 per cent borrowers suggested "the proper guidance should be given through organization personnel regarding proper utilization of credit".

**15. Suggestions and policy implication:**

On the basis of the primary survey, the following recommendations or suggestions are recorded to lend farmers loans under priority sector advances by the financial institutions to be more effective and purposeful. The main objective of the crop credit policies over the years has been to make adequate credit available to the farmers at the right time and at affordable rate.

**1.** The institutional agencies should educate, motivate and guidance should be provided to the farmers' borrow only for right purposes and to repay the loans on right time. They must disburse the loans at the right time and in adequate measures.

**2.** Proper initiation should be taken by bank personnel to release the short-term loans as an essential variable inputs such as seeds, fertilizers, plant protection measure, they should be withdrawal the amount when ever is required.

**3.** The recovery of loans may be postponed for a considerable period, of not less than two years, so that the indebted farmers are enabled to earn some additional income to repay the debt. Hence, there is a need to tighten the supervision and monitoring mechanisms and provide greater autonomy in the operation of credit institutions and to improve their lending policies and procedures.

**4.** Strict supervision should be maintained by the financial institutions officials on the proper utilization of finance for productive purpose and also to avoid diversion of

funds for other purposes. It is necessary to taking care while advancing loans to the farmer at right time, right person and right purpose should be kept in mind.

5. The analysis found that the direct agriculture credit as crop loan amount has a positive and statistically significant impact on agriculture output and its effect is immediate. Hence, it can be said that agriculture credit is still playing a critical role in supporting agriculture production in India. On the basis of crop loan effect on production it is suggested that its role can be further enhanced by much greater financial inclusion by involving of region-specific market participants, co-operative banks and micro-credit suppliers, especially self-help groups.
6. In order to empower the farmers, the government of India has formulated several policies, plans and programmes to make easy of crop loan system. Expansion of institutional credit was found to be inadequate and direct policy intervention by the government in the field of institutional credit was envisaged. This made the central government to issue special directives to give priority to small and marginal farmers both in credit disbursement and credit linked subsidies.
7. It is understood from the study that the bank has increased supply of credit to agriculture sector for upliftment of socio-economic conditions of farmers in the area. Commercial Banks and Regional Rural Banks have disbursed agriculture credit at increasing trend. It has been witnessed that the institutional finance helped to improve socio-economic condition of the farmers in the study area. But there is several suggestions were confronted by the borrowers which need to be taken carefully.
8. Besides providing credit at a cheaper cost the bank should try, by all possible means, for the inculcation of saving habits among the borrower farmers, for it contributes to the farmers' long run economic prosperity. On the other hand, the very position of credit of lower interest rates would invariably result in same surplus to the borrower, if the amount borrowed is utilized for productive purposes.
9. Above all bank personnel should be capable of understanding the local problems, while providing the loan. One of the most problematic issue in regard of credit is deliberate non-repayment by some farmers. This seems to have emerged mainly because of the absence of strict controls of the bank, ends to check the defaulters.

They are not visited with the powers similar to those given to co-operative for recovering the loans.

# CHAPTER - VII

# BIBLIOGRAPHY


Abate Andrew, Reddy; Keshava,T.R.; Mahesh,N. and Lalith,Achoth (2002). Magnitude and growth of Institutional Credit Flow to Agriculture Sector in Karnataka. *Indian Cooperative Review.* **39**(3):194-212.

Anandkumar,V. (1991). Discriminating in rural lending. *Agric. Banker.* **14**(2):36-42.

Benson, Kunjukunju (2000). The impact of credit on income of Rural Borrowers –A study in Kerala. *Indian Cooperative Review.* **38**(1):1-8.

Bera,B. and Santra,B. (2001). Socio-Economic Features of Defaulting Framer – Borrower of Cooperative Credit. *Economic Affairs.* **46**(1):18-26.

Bhukta, Anindya (2003). Financial sector reform and its impact on agriculture. *Economic Affairs.* **48**(3):167-170.

Das, Abhiman; Senapati,Manjusha and John, Joice (2009). Impact of Agricultural Credit on Agriculture Production: An Empirical Analysis in India. *Reserve Bank of India Occasional Papers.* **30**(2):75-107.

Dashawant, Jayaprada B. (2007). Impact of Karnataka Vikas Grameena Bank on Agriculture Development of beneficiary farmers. *M.Sc. (Ag.) Thesis Submitted to University of Agricultural Sciences, Dharwad.*

Desai,Bhupot M. (1994). Contributions of institutional credit, self-finance and technological change to agricultural growth in India. *Indian Journal of Agricultural Economics.* **49**(3):456-475.

Devi, Uma R. and Govt,S.R.K. (2012). The Role of Credit Co-Operatives in the Agricultural Development of Andhra Pradesh, India. *International Journal of Cooperative Studies.* **1**(2):55-64.

Gadgil,M.V. (1988). Banking and Rural Development. Ed. L.K. Naidu. *Bank Finance for Rural Development*, *Ashish Publishing House, New Delhi*. pp:27-33.

Gadgil,M.V. (1994). Formal agricultural credit system in India: shape of things cane. *Ind. J. Agric. Econ.* **49**(3):476-490.

Ganai,A.M.; Matto,F.A.; Singh,P.K. and Parray,B.A. (2004). A survey of feed and feeding practices in Kashmir valley. *Indian J. Ani. Nutr.* **21**(1):69-72.

Gill, Anita and Singh, Lakhwinder (2006. “Farmers Suicides and Response of Public

Policy– Evidence, Diagnosis and Alternatives from Punjab.*Economic and Political Weekly.* **51**(26):2762-2768.

Kanthimathinathan,S. (2004). Rural credit at cross road. *Kurukshetra*. **43**(5):21-24.

Kaur,A. (2010). Growth, structure and cost of agriculture credit: a study of Punjab. *Thesis Doctor of Philosophy submitted to Punjabi University Patiala.*

Kaushik,A.C. (1995). Impact of study of RRB's credit on income generation and poverty allevation in Rural Haryana. *Asian Econ. Rev.* **38**(1):13-18.

Khusro,A.M. (1989). A review of agricultural credit system in India, Report of Agricultural Credit Review Committee, Reserve Bank of India, Mumbai. *Indian Journal of Agricultural Economics.* **47**(2):274-293.

Kumar,Anjani; Singh,Dhiraj.K. and Kumar,Prabhat (2007). Performance of rural credit and factors affecting the choice of credit sources. *Indian Journal of Agricultural Economics.* **62**(3):297-313.

Kumar,Mohinder (2007). Rural credit: issues, contradictions and perspectives. *Journal of Rural Development.* **26**(4):461-482.

Kunjukunju, (2000). The impact of credit on income of rural borrowers: A case study in Kerala. *Indian Co-oper. Rev*. **38**(1):1-8.

Mahavir, Sajane Ajit (2010). An economic evaluation of Kisan Credit Card Scheme in Belgaum district of Karnataka and Sangli District of Maharashtra. *M.Sc. (Ag.) Thesis Submitted to University of Agricultural Sciences, Dharwad.*

Mangal, Urmila (2013). An analysis of farm credit provided by Morena branch District Co-operative Agriculture and Rural Development Bank Morena (M.P.). *M.Sc. (Ag.) Thesis Submitted to Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior.*

Maurya, Harikesh (2015). Role of Co-Operative Bank in Agriculture: A case study of District Mohali, Punjab. *International Journal of Scientific Research and Management.* **3**(1):1922-1930.

Miah,B.P. and Sarker,R.A. (2006). Rural Financing and Agricultural Credit in Bangladesh: *Future Development Strategies for Formal Sector Banks, The University Press Limited, Dhaka*.

Mihir,S.; Rao,Rangu and Vijayshankar,P.S. (2007). Rural credit in 20th century India: A

overview of history and prospective, *Econ. Poli. Weekly*. **42**(2):1351-1364.

Mishra (1995). Banking and rural development, *Kurukshetra.* **41**(6):33-37.

Mohanty,Suchitra and Haque,T. (2003). Regional disparities in the flow of institutional credit in India. *Journal of Rural Development.* **22**(1):79-90.

Mohan,R. (2006). Agriculture credit in India: status, issues and future agenda, *Financing Agric.* pp:3-16.

Moorti,V.; Vashist,G.D. and Parmar, Urmil (1998). Utilization and Overdues of Cooperative Loans in Himachal Pradesh. *Indian Cooperative Review.* **27**(1):86-94.

Prasad,J.V.S. and Naidu,M.R. (1988). Is cooperative credit adequate? *Indian Cooperative Review.* **26**(2):150-158.

Reddy,D.R. and Reddy,K.A. (1997). Overdues and recovery performance of institutional credit. *Indian J. Agric. Res.* **31**(1):10-18.

Rahman,M.W.; Luo,J. and Cheng,E. (2011). Policies and Performances of agricultural/rural credit in Bangladesh: What is the influence on agricultural production? *African Journal of Agricultural Research*. **6**(31): 6440-6452.

Rakesh Mohan (2006). Agricultural credit in India – status, issues and future Agenda. *Economic and Political Weekly.* **41**(11):1013-1021.

Rao,C.H. Hanumantha (2003). Reform Agenda for agriculture. *Economic and Political Weekly.* **38**(7):615-619.

Rao,Madhusudana and Babu, G.Ramesh (1993). Bank finance to agriculture and allied activities survey results. *Agricultural Banker.* **17**(4):1-6.

Ruston, Ali Ahmed (2004). Impact of financing by Rajshahi Krishi Unnayan Bank of Agricultural Development of Bangladesh – A case study of selected branches in Nilphamari district. *Jamia Millia Islamia University, New Delhi.*

Satish,P. (2006). Institutional credit, indebtedness and suicides in Punjab. *Economics and Political Weekly.* **41**(26):2754-2761.

Satyasai,K.J.S. (2008). Rural credit delivery in India: Structural constraints and some corrective measures. *Agricultural Economics Research Reviews* **21**: 971-976.

Sidhu,R.S.; Joshi,A.S.; Kaur, Arjinder and Goyal, Mini (2001). Short Term Credit and Agricultural Production in Punjab – Farm Size-wise Analysis. *Research Report*

*NABARD Chair Unit, Department of Economics and Sociology, PAU Ludhiana*.

Saha,N. and Dutta,P.L. (1997). The HYV Programme and Problems of Finance for Small Farmers in Assam. **26**(4):25-28.

Shetty,S.L. (2004). Distributional issues in bank credit multi-pronged strategy for correcting past neglect. *Economic and Political Weekly*. **4**:12-15.

Shergill,H.S. (1998). *Rural Credit and Indebtedness in Punjab*. *Monograph Series-IV, Institute for Development and Communications, Chandigarh.*

Sidhu,R.S. and Gill,Sucha Singh (2006). Agricultural credit and indebtedness in India: Some issues. *Indian Journal of Agricultural Economics.* **61**(1):11-35.

Singh,A.K.; Koshta,A.K. and Chandrakar,M.R. (2003-04). Availability, Utilization and Repayment of Crop Loan : A Case Study of Rice Growers under DCCB, Raipur, of Chattisgarh State. *Financing Agriculture.* **41**(2):139-48.

Singh,J.P. and Rawat,S.K. (2001). Impact of Farm Credit on Agriculture in Deoria District of Eastern Uttar Pradesh. *Indian Cooperative Review.* **38**(3):182-92.

Singh, Surendra and Shakya,Deepak (2007). Role of institutional credit in agriculture in case of marginal and small farmers. 4th National Extension Education Congress. *Society of Extn. Edu. Agra and Jabalpur.*

Singh,R.K.P. and Nasir,S. (2003). Agricultural Credit Flow in Bihar: An Economic Analysis. *Indian Journal of Agricultural Economics.* **58**(1):137-145.

Singh,R.P.; Pandey,A.K. and Singh,S.K. (2001). Rural credit and participation of credit Agencies–An Analysis. *Indian Cooperative Review.* **38**(4):211-220.

Sriram,M.S. (2007). Productivity of Rural Credit: A Review of Issues and Some Recent Literature. *Indian Institute of Management Ahmedabad, Working Paper* No.2007-06-01.

Suresh,K.A. (1991). Impact of Co-operative credit on Agriculture income. *Indian Co-oper. Rev.* **29**(1):35-37.

Thamilsaran,S. (2009). Impact of institutional credit on the employment, income, occupation and assets of farmer borrowers: A case study, *Ind. Co- oper. Rev*.. **47**(2):12-19.

Thorat,Y.S.P. (2005). Rural credit in India: Issues and concerns. *Presidential Address at 59th Annual Conference on Indian Society of Agricultural Economics held at*

*PAU, Ludhiana* on pp:24-26.

Varde, Varsha (1993). Agriculture credit situation in India. *Financing Agriculture.* **25**(1):19-24.

## APPENDIX – I

**Topic:- "**Economic aspects of study on financing of crop production, finance through Bank of India in Khandwa district of Madhya Pradesh.**"**

Advisor: **P.K. Malviya** Investigator: **Nand Kishore**

**DEPARTMENT OF AGRICULTURAL ECONOMICS AND F. M.**

**R.A.K COLLEGE OF AGRICULTURE, SEHORE (M.P)**

**Respondent's Schedule**

**1. Name: …… Age: ……..**

**2. Father's name: ……**

**3. Address: Village: …….. Block: ……**

**4. Family Members**:

Male: ……, Female: ……, Children: …….

**5. Working member on farm:** Male: ……, Female: …….

**6. Education:**

Illiterate ……., Read and Write ……., Primary ……..,

Matriculation ……., Graduate ……..

**7. Operational Holding (ha.):**

i. Land owned ……..…ha. ii. Land leased in ……ha.

iii. Land leased out ……..ha iv Total land operated …….ha.

v. Cropped area …….ha. vi. Irrigated area ……..…ha.

vii. Cultivated area (Kharif): ……ha viii. Cultivated area (Rabi): ……ha

**8. Social Status**: Member of any organization.

a) Block Samti Member / Chairman ……

b) Panchayat Member / Sarpanch …….

c) Coop. Society President / Secy. / Member …….

d) Kisan Union / Kisan Sabha …….

e) Any Other (specify) …….

**9. Cropping pattern:**

| S.No | Season/Crop | Area | Variety | Irrigated | Unirrigated |
|---|---|---|---|---|---|
| 1. | **Kharif:**<br>a.<br>b.<br>c. | | | | |
| 2. | **Rabi:** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | a.<br>b.<br>c. | | | | |

## 10. Production Expenditure on Farm: (labour)

| S.No. | Crop | Human labour | | Bullock labour | | Machine labour | |
|---|---|---|---|---|---|---|---|
| | | Qty. | Value | Qty. | Value | Qty. | Value |
| 1. | Wheat | | | | | | |
| 2. | Gram | | | | | | |

## 11. Material used and cost:

| S.No. | Input used | Quantity | Value | Remark |
|---|---|---|---|---|
| 1. | Seed and Seed treatment / Culture | | | |
| 2. | Manures/compost | | | |
| 3 | Fertilizers (NPK) | | | |
| 4. | Plant protection | | | |
| 5. | Irrigation Charges | | | |
| 6. | Other | | | |

## 12. Production information:

| S.No. | Crop | Main product | | By product | | Total product | |
|---|---|---|---|---|---|---|---|
| | | Qty. (q) | Value (Rs.) | Qty. (q) | Value (Rs.) | Qty. (q) | Value (Rs.) |
| 1. | Wheat | | | | | | |
| 2. | Gram | | | | | | |

## 13. Crop loans taken:

| S.No. | Crop | Amount Applied | Amount sanctioned |
|---|---|---|---|
| 1. | Kharif crops | | |
| 2. | Rabi crops | | |
| 3. | Utilized for wheat | | |
| 4. | Utilized for gram | | |

## 14. Fund utilization pattern: (Wheat)

| S.No. | Input used | Total fund required | Own fund | Borrowed fund |
|---|---|---|---|---|
| 1. | Labour used | | | |
| 2. | Seed and Seed treatment / Culture | | | |
| 3 | Manures/compost | | | |
| 4. | Fertilizers (NPK) | | | |
| 5. | Plant protection | | | |
| 6. | Irrigation Charges | | | |
| 7. | Other | | | |

## 15. Fund utilization pattern: (Gram)

| S.No. | Input used | Total fund required | Own fund | Borrowed fund |
|---|---|---|---|---|
| 1. | Labour used | | | |
| 2. | Seed and Seed treatment / Culture | | | |

| | | | | |
|---|---|---|---|---|
| **3** | **Manures/compost** | | | |
| **4.** | **Fertilizers (NPK)** | | | |
| **5.** | **Plant protection** | | | |
| **6.** | **Irrigation Charges** | | | |
| **7.** | **Other** | | | |

## 16. Problems faced by the borrowers in getting the loan from institutions:

| S.No. | Problems | Yes/No |
|---|---|---|
| **1.** | **Problems of getting in time** | |
| **2.** | **Problem of getting in adequate amount** | |
| **3** | **Problem in repayment plan fixed by institution** | |
| **4.** | **Lack of awareness** | |
| **5.** | **High rate of Interest** | |
| **6.** | **Procedure for Advance is difficult** | |
| **7.** | **Loan Supervision is not followed by bank** | |
| **8.** | **Communication and co-ordination is less by banker** | |
| **9.** | **Lack of proper knowledge about loan** | |
| **10.** | **Low saving for repayment of loan** | |

## 17. Suggestions:

| S.No. | Statements | Yes/No |
|---|---|---|
| **1.** | **The loan should be available at low rate of interest.** | |
| **2.** | **The loan should be available in time by easy process.** | |
| **3.** | **The training campus should be organized regarding knowledge of crop loan scheme.** | |
| **4.** | **The proper guidance should be given through organization personnel regarding proper utilization of credit.** | |
| **5.** | **The recovery process should be easy due to lack of capital with farmers** | |
| **6.** | **The motivation should be given to adopt crop loan scheme.** | |
| **7.** | **There should be easy process for bank account.** | |
| **8.** | **The loan should be provided as per the need of farmers in crop production scheme.** | |

# VITA

**Nand Kishore Pawar**, the author of thesis was born on 18th February 1990 in Kandwa district of M.P. He completed her High School from and Higher Secondary Certificate Examination Board from Govt.H.S.School, Punasa in Kandwa.

He was selected through entrance examination (P.A.T.) and joined the College of Agriculture, Indore (M.P.) in 2011 and obtained B.Sc. (Ag.) degree in 2015 with 7.4 OGPA out of 10.00 point scale.

The author continued his post graduation from R.A.K.College of Agriculture, Sehore (M.P.), to specialize in "**Department of Agriculture Economics and Farm Management**" and partial fulfillment of the requirements for the award of the same, he allotted with interesting problem as **"ECONOMIC ASPECTS OF STUDY ON FINANCING OF CROP PRODUCTION, FINANCE THROUGH BANK OF INDIA IN KHANDWA DISTRICT OF MADHYA PRADESH"** for thesis work which has been duly completed by him and presented in this thesis.

His achievement in the sports is praiseworthy. He actively participated in all the cultural activities of the college. Now, he is going to complete her master's degree programme by submission of this thesis.