INSTITUTIONAL CREDIT TO INDIAN AGRICULTURE: A STUDY OF PRE-AND-POST REFORMS PERIOD

Dissertation submitted to the Jawaharlal Nehru University in partial fulfillment of the requirements for the award of the degree of

MASTER OF PHILOSOPHY

DEEPAK KUMAR

CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT

SCHOOL OF SOCIAL SCIENCES

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI – 110067

INDIA

2010

जवाहरलाल नेहरू विश्वविद्यालय
JAWAHARLAL NEHRU UNIVERSITY
Centre for the Study of Regional Development
School of Social Sciences
New Delhi-110067

Dated 28/07/2010

Certificate

I, Deepak Kumar, hereby certify that the dissertation entitled "Institutional Credit to Indian Agriculture: A Study of Pre-and-Post Reforms Period" submitted by me in partial fulfillment of the requirement for award of degree of master of philosophy of Jawaharlal Nehru University is my bonafide work and may be placed before the examiner for evaluation. The dissertation has not been submitted for any other degree of this university or any other university.

Deepak Kumar

Deepak Kumar

Forwarded by

Prof. Ravi Srivastava
Chairperson

Dr. Deepak K. Mishra
Supervisor

Chairperson
Centre for the Study of Reg. Dev.
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110067

Tel.: 26704463, Gram : JAYENU Fax : 91-11-26742586, 26741504

Acknowledgement

This dissertation work on "Institutional Credit to Indian Agriculture: A study of Pre-and-Post Reforms Period" would not have been possible without the admirable support, kind cooperation and affectionate guidance of my teachers at the Centre for the Study of Regional Development (CSRD). I owe my gratefulness to my supervisor Dr. Deepak Kumar Mishra and very thankful for his guidance and support provided at every step. I am greatly indebted to him for bearing my childish behavior at this age.

I am also thankful to all the staff members of the centre, Central Library and Exim Bank Library of JNU for their kind help in the collection of materials used in this study.

I express my gratitude to my parents for being the source of inspiration and my family members for encouraging me to go for higher studies. I also indebted to the place and the very inherent spirit presents in Ranchi College, Ranchi in developing my innovative thought process. I also pay my thankfulness to my teachers at P G Department of Economics, Ranchi University, Ranchi for inculcating the interest for research.

I pay my thankfulness to Indian Banks Association for providing me financial support in the name of 'Com. H L Parwana Research Stipend' for completing this dissertation.

I am extremely thankful to all my friends who stood beside me at every step. My very special thanks go to Kapil, Nitu, Awadhesh, and my senior Jitendra Asathi and Arun who helped me a lot for helping me in model building and understanding the implications of that. I also express my thanks to my roommate Radhe for his support in living a 'bindass' life. Having been privileged in receiving such love and support, I own responsibility of all the errors and omissions that might have crept into the work.

Deepak Kumar

CONTENTS

CONTENTS

List of Tables:

List of Figures:

Appendix Tables:

CHAPTER 1

ROLE OF AGRICULTURAL CREDIT

1.1 Introduction

Agriculture has contributed substantially to the growth of Indian economy. From a net food importing country at the time of independence, India has gradually become self-reliant in food. Although the Indian economy has progressed substantially at macro level, however, the nutritional security and well-being of major section of the farming households is still the concern of policy makers and planners (Singh and Sagar, 2004).

Agriculture is one of the important sectors which contribute up to a great extent in economic growth and development. As India is the second largest populated country in the world. To provide livelihood of such a large population, employment is required which is provided by different sectors according to their absorption capacity. Agriculture is one of the sectors which provide employment to more than half of the workforce; around 52 per cent of total work -force[1], especially those residing in rural areas. To absorb such a huge workforce for their livelihood as well as to provide food to another half of the workforce engaged in non-farm economic activities, and to the rest of the non-working population, the primary input of the agriculture, land is required. The scarcity of land on one hand, and the increasing degree of urbanization exerts more pressure on land and its natural productive capacity. Therefore, to meet the increasing demand of food, there is a need to improve the productivity of both land and human capital, given the resources. Improvement in productivity, which is the core of economic growth, is influenced by many factors. Advancement in agricultural technology is one of the factors which came into focus with the onset of modern agriculture (Gadgil, 1986).

The adoption of such technological advancement demands investment in farm inputs as well as in the form of fixed capital to augment research and extension. To finance such a

huge investment financial institutions are needed, because of the limited capacity of public and private investment.

Further, the development of an economy depends on its capacity of capital accumulation. It is pivotal to any economy as it raises the productive capacity of the sector in which it takes place. On the other hand, capital accumulation depends on the rate of investment, which in turns depends on the rate of saving (Sidhu and Gill, 2006). As a macro-economic model suggests saving must be equal to investment. Therefore, the need of financial institutions arises to mobilize and channelize those savings for investment into productive economic activities. Therefore, the role of financial institution is crucial for development and agriculture is not an exception to it. The development of agriculture in India is an essential condition for the development of the overall economy. The significance of agriculture arises from the fact that any change in the agriculture sector, positive or negative, has multiplier effects on the entire economy (Ray, 2008). Moreover, agriculture is that sector in the Indian economy that helps in fulfilling other objectives of the planners like output growth, price stability, and poverty alleviation are best served by any development in agriculture.

Many factors affect the agriculture growth like favorable monsoon condition, climate, advanced technology, farm size, HYV, credit etc. Credit is one of the major factors affecting the agricultural development (Ray, 2008). The uncertainty associated with monsoon makes agriculture sector much more dependent on the credit supports because 80 per cent of the farmers are small and marginal, who are unable to save and invest due to their low levels of income. Although, agricultural credit in itself is not an input but it helps in creating environment for the adoption of modern production technology and for encouraging private investment on the farm (Sidhu and Gill, 2006). Moreover, credit is an important instrument for improving the welfare of the poor indirectly through enhanced agricultural productivity which reduces the vulnerability of short-term income and leads to consumption smoothening. It also enhances productive capacity of the poor through financing investment in their human and physical capital. Therefore, access to

[1] NSSO, 61st Round Employment-Unemployment Survey, 2004-05

credit is regarded as one of the key elements in raising agricultural output and productivity.

One important trend in the literature is to view the relationship between the lenders and borrowers as a form of exploitation of less powerful agents(for example, small and marginal farmers) by more powerful ones (landlord-cum-moneylenders/traders)(Bhaduri, 1973, 1977, 1983; Bhardwaj, 1979; Sarap, 1987). The unequal power relation between lender and borrower arises from latter's regular need for loans for survival and such dependence of borrowers continues uninterrupted as long as the borrower remains poor and without any alternative and dependable source of borrowing (Rao 1980, Sarap, 1987 and Bhaduri, 1986a; 1986b).

It has been argued that availability and distribution of credit are a function of the power structure in a given region (Lipton, 1976; Sarap, 1987). The existing power structure in rural India is such that even the organized credit, which is almost always subsidized, flows to the rich who use that to exploit the poor even further (Sarap, 1987). This, in effect, amounts to an income transfer to the rich (Rao, 1970, 1975; Dadhich, 1971; Lipton, 1976; Lele, 1981 and Sarap, 1987).

Since independence one of the objectives of the credit policy has been to minimize the role of non-institutional sources, mainly the money lenders in the flow of agricultural credit. For this a multi-tier credit system has been developed and several other initiatives have been taken. However, in spite of these efforts and initiatives, the flow of credit to agriculture sector remains a matter of concern, and the moneylenders continue to play a dominating role in the delivery of credit to farmer households, because the reach of institutional agencies has remained poor, particularly to small and marginal farmers.

This chapter has seven sections including introduction part. Section two is on the role of agricultural credit in traditional agriculture. Here, basically the characteristics of traditional farming and its relation with credit market have been discussed. The third section deals with the same role of agricultural credit but in modern agriculture keeping in view the technological transformation which has taken place in the agriculture sector.

Fourth, is on the role of institutional credit in agriculture development gives an insight about the developmental role of institutions. The next section elaborates the objectives framed to be studied in this work. Given the objectives and literature review, some hypotheses were supposed in the sixth section. The data source and methodology followed to check the validation of hypothesis were also mentioned in this section. Lastly, the structure of the entire work has been given.

1.2 Role of Agricultural Credit in Traditional Agriculture

Traditional agriculture precisely can be defined as the farming practices which were having low capital-labour ratio. It was in the pre-independence period when predominantly landless or agricultural labours were engaged in farming activity under the exploitative conditions of landlords. However, after getting independence attempts have been made by our visionaries and statesmen to remove the exploitation that existed in this country for a long time, inherited through the inbuilt nature of colonialism. In this direction a first major step had been taken in the form of land reforms in the country to bring equity in respect of distribution of land. They succeeded in achieving their objectives but only to a limited extent.

On the other hand, before 1960s', the agricultural credit was not looked upon as an input rather credit for unproductive purposes were in greater need. In the absence of multiple cropping systems, agriculture was mainly a seasonal activity which led to variability in the agricultural incomes and hence the demand for credit during the non-agricultural season became obvious. Those demands were mainly for consumption, marriages ceremonies, occasions etc. Hence the agricultural loans with non-availability of collateral, was mostly in the form of loans from local moneylenders. The credit market prevailing during that time was part of social interaction, with elements of patronage and reciprocity. In the absence of any formal credit market, the local money-lenders were providing loans to their tenants or any informal groups known to them usually charging a very high rate of interest. But such transactions only exist if the two parties were well-

aware about each other's behavior. The common phenomenon which was often seen in the 'traditional' form of credit market was the presence of inter-locking of two markets. In the interlocked market, the landlords gave loans to his not-so-credit worthy tenants who in turns worked in his field either with low wage or no wage. Thus the transaction in one market (viz credit) was inter-locked with transaction in other markets (viz labour or land market).These interlocking served the interest of the both the parties and acted as beneficial for both[2].

Traditionally, agriculture was seasonal, limited to certain farm areas and mainly performed by the family labour. And this was the prime reason for low level of productivity and consequently for low incomes. Many studies have been done which put forward the argument that the interlinked contract cannot augment the income of an agricultural labour (Chatterjee and Kundu, 1998). They further argued that consequently the wage income of the contracted agricultural labour was reduced and his burden of loan had increased. All this happen because of an implicit nature of interlinked transactions in which all the market power is retained by landlords and the debtor-cum-agricultural labourer was kept at the reservation level of lowering the wages and increasing the volume of loan (Chatterjee and Kundu, 1998). But with the course of time, Indian agriculture has made great strides, from chronic hunger and abject dependency on the import of the food grains to the country became self-sufficient in the availability of food grains and has also became a net exporter of food grains for consecutively for the last 10 years (Singh and Shah, 2004).

1.3 Role of Agricultural Credit in Modern Agriculture

Since 1960s, there has been a major transformation in Indian agriculture and farmers have become increasingly technology conscious with their participation in the Green Revolution (Singh and Vyas, 2004). With the advent of the green revolution, modern technologies were introduced in Indian agriculture to raise the productivity of land and to feed the country's rising population. With technologies were introduced, the demand of

[2] However, there is a divergence of opinion on the implications of inter-linkage (Das and Bhardwaj, 1975; Sarap, 1987).

the farm inputs like fertilizers, pesticides, HYV seeds etc increases. Therefore, more emphasis was laid on the investment for growth of agriculture which was depending upon the level of technology adopted. The adoption of the appropriate seed-fertilizers technology was dependent to a great extent on the investment in irrigation, land development and power generation, which not only impact stability to the agriculture production but also its long-term growth potential (Karmakar, 1998). Therefore, to have this sustainable agricultural growth capital formation in the agriculture sector requires meeting these challenges.

1.4. Role of Institutional Credit in Agricultural Development

The role of formal credit in promoting agricultural growth is to provide the wherewithal for private investment in inputs and fixed capital to enable farmers to switch over to a superior production function (Gadgil, 1986). According to him, a production oriented lending system implies providing credit for such investment on the basis of its techno-economic feasibility rather than loan collateral, and focusing particularly on those farmers whose low income-saving base precludes their undertaking investment capacity without credit. The role of credit in growth is thus indirect but positive and its linkages both backward as well as forward with industry to which investment is financed by it through surplus production. Nonetheless, the sufficiency of production credit in spite depends upon the adequacy and efficiency of infrastructure, without which the returns on private investment would be low.

Expanding the availability of agriculture credit, especially institutional credit has been widely used in the developing countries as a policy to accelerate growth in agriculture sector and rural development. The popularity of credit is partly due to the notion that loans are necessary to accelerate technological change in the farming and for that formal credit is required to make farmers get free from their dependency on the usury nature of unorganized sector (Sahu, 2007). Further, sufficient and timely credit availability to the agriculture leads to sufficient rise in the agricultural output and its productivity. Hence, the credit and the credit institutions were heavily subsidized (Binswanger and Khander, 1995). The government of India has been successful to a large extent in promoting

banking habits, financial and credit deepening in rural areas. However, it is the complicated inter-dependency of rural markets and the misery nature of rural credit markets that has prevented the further progress of banking system. With the limitations on the expansion of crop area, growth in the farm sector depends directly on the adoption of new farming technique and for that on credit availability.

From the development perspective, institutional credit market appears to have increased on an overall basis. With the modernization of agriculture in the mid 1960s', the agriculture needs credit both for working capital and for investment. The demand for short term and long term agricultural loans started rising at a rapid rate due to the purchase of costly inputs like fertilizers, HYV seeds, and pesticides from the market. The form of government incentives was shifted from cooperative based approach to state owned banks to create an alternative source of finance to free the farmers from the grip of the money-lenders and to meet the ever increasing demand for credit. This led to the second phase of the rural banking system in India.

At the outset, there was only unorganized private finance. However, those private money lenders were unable to advance the finance required so private financial institutions were built. Understanding the exploitative nature of private financial institutions and their partial attitude towards agriculture due to low profitability which is the main motive of private finance, a need was felt to make a changeover from? In this regard, an important step was taken first time in independent India in 1969, with the social control of private financial institutions, popularly known as Bank's Nationalization.

With this path breaking attempt which has revolutionized the whole financial system, among other things directed to provide credit for agriculture on a priority basis. The banks were inter-alia also assigned a role in providing agricultural credit to supplement credit by cooperatives. Further, under the "Lead Bank scheme", guidelines were made to advice small borrowers about the proper use of credit, and to assist other primary lending institutions.

However, the agricultural credit programme could be beneficial from a societal point of view if they overcame the liquidity problems associated with highly imperfect rural credit markets. The institutional credit market growth has not been so far equally spread across all regions of the country. The more developed regions had better access to credit as compared to less developed regions (Dadibhavi, 1988; Giri and Dasgupta, 1988). Even the transaction cost of borrowing from these formal institutions to the borrowers were high due to complicated lending procedures, required documentation and tangible loan collaterals while such costs were less in non-institutional sources.

On the other hand, the lending cost from the lenders' point of view was considered to be high due to heavy overheads and large number of small loans (Sidhu and Gill, 2006). Further, the rural financial institutions were reeling under the problem of poor recovery due to variability in incomes, expectation of waiver of loans causing willful default etc, (Gill 2005). In the presence of such problems, the objectives of agricultural credit policy of equity, adequacy, cost effectiveness, low prices, and agricultural development is not meeting its goals in promoting use of modern production inputs and capital formation. Less availability of capital influences adversely the adaptation of modern technology and private capital investments, which in turns lower productivity and production, pushes the farmers to borrow from non-institutional source (Sidhu and Gill, 2006). Moreover, the financial sector reforms initiated in 1991 undermined the institutional arrangement for agriculture and were disturbing (Ramakumar and Chavan, 2007). Shetty (2002) also mentioned in his study of the structural deterioration of distribution of bank credit that after 1990s there has been a steady decline in the share of credit flew to agriculture. He said that it was because of the financial sector reforms propagated by the multilateral agencies, like World Bank, IMF, and ADB.

Shetty (2002) further argues that in the backdrop of financial liberalization, the so-called prudential norms like, capital adequacy made the banks highly risk-reverse which make the small borrowers to suffer most. So, the credit flow to agriculture through the mechanical application of Basel norms has squeezed the resources available for agriculture credit operation. According to Ramakumar and Chavan (2007), the flow of

agricultural credit during the third phase of 1990s was disturbed due to large-scale closure of commercial banks branches in rural areas, a widening of inter-state inequality in credit provision, a sharp fall in the growth of credit flow to agriculture, an increased exclusion of the disadvantage and dispossessed sections of the population from the formal financial system, and strengthening of the hold of money-lenders on rural debt portfolios (Ramachandran and Swaminathan, 2004). One more thing to be mentioned here is that the growth rate of agricultural credit in the 1990s' was even less than the growth in rural population in the corresponding period (Chavan, 2002). But, with the coming of the new government in 2004, a "new deal for rural India" was announced along with a comprehensive credit policy (Ramakumar and Chavan, 2007). In this light, the whole scenario of institutional credit flow to agricultural sector is supposed to have changed especially after 2000.

1.5 Objectives of the Study

The objectives of this study are as follows:

- To assess the performance of institutional credit flow in general and to agriculture sector in particular in terms of different indicators[3] in the pre-and post reform period;
- To examine the inter-state disparity in flow of agricultural credit; and
- To analyze socio-economic characteristics[4] that influence farmers' access to formal credit.

1.6 Hypothesis, Methodology and Data Base

1.6.1 Hypothesis

The following hypotheses will be tested in this study:

---

3 Indicators hereby mean geographical spread of branch network, deposit mobilization, and distribution of bank credit among regions, and sectors.

4 Characteristics such as, farmers' age, education of the head of the household, sex of the head of the household, household size, operational land holding size, household type, social group, off-farm income, etc.

- There was a structural deterioration in institutional credit to agricultural sector in the first decade of economic reforms;
- Inter-regional disparities in terms of credit disbursement have widened after 2000? or 1990?;
- Socio-economic characteristics like, farmers' age, education of the head of the household, gender of the head of the household, household size, operational land holding size, household type, etc. are the factors which determine the farmers' choice of credit source.

1.6.2 Data Base and Methodology

To assess the performance of institutional credit flow in general and to agricultural sector in particular at all-India as well as state level with the help of different indicators, the data have been used from various issues of Banking Statistics and Basic Statistical Returns published annually by Reserve bank of India (RBI).

For, the study of socio-economic characteristics that influence farmers' access to formal credit market the household level data of Situation Assessment Survey of Farmers (SAS) carried out by the National Sample Survey Organization (NSSO) during 2003 (59^{th} Round) have been used. Situation Assessment Survey of Farmers was carried out first time only in rural areas to assess the situation of farmers by NSSO in 2003, which provides useful quantitative information on different dimensions of rural finance viz., assets, liabilities and capital expenditure in the household sector of the economy. In this analysis, the credit made available during one agricultural year, from July 2002 to June 2003 has been considered. The performance of credit system is to be assessed in terms of participation of rural farmer households to different credit outlets, their share in outstanding loans disbursed from formal credit institutions, availability of credit, etc.

There are a number of socio-economic variables which influence the choice of credit sources. A logit model has been used to identify the factors which determine the choice of credit sources of the rural farmer households. The selection of logit model has been done because of the nature of the dependent variable which is dichotomous in nature (that

is, if one has access to formal credit source will be valued, 'yes' otherwise 'no'). The explanatory variables which are supposed to influence the choice of borrowing sources include age, sex, education of the household head, household size, operational land holding size, household type, social group, off-farm incomes, resource endowments, etc. The following logistic regression function will be used:

$$\Pr(Y = 1|X_1, X_2, \ldots X_k) = \frac{1}{1 + \left\{\frac{1}{e^{(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k)}}\right\}}$$

Where, P_i is the probability that Y will have the value 1, i.e., the household has chosen formal credit outlet, for borrowing loans, and 0 otherwise. X_is are the factors that influence household's decision to choose credit outlet, and β_{is} are the coefficients of the explanatory variables, X_{is}.

1.7 Structure of the Work

The first chapter was on the role of institutional credit to agriculture and also about objectives, data base and methodology. Given the role, how far banking system has been succeeded in its outreach to cater the credit demands of the people of India in general, and to agriculture sector in particular, has been dealt at regional level in the second chapter. The third chapter is on the distribution of farmer households across states and their indebtedness. Here, an attempt has also been made to examine the incidence of indebtedness in term of credit market from where loans were borrowed. An examination of indebtedness according to social group and farm size has also been made. The fourth chapter is on analysis of socio-economic determinants which influence the farmer's decision to take loan from formal credit market. Lastly, a summary note of the whole work has been presented.

CHAPTER 2

AN ANALYSIS OF INSTITUTIONAL CREDIT IN GENERAL AND TO AGRICULTURE IN PARTICULAR IN PRE-AND-POST REFORMS PERIOD

2.1 Introduction

The first chapter has introduced with the importance of agricultural credit in the development of agriculture sector and at large for economic development. It has also familiarized with the reason of need of agricultural credit which arises due to lack of simultaneity between realization of income and the act of expenditure and further due to the problem of indivisibility of fixed investment (Namboodiri, 2005). Further, the prevalence of marginal and small farmers needs support in the form of concessional interest rates to get rid from the usury nature of private money lenders. Therefore a need was felt of directed credit programmes for agriculture sector. It has been argued that although there has been a tremendous growth in the banking sector and their advancement to agriculture sector. But, the introduction of economic reforms in the early 1990s or later 1980s has been adversely affected the supply of rural credit in general and agricultural credit in particular (Shetty, 2002, 2004; Mohan, 2004; Sahu and Rajashekhar, 2005; Satish, 2007; Ramakumar and Chavan, 2007).

Although, many studies have been done to examine the performance of banking sector advances to agriculture both in the pre reform and post reform period and their findings supports the argument that the first decade after economic reforms have systematically undermined the institutional credit arrangements to agriculture sector (Satish, 2007). This study attempts to evaluate the structural changes that have brought into the role of institutional credit in general and to agriculture sector in particular.

The study has been compiled into thirteen sections including introduction. In the second section a study of performance of bank branches of scheduled commercial banks have

been discussed in terms of number of branches. The next two sections also discuss the performance of the banking system in terms of deposits, credit outstanding and credit deposit ratios. The fifth section further elaborates the development of banking sector across states. The next section studies the migration of credit between regions and states. The seventh and eighth section explains the distribution of credit according to loan size and occupation respectively. Ninth section is on the proportion of account holders and loan borrowed according to operational land holding sizes. Tenth and eleventh section discusses the different components of agricultural advances at all-India and state level. The twelfth section has tried to find the determinants that affect the agricultural credit disbursement. Lastly, the summary of the chapter has been given.

2.2 Infrastructural Network

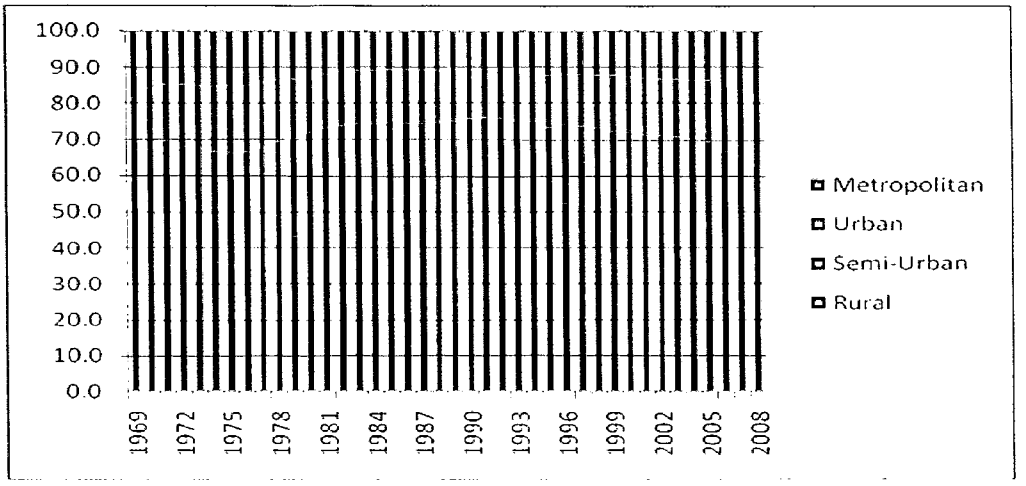
This section presents an extensive description of the bank branches of scheduled commercial banks according to population group-wise understanding the fact that the expansion of bank branches is a prerequisite for advancement in credit. Further, the banking branches network is the fundamental infrastructure base to increase the outreach level of banking system. It has dual role to play. One is to cater the savings of the people to increase investment in the economy at large and second, it also increases the investment capacity of individuals through credit support. So, the development of branching network according to population group-wise since bank's nationalization has been shown in the Table 2.1. The rural branch network has seen a tremendous growth after the nationalization of banks in 1969 and again in 1980 and with the establishment of regional rural banks (RRBs) in 1975.

The total number of rural branches which was 1443, in 1969 went up to 35,396 in 1994 during a period of almost 25 years. But after that declined to 33, 017 in 1995 to 32,734 in 2000 and further to 30,898 in 2008. In other words, the first two and half decade can be marked as a progressive period for the banking sector in general and for the rural areas in particular. Although, figure 2.1 shows that the percentage share of rural branches of SCBs to total bank branches was high throughout the entire period of analysis. But, it should be mentioned here that this was the fundamental requirement as mentioned above

to cater the needs of the more than two third of the rural population. The share was 17.6 per cent in 1969 increased rapidly in the first five years and reached 36 per cent in 1973 but thereafter stagnancy caused the expansion of banking branches for three years till 1974. This was the period of political instability and emergency in the country that might have plagued the further progress of the banking system.

Recognizing the growing demand of the rural people a new policy was introduced under which a new system of banking called regional rural banks were established in 1975. However, in 1975, it marginally declined to 35.6 per cent and continued for the next year also. It should be noted here that 1975 has its own importance in the history of banking development because in the very same year, the RRBs were established to expand the banking network in rural areas. Hereafter it started increasing steadily and reached to almost 57 per cent in 1991. Thereafter, a trend of progressive decline started, as the RBI liberalized the policy for the closure of rural branches on grounds of non-viability and lack of profitability. It declined to 50 per cent in 2000 and further to 39.8 per cent in 2008.

Figure 2.1: Distribution of Bank Branches of Scheduled Commercial banks According to Population Group wise from 1969 to 2008 for Rural Sector (in Per cent)



Source: RBI, Banking Statistics: Basic Statistical Returns

Table 2.1: Distribution of Bank Branches of Scheduled Commercial Banks According to Population Group Wise.

Year	Share to Total				
	Rural	Semi-urban	Urban	Metropolitan	Total
1	2	3	4	5	6
1969	17.63	40.76	23.34	18.27	100
1970	30.23	36.70	17.21	15.85	100
1971	35.63	33.63	16.22	14.52	100
1972	36.00	31.45	18.00	14.55	100
1973	36.01	31.05	18.09	14.85	100
1974	36.09	30.50	18.27	15.13	100
1975	35.62	30.38	18.78	15.22	100
1976	35.41	30.74	19.05	14.81	100
1977	37.23	30.02	18.62	14.13	100
1978	41.29	27.85	17.48	13.37	100
1979	43.30	26.77	16.84	13.08	100
1980	45.72	25.62	16.26	12.40	100
1981	48.03	24.53	15.67	11.77	100
1982	50.55	23.00	15.02	11.44	100
1983	50.87	23.04	15.12	10.96	100
1984	53.72	20.38	15.14	10.76	100
1985	54.32	20.28	14.98	10.42	100
1986	54.63	19.81	15.01	10.54	100
1987	54.66	19.72	15.09	10.53	100
1988	54.64	20.12	14.87	10.36	100
1989	55.67	19.34	14.73	10.27	100
1990	56.49	18.99	14.45	10.08	100
1991	56.92	18.74	14.31	10.03	100
1992	56.75	18.68	14.52	10.04	100
1993	56.33	18.63	14.94	10.11	100
1994	55.87	19.00	15.04	10.09	100
1995	51.74	21.16	15.00	12.10	100
1996	52.35	21.52	14.42	11.72	100
1997	51.79	21.66	14.70	11.85	100
1998	51.20	21.77	14.94	12.09	100
1999	50.60	21.82	15.24	12.34	100
2000	50.04	22.03	15.37	12.56	100
2001	49.40	22.14	15.61	12.84	100
2002	48.92	22.28	15.83	12.97	100
2003	48.55	22.33	16.07	13.05	100
2004	47.81	22.46	16.37	13.36	100
2005	46.93	22.53	16.82	13.71	100
2006	44.02	22.39	17.32	16.27	100
2007	42.53	22.77	18.05	16.64	100
2008	39.77	22.77	19.66	17.80	100

Source: RBI, Banking Statistics: Basic Statistical Returns

In incremental terms(Table 2.2), the increase in number of rural branches was 13376 which was 56.7 per cent of the total increment in banking branches during the first decade after nationalization, i.e., between 1971 to 1981. It further rose by 17550 (71.6 per cent) during 1981-91. But, it was really shocking for rural areas where the number of bank branches were closed by 2644 (46.4 per cent of total increment), on such a large scale in the first decade of economic reforms (1991-2001). Moreover, it further went down by 1664 (14.1 per cent) between 2001 and 2008.

On the other hand, the percentage of semi-urban offices also declined steadily for first one and half decade after nationalization. It was about 41 per cent in 1969, decreased to around 30 per cent in 1975, and further to 18.7 per cent in 1991. But thereafter started increasing and reached at 22.8 per cent at the end of 2008. The total number of semi-urban branches was 3337, more than double of the number of rural offices at the time of nationalization. It increased to 12041 in 1994, almost four times what it was at the beginning, to 14407 in 2000 and further to 17695 in 2008. However, the increment to total expansion was only18.7 per cent between 1971 and 1981 and even less, only 11.7 per cent for the next decade. It was the economic reforms which contributed more than 50 per cent increment in semi-urban branches of SCBs to total increment in banking branches during 1991-2001. It further increased by 3098 (26.3 per cent) between 2001 and 2008.

Taking the rural and semi-urban areas together, the number of bank branches has edged up by 17807 (75.2 per cent) during 1971-81. This increment was even greater 20423 (83.3 per cent) and reached to 46550 in the period of 1981-91. Thereafter, a marginal increase of 609 (10.7 per cent) in the first phase of economic reforms, i.e., between 1991 and 2001 has taken place. It further increased by 1434 (12.2 per cent) in between 2001 and 2008.

In urban sector, the number of commercial bank branches was 1911 (23.3 per cent to total number of branches) in 1969, increased to 8833 in 1991, but in percentage terms it declined to 14.3 per cent. After economic reforms, it increased to 15275 (19.7 per cent to total number of branches) in 2008. In terms of increment to total expansion, the number

of branches went up by 3505 (14.8 per cent) during 1971-81. Next decade had witnessed even less increment than the first one, only, 10.6 per cent. But, it edged up by 2247 (39.4 per cent) in the first phase of economic reforms and reached 10052 in 2001. This was further raised by 4982 (42.3 per cent), more than double of the increment in the previous decade, between 2001 and 2008.

Table-2.2 Decadal Increment of Branches across the sectors

Year	Rural	Increment	Semi-urban	Increment	Rural+ Semi-urban	Increment	Total Increment	Growth
1	2	3	4	5	6	7	8	9
1971-1981	13376	56.5	4431	18.7	17807	75.2	23694	197.2
1981-1991	17550	71.6	2873	11.7	20423	83.3	24513	68.7
1991-2001	-2644	-46.4	3253	57.1	609	10.7	5699	9.5
2001-2008	-1664	-14.1	3098	26.3	1434	12.2	11780	17.9
Year	Urban	Increment	Metropolitan	Increment	Urban+ Metropolitan	Increment	Total Increment	Growth
1	2	3	4	5	6	7	8	9
1971-1981	3505	14.8	2382	10.1	5887	24.8	23694	197.2
1981-1991	2592	10.6	1498	6.1	4090	16.7	24513	68.7
1991-2001	2247	39.4	2843	49.9	5090	89.3	5699	9.5
2001-2008	4982	42.3	5364	45.5	10346	87.8	11780	17.9

Source: RBI, Banking Statistics: Basic Statistical Returns

The share of metropolitan branches which had earlier decreased from 18.3 per cent to 10 per cent between 1969 and 1991 was raised in the second half of the 1990s and again in later 2000s, reached 12.6 per cent in 2001 and further to 17.8 per cent in 2008. In terms of increment it was only 2382 (10 per cent) during 1971-81. It further went down to 6.1 per cent between 1981 and 1991. But the reforms have contributed prominently in the increment of metropolitan offices increased by 2843 (around 50 per cent) in the first decade. It further increased by 5364 (45.5 per cent) to 13831 between 2001 and 2008 respectively. The number pertaining to urban and metropolitan areas together has increased by 5090 (89.3 per cent) during 1991-2001 and further by 10346 (87.8 per cent) between 2001 and 2008.

Hence, Table 2.1 clearly reveals that there was a clear structural transition in the expansion of banking network. In the pre-reform period, it was rural and semi-urban sector in which the total number of branches together edged up by 38230 (79.3 per cent) whereas the number pertaining to urban and metropolitan areas has increased by 9977 (20.7 per cent). But the trend was completely reversed in the post reform period. The number of branches has increased only by 2043 (11.7 per cent) in rural and semi-urban areas together whereas, the number has increased by 16436 (88.3 per cent) in the urban and metropolitan areas. This shows that the phenomenon of 'high-street banking' (Shetty, 2002) has received an added impetus in the post reform period.

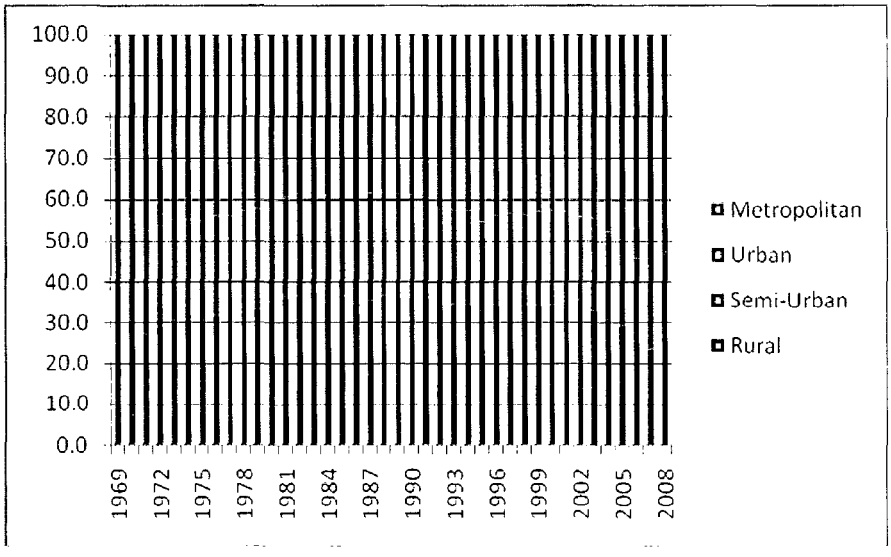
However, the moot question which needs to be answered is that what the yardsticks to judge the viability of branches. Shetty (2002) says that there is no definite way to judge if the concept of viability is being strictly adhered to in urban and metropolitan branch banking. He further argues that if the share of deposits mobilized by these branches is a yardstick in this respect, the objective has not been achieved all together in case of urban and metropolitan. To check the validity of his argument the data on credit disbursal and deposits have been presented in the Table 2.3 and 2.4.

2.3 Deposits and Credit Outstanding

The results presented in the above tables' shows the mobilization of bank deposits and credit outstanding respectively by scheduled commercial banks according to population group-wise. In rural areas, the deposits have declined from 15.5 per cent in 1991 to 14.7 per cent in 2001 and further to 11.1 per cent in 2008. The share of aggregate deposits of rural and semi-urban offices together had increased initially from 25 per cent in 1969 to 36 per cent till the beginning of reforms. Then it slipped to 34.3 per cent in 2001 and further went down to 25 per cent. However, the decline had been even much sharper in the share of credit of rural branches in total bank credit. It was fallen from 15 per cent to 12.8 per cent between 1991 and 2001. Thereafter, it remained almost stagnant till 2008 with minor fluctuations in between. Whereas, the proportion of bank credit obtained in metropolitan centers has risen much more sharply from 46.3 per cent, their share in aggregate deposits has gone up from 63.9 per cent in 1991 to 66.7 per cent in 2001 and

further to 73.4 per cent in 2008. to 57.2 per cent between 1991 and 2008, and above that it is the rise in credit-deposit ratios from about 72.8 per cent to 75.7 per cent that attracted banking system towards it. According to Shetty (2002), some part of the decline in deposit and credit shares of rural bank branches might be explained by changes in classification of centers based on the consecutive censuses.

Figure 2.2: Distribution of Deposits of Scheduled Commercial Banks Branches According to Population Group-Wise



Source: RBI, Banking Statistics: Basic Statistical Returns

2.4 Distribution of Credit-Deposit Ratio of Scheduled Commercial Banks

The C-D ratio inter-alia depends upon the credit absorption capacity of the region which in turn depends upon various factors influencing generation of demand for credit (RBI, 2007). Table 2.5 shows the squeezing in C-D ratio of rural branches from about 72.9 per cent in 1984 to 60 per cent in 1991 and further to 50 per cent in 2001 that had been the most depressing aspect of banking development in the foregone decade. But, the revival has begun after that and it increased to around 80 per cent in 2008. Similar kind of deterioration had also occurred in semi-urban areas; their average credit-deposit ratio had declined from 49 per cent in 1991 to 38 per cent in 2001 along with a fall in their credit

share in the total from 16.4 per cent to 13.2 per cent. Here again the revival started after 2001 and the credit-deposit ratio was risen to 52.8 per cent despite a fall in the share of credit.

In urban areas the C-D ratio was as high as 70 per cent in 1970 went down to 56.5 per cent in 1991 despite stagnancy in the share of credit in total bank credit. It has fallen steadily to 43.8 per cent in 2001 along with a fall in the share of credit, and then it increased to 60.5 per cent in 2008 with a very small increment of less than one per cent in credit share. So far metropolitan areas are concerned the C-D ratio was highest among all the sectors, more than 100 per cent in three different years; 1969, 1970 and 1976. It decreased to 72.8 per cent in 1991 but again increased to 74.7 per cent in 2001 and further to 75.7 per cent in 2008. The C-D ratio in the metropolitan areas had never fallen below 65 per cent ever. The picture will be clear if we look at in terms of percentage increment, which has been shown in the Table 2.6. Between 1971 and 1981 the rise in deposits in rural areas to total increment of 458 per cent in total deposits at all-India was 14.7 per cent, whereas the rise in semi-urban areas was 23.4 per cent. The highest increment was in metropolitan areas, 37.4 per cent even in the period of early nationalization. But, there was an increment observed in the share of rural sector in total increment in deposits during 1981-91, however, that was lowest amongst all the sectors. In the first decade of economic reforms the rural increment has again fallen to 14.5 per cent, same as in the early nationalization period. The increment in semi-urban areas also fell down to 19.3 per cent. The same pattern had been seen in the urban areas too. Only metropolitan sector have got the highest increment in deposits as well as credit. The increment was 43.7 per cent in deposits during 1991-2001. The second decade of economic reforms, that is, 2001 onwards, was also not very impressive for rural branches. It was able to mobilize only 8.8 per cent of the 150 per cent growth in total deposits.

Table 2.3: Distribution of Deposits of Scheduled Commercial Bank's Branches in Total Deposits in Percentage According to Population Group

Year	Rural	Semi-urban	Urban	Metropolitan	Total
1	2	3	4	5	6
1969	3.11	21.95	25.92	49.02	100
1970	7.27	22.79	25.54	44.40	100
1971	5.22	22.16	25.61	47.01	100
1972	6.46	22.36	24.96	46.23	100
1973	7.14	23.26	25.36	44.25	100
1974	7.77	22.66	24.78	44.80	100
1975	8.14	22.24	24.59	45.03	100
1976	8.69	22.59	24.87	43.85	100
1977	9.02	22.31	24.85	43.83	100
1978	9.89	22.37	25.08	42.65	100
1979	10.64	22.46	24.87	42.02	100
1980	11.93	22.97	25.26	39.84	100
1981	13.02	23.18	24.66	39.13	100
1982	13.78	22.91	25.02	38.29	100
1983	14.09	23.53	24.88	37.50	100
1984	14.37	20.74	25.95	38.93	100
1985	13.39	21.55	26.25	38.81	100
1986	13.89	21.15	25.69	39.27	100
1987	14.33	21.26	26.04	38.38	100
1988	15.06	21.66	25.62	37.67	100
1989	14.99	21.38	25.06	38.57	100
1990	15.26	21.16	24.67	38.91	100
1991	15.46	20.66	24.50	39.38	100
1992	15.08	19.65	23.32	41.95	100
1993	15.01	19.43	23.18	42.39	100
1994	15.23	19.46	22.92	42.40	100
1995	13.67	18.85	22.19	45.30	100
1996	14.39	19.52	22.43	43.66	100
1997	14.74	19.59	22.49	43.18	100
1998	14.54	19.39	22.62	43.46	100
1999	14.71	19.49	22.94	42.86	100
2000	14.67	19.72	23.00	42.60	100
2001	14.69	19.61	22.94	42.76	100
2002	14.19	19.14	22.74	43.93	100
2003	13.83	18.94	22.76	44.46	100
2004	12.91	17.75	21.86	47.49	100
2005	12.20	16.93	21.46	49.41	100
2006	10.81	14.45	20.60	54.14	100
2007	9.74	13.76	20.51	55.99	100
2008	11.15	15.39	21.07	52.40	100

Source: RBI, Banking Statistics: Basic Statistical Returns

Table 2.4: Distribution of Credit Outstanding of Scheduled Commercial Bank's Branches in Total in Percentage According to Population Group

Year	Rural	Semi-urban	Urban	Metropolitan	Total
1969	1.50	11.27	20.01	67.22	100
1970	4.49	15.54	22.34	57.63	100
1971	3.15	13.56	20.73	62.56	100
1972	4.58	13.95	21.24	60.22	100
1973	4.84	14.33	22.40	58.43	100
1974	5.30	14.67	22.90	57.13	100
1975	5.87	15.09	24.03	55.01	100
1976	5.80	13.27	21.84	59.08	100
1977	6.50	13.79	22.35	57.36	100
1978	7.46	15.07	22.46	55.01	100
1979	8.38	15.64	22.72	53.26	100
1980	9.67	16.15	22.56	51.61	100
1981	11.40	17.43	22.80	48.37	100
1982	12.13	17.23	22.41	48.23	100
1983	12.35	17.70	21.74	48.21	100
1984	14.83	16.36	23.47	45.34	100
1985	13.77	17.46	22.39	46.37	100
1986	14.66	17.63	22.30	45.40	100
1987	15.11	17.70	22.82	44.37	100
1988	15.84	18.43	22.51	43.21	100
1989	16.29	17.29	22.96	43.47	100
1990	15.40	17.14	22.62	44.84	100
1991	14.97	16.35	22.36	46.31	100
1992	15.14	15.80	21.68	47.38	100
1993	14.10	14.52	20.32	51.06	100
1994	14.03	13.96	20.39	51.62	100
1995	11.93	13.46	18.56	56.05	100
1996	15.16	14.48	17.43	52.92	100
1997	14.16	14.28	18.21	53.35	100
1998	14.59	14.10	18.13	53.19	100
1999	14.10	14.33	18.49	53.08	100
2000	12.92	14.08	17.30	55.70	100
2001	12.79	13.21	17.70	56.30	100
2002	13.37	13.74	18.87	54.02	100
2003	14.09	13.78	18.90	53.24	100
2004	12.49	13.05	19.31	55.16	100
2005	13.92	12.39	18.42	55.26	100
2006	13.17	11.55	18.26	57.02	100
2007	12.11	10.93	17.99	58.98	100
2008	12.77	11.70	18.37	57.16	100

Source: RBI, Banking Statistics: Basic Statistical Returns

So, in the point of view of banks it was the metropolitan sector from which the increment in deposits had brought about. This reveals a very important macroeconomic phenomenon that there was an increasing trend of savings among metropolitan people. On dividing the whole period into two parts, all the sectors except metropolitan, had contributed regressively to total increment in deposits. However, this less amount of contribution in the deposits can be attributed to the increasing urbanization in the country, and also to the changes in occupational structures. The Planning Commission estimates shows that there has been an all round decline in the work force engaged in agriculture activity. Consequently, the share of work force has increased in manufacturing and service sector which is prominently carried out in the urban and metropolitan areas.

So far increment in outstanding credit is concerned; the average annual growth rate had declined at all- India level over the period (Table 2.6). It was 43.17 per cent between 1971 and 1981, went down to 36.25 during 1981-91, and further slipped to 33.35 per cent in the first decade of economic reforms. The growth rate was even less, 20.6 per cent between 2001 and 2008. The sectoral analysis reveals that the cost had been paid by the rural and semi-urban areas and to some extent by urban areas also. It was only metropolitan areas which got the largest share in total increment in credit outstanding. The share of rural areas has increased by 13.3 per cent between 1971 and 1981 and further by 16 per cent during 1981-91. But, it came down to 12 per cent between 1991and 2001. A hope has emerged with a very small, 0.7 per cent increment during 2000s. On comparing the increment in deposits and credit, the only period in which the increment in credit outstanding was greater than increase in deposits was after 2001.

The trend in semi-urban areas was also not very much different. The share had declined from 18.3 per cent between 1971 and 1981 to 16 per cent during 1981-91 and further to 12 per cent during economic reforms, that is, between 1991-01. The second phase of economic reforms, that is, 2001 onwards was also not good for them. If we consider the pre and post reform period, the reforms was not impressive for all the sectors except metropolitan.

Table 2.5: Distribution of Credit-Deposit Ratios of Scheduled Commercial Banks

Year	Rural	Semi-urban	Urban	Metropolitan	Total
1969	37.45	39.70	59.71	106.08	77.36
1970	48.25	53.27	68.33	101.39	78.12
1971	42.06	42.68	56.44	92.80	69.74
1972	47.67	41.91	57.15	87.49	67.15
1973	47.19	42.89	61.50	91.93	69.61
1974	51.13	48.55	69.31	95.64	74.99
1975	52.01	48.96	70.53	88.15	72.16
1976	51.56	45.38	67.84	104.05	77.23
1977	52.30	44.81	65.21	94.87	72.50
1978	52.66	47.03	62.49	90.03	69.80
1979	54.39	48.10	63.14	87.59	69.11
1980	54.47	47.24	59.99	87.01	67.17
1981	58.19	49.97	61.44	82.14	66.46
1982	59.38	50.70	60.40	84.97	67.44
1983	59.33	50.91	59.16	87.05	67.70
1984	72.93	55.77	63.93	82.34	70.70
1985	69.90	55.04	57.96	81.19	67.94
1986	65.61	51.80	53.96	71.86	62.15
1987	62.78	49.54	52.16	68.80	59.51
1988	59.10	47.82	49.39	64.46	56.19
1989	66.01	49.15	55.68	68.50	60.78
1990	61.25	49.15	55.63	69.92	60.68
1991	59.98	49.01	56.52	72.83	61.93
1992	57.88	46.36	53.61	65.11	57.66
1993	55.32	44.03	51.65	70.94	58.90
1994	50.01	38.95	48.31	66.10	54.29
1995	48.58	39.73	46.53	68.83	55.63
1996	62.98	44.35	46.46	72.45	59.77
1997	54.57	41.41	46.01	70.19	56.81
1998	55.51	40.22	44.33	67.70	55.32
1999	52.49	40.29	44.15	67.83	54.78
2000	49.30	40.00	42.12	73.23	56.01
2001	49.40	38.19	43.75	74.67	56.71
2002	55.02	41.93	48.44	71.81	58.39
2003	60.33	43.08	49.18	70.93	59.24
2004	56.34	42.83	51.46	67.66	58.25
2005	75.31	48.31	56.63	73.78	65.98
2006	88.22	57.84	64.15	76.25	72.39
2007	93.16	59.53	65.75	78.98	74.97
2008	79.54	52.81	60.53	75.74	69.43

Source: RBI, Banking Statistics: Basic Statistical Returns

The analysis in terms of incremental C-D ratio brings more sharply the fall in rural and semi-urban credit disbursement. The ratio in respect of rural bank branches had gone down from 60.3 per cent during the 1980s to 46.4 per cent in the 1990s; similarly in semi-urban areas, it slipped from 48.7 per cent to 35 per cent between the same two decades. Urban branches were also not untouched from this change where it fell down from 55.3 per cent to 40 per cent. Only metropolitan branches had performed well. The incremental C-D ratio was raised from 70.5 per cent to 75 per cent during the same period.

Table 2.6: Incremental Credit- Deposit Ratios by Population Group

Year End	Rural	Semi-urban	Urban	Metropolitan	Total
1	2	3	4	5	6
Increase in Deposit Outstanding					
1971-1981	14.7	23.4	24.5	37.4	458.0
1981-91	16.1	20.0	24.5	39.4	396.3
1991-01	14.5	19.3	22.5	43.7	373.4
2001-08	8.8	12.6	19.8	58.8	150.0
1971-91	15.8	20.6	24.5	39.1	2669.1
1991-08	10.8	14.9	20.8	53.6	1083.3
Increase in Credit Outstanding					
1971-1981	13.3	18.3	23.3	45.1	431.7
1981-91	16.0	16.1	22.2	45.7	362.5
1991-01	12.1	12.3	16.3	59.3	333.5
2001-08	12.8	11.0	18.7	57.6	206.0
1971-91	15.5	16.5	22.4	45.6	2359.0
1991-08	12.6	11.3	18.0	58.0	1226.7
Incremental C-D Ratio (in percentages)					
1971-81	59.4	51.5	62.6	79.2	65.7
1981-91	60.3	48.7	55.3	70.5	60.8
1991-01	46.4	35.1	40.0	75.1	55.3
2001-08	113.1	68.0	73.5	76.3	77.9
1971-91	60.2	49.3	56.5	71.9	61.6
1991-08	82.1	53.3	61.0	75.9	70.1

Source: RBI, Banking Statistics: Basic Statistical Returns

The 2000s was although good for all the sectors. The rural branches credit-deposit ratio had spurred up significantly to 113 per cent. The same trend has been observed in the semi-urban branches too. But, as we divide the whole time period in pre and post reform period the result has turned up its character. In rural branches C-D ratio has increased from 60.2 per cent in the pre reform period to 82 per cent in the post reform period. It really surprises when we look at the RBI prescription of 60 per cent C-D ratio to be achieved in rural and semi-urban bank branches.

Shetty (2002) argues that the above phenomenon was happened because of slower banking activities of public sector banks in rural areas, and the decisive thrust of the foreign banks and the new private sector banks to high-street banking which was getting reflected in greater concentration of commercial banking activities in urban and metropolitan centers.

2.5 Distribution of Deposits, Credits Outstanding and C-D Ratios Of Scheduled Commercial Banks According To Population Group Wise At State Level

The analysis so far made above clearly explains that there has been an all round attack on the rural banking system in the name of viability. Here, in this section one step further it has been looked at to bring out the exact scenario at regional and state level. The credit-deposit ratio of bank branches for rural areas in the northern region was only 22.5 percent in 1972, increased to 47.6 per cent in 1981(Appendix 1). But it declined between 1991 and 2001 from 48 per cent to 39 per cent. Thereafter, it again increased to 58.5 per cent in 2008. Within northern region some states like, Haryana and Rajasthan has as high as 80 per cent and Chandigarh has 66.7 per cent C-D ratio in 1981. But their ratio has fallen in 1991 to 67.2, 66 and 33.3 per cent respectively. It further went down to 41.9, 47.6 and 32.8 per cent in 2001. Between 2001 and 2008 the credit-deposit ratio of all the states has increased within northern region except Chandigarh. Thus, the first decade of economic reforms was not good for northern region.

For, Eastern region as a whole, the C-D ratio had declined significantly from 50.8 per cent in 1991 to 26 per cent in 2001, but after that it increased to 42 per cent in 2000s.

Within the region all states have performed poorly between 1991 and 2001 and no one had C-D ratio even 50 per cent in 2001. However, the ratio has increased in 2008. States like, Orissa and West Bengal has crossed the threshold of 60 per cent. In the case of Central region, the C-D ratio raised from 37.3 per cent in 1972 to 50.7 per cent in 1981 and further to 51.8 per cent, followed by a steep fall to 29 per cent by 2001. However, after that it has risen and reached to 51.4 per cent in 2008. Likewise, in the North-Eastern region, between 1972 and 1991 the credit-deposit ratio has increased across all the states. Out of seven, four states, Assam, Manipur, Nagaland and Tripura had more than 60 per cent C-D ratio. But it declined in all states during 1990s. Only Manipur and Mizoram has C-D ratio greater than the prescribed in 2001. In 2000s it increased across all the states.

A remarkable phenomenon has been observed that there has been a persistent fall in the C-D ratios of rural bank branches in some underdeveloped regions, much more sharply than the fall in the rural C-D ratios at all-India level (Shetty, 2002). While at the all India rural C-D ratio have fallen from 57.6 per cent to 40 per cent in the 1980s and 1990s, the corresponding ratios for the central, eastern and north-eastern regions slipped from a range of 38-51 per cent to 26-34 per cent(Appendix 1). However, this fall in the 1990s has occurred after experiencing a sizeable improvement upto the end of 1980s, when the rural C-D ratios in these underdeveloped regions had ranged from 51 to 63 per cent. The 2000s has so far shown a revival in the preceding trend aftermath of economic reforms. The ratio has increased from 42 per cent to 55 per cent in 2008.

More striking has been the phenomenally faster growth of bank deposits in the rural areas of these regions than the growth of bank credit. In the eastern and central regions, for instance, deposit accruals in the rural branches, Rs 29260 crore and Rs 33217 crore in 2001 and Rs 62904 crore and Rs 69026 crore in 2008 have overtaken the deposit accruals in their semi-urban branches, Rs 25765 crore and Rs 30365 crore in 2001 and Rs62366 crore and 64738 crore in 2008 respectively (Appendix 1).

Further, rural bank branches of almost all the states in the country have experienced decline in C-D ratios; the only major exception was Punjab during 1991 and 2001. The C-D ratios of rural branches of some of the important states like Gujarat (from 60 per

cent to 32 per cent), Madhya Pradesh (69 per cent to 32 per cent), Uttar Pradesh (47 per cent to 21 per cent), Bihar (47 per cent to 11 per cent), Orissa (80 per cent to 36 per cent), Rajasthan (63 per cent to 41 per cent), Haryana (65 per cent to 33 per cent) and West Bengal (47 per cent to 18 per cent) has declined considerably. But during 2000s this trend has reversed across all the regions and states. The C-D ratios at all-India level as well as across states have increased significantly. At all-India level it has increased from 35 per cent to 78 per cent. Among states the lowest increment was in Maharashtra (73 per cent to 83 per cent).

The decline in C-D ratios has also occurred in semi-urban branches across all the regions and states. However, the fall was more in the undeveloped regions. In 1981, they were in the range of about 32 to 47 percent and increased to a range of 35 to 47 per cent, but subsequently they fell to a range of 21 to 30 per cent by 2001. Thereafter, revival has shown in the trend. It increased to a range of initial level of 32 to 48 per cent. Similar decline have taken place in incremental terms also.

The opening of bank branches in semi-urban areas as Shetty, 2002 argues, is a strategy of banking sector to mobilize deposits to sustain their activities. The sustainable deposits of the semi-urban areas are having due to its special significance because the intermediate activities and commercial trading on a large scale happens in these areas that generate more deposits. But, the matter of concern is the falling credit lent to these areas.

2.6 Levels of Institutional Credit Based On Place of Sanction and Utilisation

To capture the phenomenon of whether migration of credit does make any difference, the data on credit lent from place of sanction by branches of scheduled commercial banks to its place of utilization have been used(Table 2.7). The differences found between utilization and sanction in the C-D ratios at state level shows that there has been either net-inflow or net-outflow of credit. The developments in 1980s had shown a substantially higher absorption of credit in utilization (70 per cent of deposits from 49 per cent) as against that in sanction (55 per cent from 35.6 per cent) in the north-eastern region. But, this achievement had got considerably arrested by March 2000, when in the same region

the C-D ratios by utilisation and sanction had not only fallen to unduly low levels of 30.6 per cent and 28.1 per cent but also the differences between the two had considerably narrowed down, signifying that the net migration into the region of credit sanctioned outside the region became almost negligible. Thereafter, it has widened in March 2008.

In eastern region, there has been a net out-migration of credit as the C-D ratio in the region by utilisation, 55.5 percent in June 1980 and 52.6 per cent in June 1990, was lower than that by sanction, 56.1 and 53.3 per cent respectively. By March 2000, both the types of C-D ratios in the region had become almost the same (37.2 per cent and 37.0 per cent). But the trend has reversed in March 2008. The C-D ratio by utilisation (60.6 per cent) has overtaken that of by sanction (54 per cent), shows that there was a net in-migration of credit from other regions. In between these two lies the central region which has continued to derive the benefits of net migration of credit. The C-D ratio as per utilisation (49.2 per cent) was higher than as per sanction (45.7 per cent) in June 1980, and in June 1990 also, the utilisation ratio (49.8 per cent) was higher than the sanction ratio (47 per cent). The same trend was followed in 1990 and 2000. The utilisation ratio increased from 36.8 per cent to 52.3 per cent as compared to sanction ratio, 33.9 per cent to 47.4 per cent. Southern region was also the net gainer throughout the period. Western region has experienced net outflow of credit but to a very limited extent. The differences between the C-D ratios as per sanction and utilisation have narrowed between 1980 and 2000 but it widened significantly in 2007 reveals the net out migration of credit to other regions. The important point to be noted here is that with regard to inter-regional disparities in credit flow, there has occurred a sizeable fall in C-D ratios of the less developed regions in the 1990s in terms of both sanction and utilisation, but the revival has started in 2000s.

Table 2.7: Distribution of C-D Ratios of Scheduled Commercial Banks According to Place of Sanction and Utilization

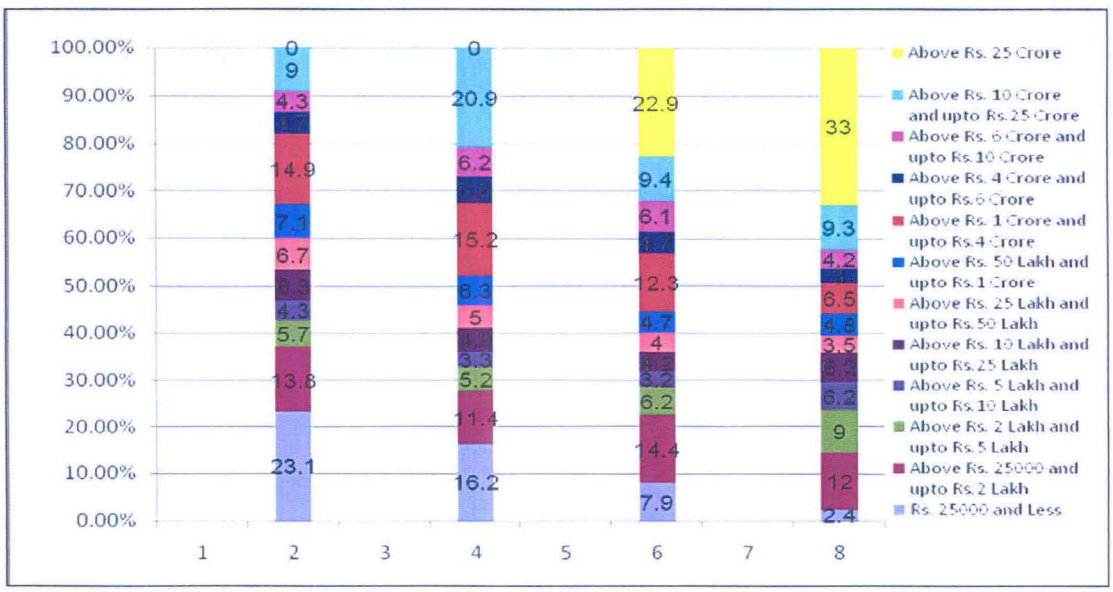
Year	2008		2002		1991		1981		1972	
Region/States	Sanc.	Utiliz.	Sanc.	Utiliz.	Sanc.	Utiliz.	Sanc.	Utiliz	Sanc.	Utiliz.
1	2	3	4	5	6	7	8	9	10	11
Northern	**67.7**	**70.1**	56.2	55	53.7	52.4	68.7	68	47.6	46.6
Haryana	60.1	67.2	43.7	55	60.2	76	69.6	93.6	51.4	97.3
Himachal Pradesh	43.4	51.3	23.4	32.5	38.6	41.4	37.2	37.6	11.8	13.2
Jammu & Kashmir	56.4	56.3	36.8	40.9	54.8	55.1	41.4	37.9	22.6	23.2
Punjab	67.2	76.1	41.8	43.9	45.1	49.7	43.2	54.2	32	33.2
Rajasthan	82.4	100.0	48.4	55.4	56.6	60.5	71.4	77.3	48.6	54.5
Chandigarh	96.2	95.8	102.8	102.3	82.9	58.7	182.6	120	132.7	138.3
Delhi	66.9	64.4	67.6	59.1	54.8	46.6	77.8	69.5	53	40.3
North-Eastern	**40.7**	**48.3**	27.2	53.2	46.9	60.9	40.1	53.1	36.3	71.4
Arunachal Pradesh	31.7	57.7	15.8	27.4	28.1	50.5	12.3	24	3.2	33.7
Assam	42.4	49.8	31.7	70.3	49.7	69.9	45.2	62.6	45.3	95.6
Manipur	48.4	50.3	26.4	27.3	72.3	71.3	35.5	40	57.5	58
Meghalaya	33.2	41.1	18.3	24.3	22.1	25.9	18.4	18.9	15.2	12.4
Mizoram	62.9	65.5	26.4	36.2	27.5	30.4	10.4	14.2	..	2.3
Nagaland	34.0	43.9	12.8	18.1	43.9	47.6	27.8	28.5	18.2	18.2
Tripura	36.1	36.8	21.5	21.6	68.2	60.7	51.5	53.4	9.4	16.1
Eastern	**51.5**	**58.2**	37.6	41.4	49.9	49.2	53.4	52.3	62.9	62.6
Bihar	28.2	45.0	21.3	21.9	38.3	39.5	41.8	47.3	28.1	53
Jharkhand	35.3	40.2	25.1	31						
Orissa	56.3	62.4	44.5	51.4	69.2	72.3	68.9	76.2	43.8	68.9
Sikkim	46.8	53.7	16	22.5	32.4	32.6	5.9	7.3		
West Bengal	62.4	65.8	45.8	49.2	53	50.7	56.3	51.9	75.1	65.5
A & N Islands	30.7	75.0	18.5	57.2	42	45.9	16	19.1	4.1	5
Central	**46.1**	**54.6**	33.9	38.4	50.3	52.8	50.6	53.4	39.1	44.4
Chhattisgarh	49.8	66.0	44	54.2						
Madhya Pradesh	60.1	65.9	46.6	50.3	64.7	66.7	60.7	62.4	46.6	51.8
Uttar Pradesh	43.7	52.6	29.9	34.3	44.8	47.6	47.3	50.4	36.9	42.2
Uttaranchal	26.2	31.6	23.7	26						
Western Region	**88.6**	**76.0**	79.7	71.3	67.7	66.1	70.6	69	76.2	71.8
Goa	29.4	33.6	25.3	28.2	28.8	31.1	41.8	44.1	56.2	58.4
Gujarat	66.5	97.8	44.1	54.7	57.7	62.7	54.2	57.5	56.4	64.6
Maharashtra	93.9	73.1	92.3	77.5	72.3	68.4	78.1	74.5	83.8	74.8
D & N Haveli	23.9	121.9	20.9	189	52.9	191.6	113.1	135.9	73.3	106.7
Daman & Diu	15.0	58.2	9.9	79.4	24	58.3				
Southern	**89.1**	**96.8**	64.6	68.9	81.1	82.1	80.9	82	91.1	94.7
Andhra Pradesh	90.4	97.2	61.9	67.7	79.8	81.1	71	72.4	80.8	86.9
Karnataka	78.1	94.3	61.6	68.9	79.1	81.1	74.6	75.7	87.5	92.3
Kerala	63.4	66.4	43.3	43.7	59.1	59.6	74.4	76	69.6	74.2
Tamil Nadu	114.7	117.0	85.4	88.5	96.9	97.2	98.2	98.4	109.5	110
Lakshadweep	7.50	14.9	7.9	9.6	16.7	17	7.9	8.7	9.1	9.1
Pondicherry	49.7	50.1	32.3	39.2	49.7	59.3	62.5	68.8	93.3	109.8
All-India	**74.4**	**74.4**	58.4	58.4	61.9	61.9	66.5	66.5	66.4	66.4

Source: RBI, Banking Statistics: Basic Statistical Returns

2.7 Distribution of Outstanding Credit According To Size of Credit

Here, the loan outstanding of scheduled commercial banks has been discussed according to credit limit sizes for the period 1990 to 2007 shown in the Figure 2.3. The shares of small borrower accounts have declined through the period of study but it was severe in the 1990s. Much of the increase in total advances in the 2000s were on account of a sharp rise in the number of loans with a credit limit of Rs 10 crore and above, and particularly, Rs 25 crore and above. A comparison of figures for the period 1990s shows that the shares in total accounts of credit limit less than Rs 25000 have shrunk significantly from 95 per cent in June 1990 to 72 per cent in March 2000, and even around 41 per cent in 2007. The share in total advances of advances with a credit limit of Rs 25,000 fell steeply from 23 per cent in June 1990 to 8 per cent in March 2000 and further to 2.4 per cent in March 2007. The share in total advances with credit limit between Rs 25,000 and Rs 2 lakhs also declined from 14.4 per cent in 2000 to 12 per cent in 2007. On the other hand, the share in total advances of advances with credit limit above Rs 25 crore increased sharply from 22.9 per cent in 2000 to 33 per cent in 2007.

Figure 2.3: Distribution of Accounts in Percentage According to Loan Amount Size



Source: RBI, Banking Statistics: Basic Statistical Returns

2.8 Distribution of Credit Outstanding According To Occupation

The distribution of bank credit according to occupation has been explained in the Table 2.8. The share of agriculture in total bank credit (both direct and indirect) had reached a peak of 17.6 per cent in June 1985, from just 9 per cent in 1972, but since then it has declined steadily and touched a low of 9.9 per cent by March 2000. However, there was an improvement observed in 2000s and it increased to 11.8 per cent in March 2008. Earlier, there was a target of 18 per cent of net bank credit to agriculture in the form of direct advances, but subsequently, such target was allowed to be achieved by including not more than 25 per cent also in the form of indirect credit.

Table 2.8: Distribution of Outstanding Credit of Scheduled Commercial Banks According to Occupation

Year/ Occupation	Mar-07	Mar-00	Jun-95	Jun-90	Jun-85	Jun-80	Jun-75	Dec-72
1	2	3	4	5	6	7	8	9
I. AGRICULTURE	11.8	9.9	11.8	15.9	17.6	14.8	10.8	9.0
1. Direct Finance	8.8	8.4	10.2	13.8	14.7	11.3	7.3	6.8
2. Indirect Finance	3.0	1.5	1.7	2.1	3.0	3.4	3.4	2.3
II. INDUSTRY	38.1	46.5	45.6	48.7	41.3	48.0	58.4	61.2
1. Mining & Quarrying	1.1	1.1	0.7	0.8	0.6	0.8	1.3	1.4
2. Manufacturing & Processing	28.0	42.3	42.7	45.7	39.3	46.0	55.2	57.5
3. Electricity, Gas & Water	3.4	1.9	0.8	0.8	0.6	0.5	1.1	1.5
4. Construction	5.5	1.2	1.4	1.4	0.8	0.8	0.8	0.8
III. TRANSPORT OPERATORS	1.3	1.8	1.9	3.2	4.8	4.3	2.3	1.6
IV. PROFESSIONAL SERVICES	6.2	3.2	2.3	3.0	3.1	2.2	1.8	1.5
V. PERSONAL LOANS	22.3	11.2	9.0	6.4	3.3	3.3	3.5	3.4
VI. TRADE	10.5	15.6	17.1	13.9	23.4	22.2	16.6	14.9
1. Wholesale Trade	5.2	10.0	12.1	8.6	19.1	19.0	14.1	12.0
2. Retail trade	5.3	5.6	5.0	5.3	4.3	3.2	2.6	2.9
VII. FINANCIAL INSTITUTIONS	6.4	4.8	3.8	2.1	1.2	0.8	1.6	
VIII. MISCELLANEOUS	3.3	7.1	8.5	6.8	5.3	4.3	4.9	8.4
TOTAL BANK CREDIT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
OF WHICH : 1. Artisans & Village Industries	0.4	0.6	0.5	0.9	0.4	0.3	0.2	0.1
2. Other Small Scale Industries	3.5	7.6	10.3	11.5	13.3	11.9	12.4	11.9

Source: RBI Banking Statistics: Basic Statistical Returns, Various Issues

A similar reduction has occurred in the share of bank credit to small-scale industries (from 12 per cent during 1980s to 7.6 per cent in March 2000) and artisans and village industries (0.9 per cent to 0.6 per cent). It further went down to 0.4 per cent in March

2008. The failure has, however, reflected rather starkly in a sizeable fall in the number of agricultural loan accounts.[5]

In incremental terms, the proportions of total bank credit extended for agriculture and small-scale industries have drastically fallen from 16.8 per cent to 8.2 per cent and from 11.9 per cent to 6.5 per cent respectively during the decade June 1980 to March 2000, but there was an increase in agricultural share to 12.4 per cent in 2000s(Table 2.9). These reductions in sectoral credit explain the steady decline in the proportion of priority sector advances in total non-food credit.

Table 2.9: Distribution of Outstanding Credit of Scheduled Commercial Banks According

OCCUPATION	2007-2000	2000-1990	1990-1980	1980-1972	2007-1990	1990-1972
1	2	3	4	5	6	7
I. AGRICULTURE	12.4	8.2	16.2	16.8	11.6	16.3
1. Direct Finance	8.9	6.8	14.5	13.0	8.5	14.2
2. Indirect Finance	3.5	1.4	1.8	3.9	3.1	2.1
II. INDUSTRY	35.5	45.8	48.9	43.4	37.5	48.0
Total Bank Credit	100.0	100.0	100.0	100.0	100.0	100.0
Of Which: Artisans & Village	0.4	0.5	1.0	0.4	0.4	0.9
2. Other Small Scale Industries	2.2	6.5	11.4	11.9	3.1	11.5

Source: RBI Banking Statistics: Basic Statistical Returns, Various Issues.

2.9 Distribution and Trends in Credit Disbursement According to Operational Land Holding Size

The data on disbursement and outstanding short-term and long-term direct credit to farmers according to size of operational land holdings have been presented in the Table 2.10 and Figures 2.4 and 2.5. Here, cultivators operating less than 2.5 acres have been referred to as "marginal" cultivators, between 2.5 acres and 5 acres as "small" cultivators and above 5 acres as "big" cultivators. Although the data have been provided only for

[5] This number which had reached a peak of 24.8 million in the middle of 1990s persistently declined thereafter and touched 20.5 million, by March 2000 that is a fall by 17 per cent. But the increment in 2000s is much greater than the fall in the latter half of the 1990s and increased substantially to 33 million by 61 per cent.

Figure 2.4: Distribution of Share of Accounts in Credit Disbursed by Scheduled Commercial banks According to Land Holding Size Disbursement

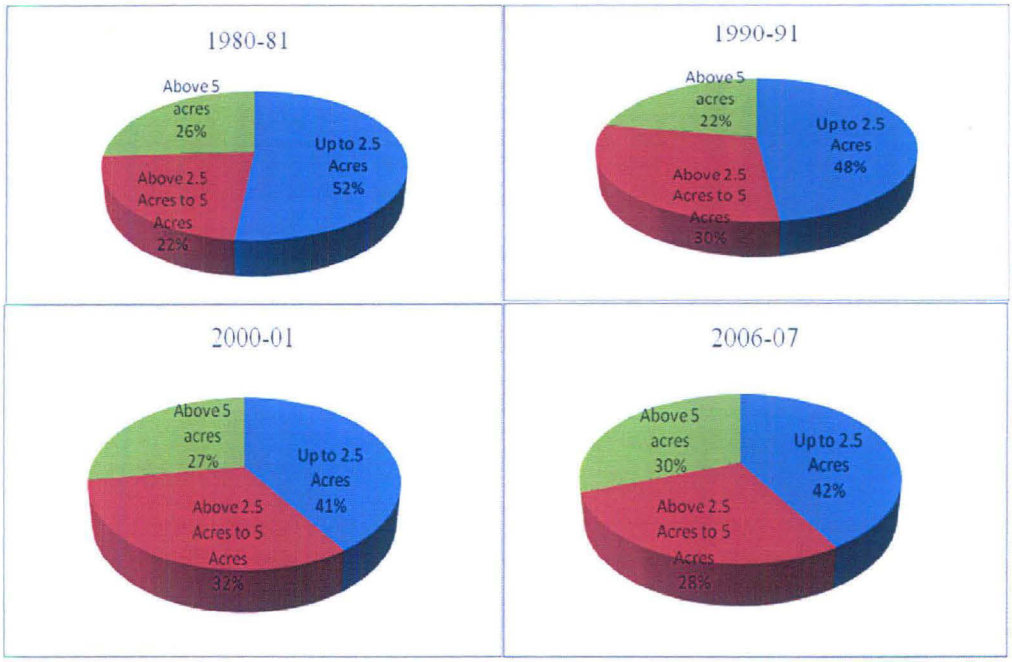


Figure 2.5: Distribution of Share of Accounts in Outstanding Credit of Scheduled Commercial Banks According to Land Holding Sizes

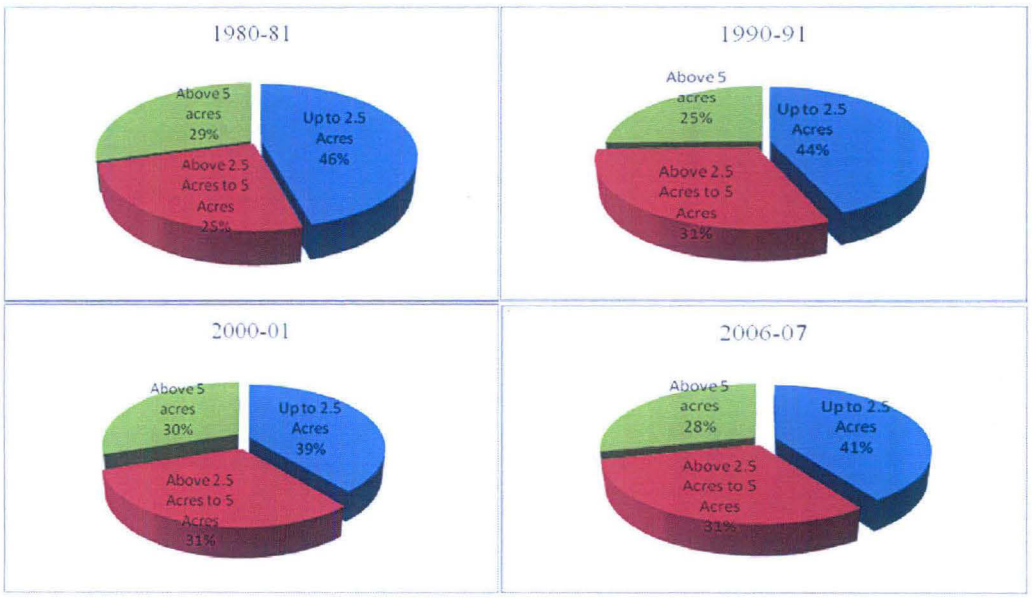


Table2.10: Scheduled Commercial Banks' Direct Finance to Farmers According to Size of Land Holdings (Short-Term & Long-Term)

	Disbursement						Outstanding					
Year	Marginal		Small		Large		Marginal		Small		Large	
	1	*2*	*1*	*2*	*1*	*2*	*1*	*2*	*1*	*2*	*1*	*2*
1	2	3	4	5	6	7	8	9	10	11	12	13
1980-81 *	51.7	24.9	22.6	16.6	25.7	58.6	45.8	20.5	25.0	17.0	29.3	62.5
1981-82 *	50.6	27.7	24.6	20.7	24.8	51.4	44.8	21.5	25.5	18.0	29.7	60.5
1982-83	50.7	29.7	25.4	21.6	24.0	48.7	43.4	22.5	26.1	19.7	30.4	57.9
1983-84	49.0	26.6	28.7	24.5	22.3	48.9	44.7	22.0	28.5	21.2	26.8	56.8
1984-85	46.0	26.1	31.2	24.9	22.7	49.0	43.8	22.0	29.9	22.0	26.4	55.9
1985-86	46.8	27.5	29.5	26.3	23.7	46.2	43.3	22.8	30.2	22.2	26.6	55.0
1986-87	45.7	27.6	31.0	25.8	23.3	46.6	43.4	22.8	30.8	22.8	25.9	54.5
1987-88	47.4	28.0	30.6	25.8	22.0	46.2	43.2	22.2	30.8	22.5	26.0	55.3
1988-89	47.3	27.6	31.4	26.2	21.4	46.2	43.3	23.0	31.1	22.9	25.6	54.1
1989-90	47.4	29.3	30.8	25.2	21.8	45.5	43.0	22.9	30.8	22.5	26.2	54.6
1990-91	48.1	30.2	29.9	24.3	22.0	45.5	43.7	23.4	30.9	23.2	25.4	53.5
1991-92	45.4	28.8	31.4	24.9	23.1	46.3	42.8	24.3	31.3	22.9	25.9	52.9
1992-93	44.5	27.8	31.8	24.6	23.8	47.6	42.1	24.2	31.0	23.4	26.9	52.4
1993-94	42.7	28.8	30.3	25.8	27.0	45.4	43.1	24.1	30.7	22.9	26.1	53.0
1994-95	42.2	27.6	31.5	24.0	26.2	48.4	42.0	24.4	31.1	23.0	26.9	52.6
1995-96	37.4	26.1	31.2	25.5	31.4	48.4	41.9	24.2	32.1	24.0	26.1	51.8
1996-97	37.8	24.2	30.5	25.5	31.8	50.3	40.5	24.0	32.2	24.7	27.3	51.3
1997-98	39.4	24.0	33.9	25.3	26.6	50.7	39.8	22.7	32.9	24.5	27.3	52.8
1998-99	39.5	23.6	32.1	26.9	28.4	49.6	38.3	23.1	32.2	23.8	29.5	53.1
1999-00	40.4	23.8	32.3	24.7	27.3	51.4	38.8	22.6	32.3	23.6	28.9	53.8
2000-01	40.8	25.8	31.8	25.1	27.4	49.2	38.8	22.9	31.1	23.2	30.0	53.9
2001-02	38.4	26.7	27.7	26.8	33.8	46.5	40.0	23.3	32.3	25.8	27.7	50.8
2002-03	38.9	22.1	30.2	25.5	30.9	52.4	37.5	21.8	32.3	25.2	30.3	53.0
2003-04	42.8	24.9	31.1	23.0	26.1	52.0	39.9	25.7	31.5	24.3	28.7	50.0
2004-05	44.0	26.3	31.1	25.7	24.9	48.0	39.6	26.1	31.8	26.5	28.6	47.4
2005-06	40.5	25.1	29.7	26.2	29.7	48.7	38.8	26.6	31.4	26.2	29.8	47.2
2006-07	41.6	24.7	27.9	22.9	30.5	52.4	40.7	26.7	30.8	27.0	28.5	46.3

Note: *1* stands for the per cent to total accounts; and *2* for per cent to total amount

Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

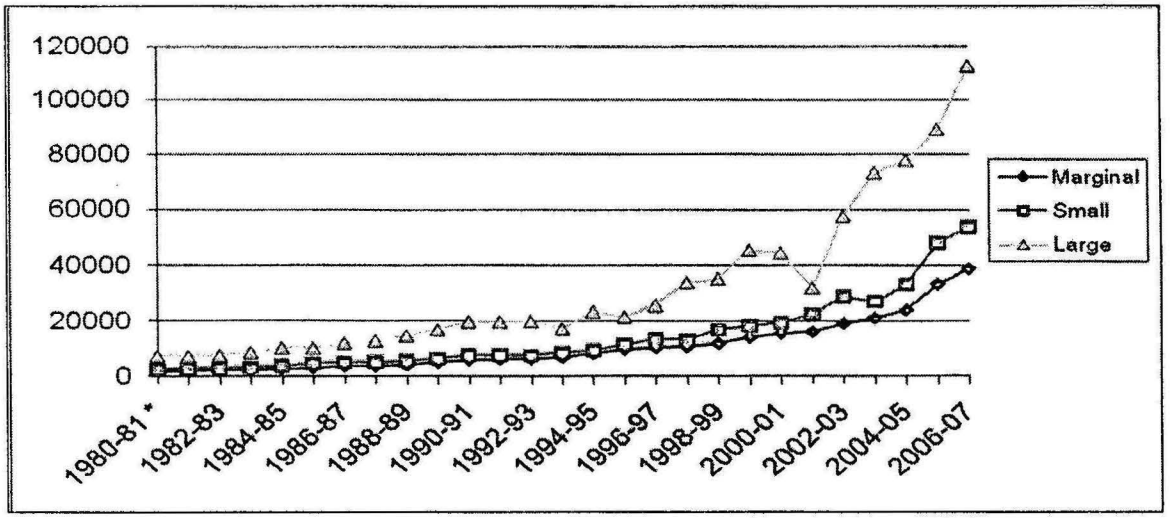
three land size-classes but their availability for a considerable time lag gives some important indications of the socio-economic groups to which agricultural credit has been flowing during last three decades from 1980-81 to 2006-07. The share of loan accounts held by marginal cultivators has declined steadily from 52 per cent in 1980-81 to 37 per cent in the mid of 1990s, after that it increased to 41.5 per cent at the end of 2006-07. The share of loan accounts held by small farmers increased in the first half of 1980s and thereafter remained almost stagnant with very little fluctuations. The share of accounts held by marginal and small cultivators together was about 74 per cent in the beginning of 1980s reached to 78 per cent at the start of 1990s and remained almost constant till mid 1990s but after that it declined to 66 per cent in 2001-02. After that it again increased but in very small amount to 69 per cent in 2006-07. On the other hand, the share of loan accounts held by big cultivators rose from 26 per cent to 31 per cent in the mid 1990s to 34 per cent in 2001-02, but there has been a fall in the second half of 2000s and declined to 30.5 per cent in 2006-07.

So far the share of credit to small farmers is concerned, it was only 25 per cent in the beginning of 1980s increased to 30 per cent in 1990-91, and thereafter it declined to 23 per cent after first decade of economic reforms and again increased, but reached to its initial level of 25 per cent. The share of marginal and small farmers together in the total credit disbursed was 41 per cent in 1980-81 increased significantly to 54 per cent in 1990-91. Their share has declined to 50 per cent in 2000-01 and further to 47 per cent in 2006-07. For big cultivators, the share has initially declined from 59 per cent in the beginning of 1980s to 45 per cent in 1990-91. The 1990s was a good period for them and their share has increased to 49 per cent and further to 52 per cent in 2006-07.

The analysis becomes clearer as data are expressed in terms of per capita borrowing. Figure 2.6; clearly shows that over the period the amount of agricultural credit disbursed per account for big cultivators has been always higher than the small and marginal ones. Also, the difference in credit disbursed per account between big farmers and small and marginal farmers has widened over the years. However, the startling result comes in the

late 1990s. The credit disbursed per account for big cultivators has risen rapidly in 2000s. As a result, the difference has widened much faster than earlier.

Figure 2.6: Amount of Agricultural Credit Disbursed per Account by Operational Land Size Holdings (1980-81 to 2006-07 in Rs '000)



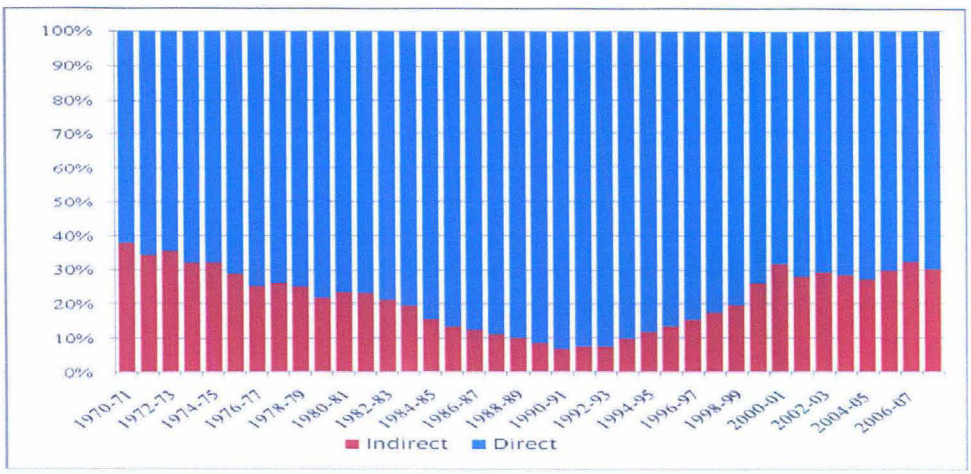
Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

2.10 Trends in Agricultural Credit

Agricultural credit has two main components, one, directly to cultivators, called 'direct finance'. Within direct finance, a short-term credit or credit for seasonal agricultural operations accounts for a significant share. The short-term loans to agriculture are referred to as the 'crop loans', as they are advanced for crop cultivation against the hypothecation of the crop to be cultivated by the farmer. The crop loans are provided as cash or in kind, such as the supply of fertilizers and seeds. Apart from the crop loans, direct finance also consist credit for medium-and-long-term investment in agriculture. The second component of agricultural finance is called 'indirect finance', which does not go directly to farmers, but to institutions that support agricultural production. The typical forms of indirect finance to agriculture are loans to input dealers for their role in the provision of agricultural inputs and loans to electricity boards for supplying power to cultivators.

Figure 2.7; shows that there has been an increasing trend in the advancement of direct loans to farmers right from 1970-71 to 1990-91. The share was 62 per cent in 1970-71 and it grew up significantly to 93 per cent in 1990-91. Afterwards, it declined continuously and reached almost 68 per cent in 2006-07. On the other hand, the share of indirect finance in total agricultural finance has declined steadily from 37.8% in 1970-71 to only 6.9 per cent in 1990-91. Then in the decade of 1990s and after, it rose consistently and reached almost 26% in 1999-2000 and further increased to 32.5% in 2006-07. Moreover, the difference between the contribution of direct and indirect finances to agriculture has widened initially, from 24% in 1970-71 to 86% in 1990-91 and after that it started shrinking and narrowed to 35% higher than the initial level of difference in 2006-07. Of the total increase in credit supply to agriculture between 2000 and 2007, about one third was contributed by indirect finance. While the share of indirect finance in total agricultural finance had begun to rise in the 1990s, but its rate of growth was considerably faster in the 2000s. As Pallavi Chavan (2007) argues that the possible reasons for the rise in indirect finance 1990s onwards has been the broadening of the definition of what constitutes indirect finance to agriculture by RBI. She further argues that the expansion of the ambit of indirect finance and/or steeply raised ceilings on loan sizes has aided substantially in the growth of total agricultural credit.

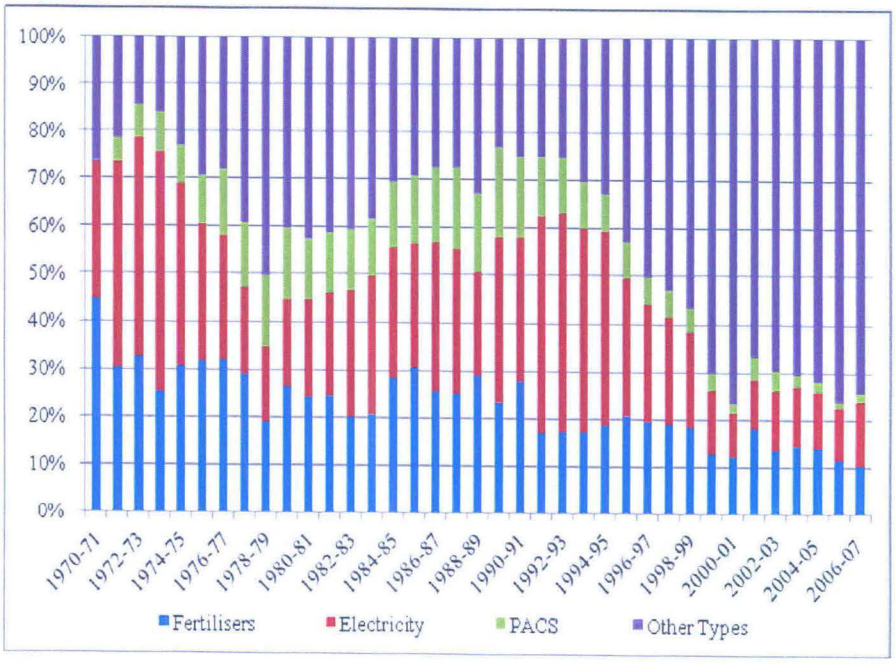
Figure 2.7: Trends in the Share of Direct and Indirect Finance to Total Agricultural Advances during 1970-71 to 2006-07 at Deflated Price with base 1999-2000.



Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

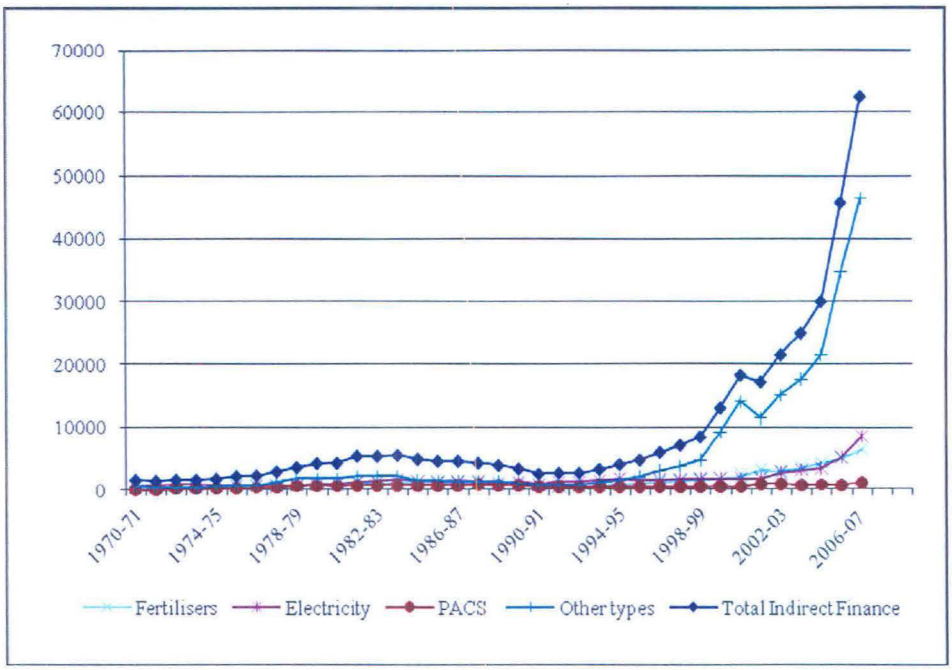
On the other hand, the share of different components coming under indirect advances varies over the period (Figure2.8). Initially the share in advances given to fertilizers and electricity boards was higher for mid 1970s after that it declined continuously till end of 1970s. But, after the nationalization of banks for the second time in 1980 revived the use of fertilizer to which loan was given mainly in terms of subsidies. The increasing share of fertilizer shows the expansion of green revolution to other states and to different crops during which fertilizers were used in high proportion. After the economic reforms started, the advances to fertilizers has declined steadily till the beginning of 2000 marking the withdrawal of government subsidies given to farmers in terms of fertilizers provided through cooperative societies. It again declined

Figure 2.8: Trends in the Share of Different Components of Indirect Finance to Total Indirect Finance to Agricultural during 1970-71 to 2006-07.



Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

Figure 2.9: Trends in the Supply of Different Types of Outstanding Indirect Advances to Agriculture by Scheduled Commercial Banks at Deflated Price with base 1999-2000(in Rs cr.).



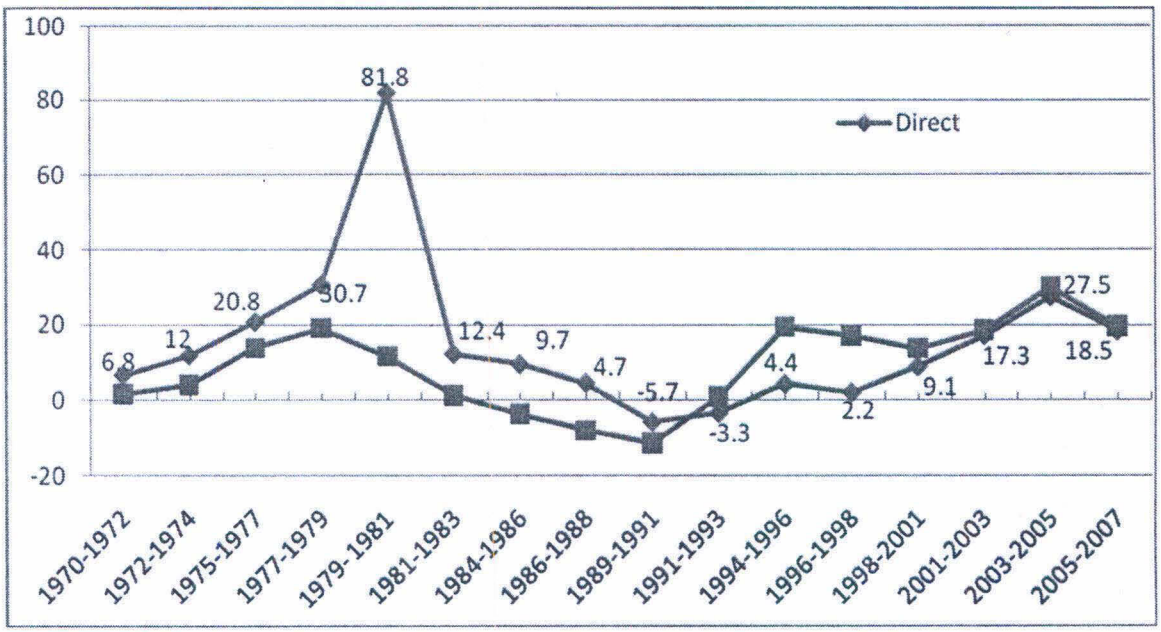
Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

Figure 2.9; clearly shows that the traditional components of indirect finance to agriculture did not exhibit any notable recovery from 1970s to till mid 1990s, after that it experienced an increasing trend in 2000s whereas the loans under the category of "other types of indirect finance" began to increase from 1994 onwards. From 1999 onwards, total indirect finance and other types of indirect finance have moved in close tandem. The increment was very fast after late 1990s in total indirect finance as well as in other types of indirect finance. It is quite obvious that an increase in indirect finance is necessary to improve the capacity of farmers to absorb more direct finance (Chavan 2007), however, the promotion of indirect finance should not undermine the direct finance.

Figure 2.10, depicting the exponential growth rate of agricultural advances of direct and indirect type shows that the highest growth rate in direct advance was 81.8 per cent between 1979 and 1981 and the lowest was 5.7 and even negative during 1989-91. Another point to be noted is that till 1981 the growth rate was accelerating, that is, the

direct advances to agriculture was increasing with accelerating rate. It was the period of green revolution when huge investment had been made in infrastructure like, improving irrigation to get self reliant in the production of agriculture output.

Figure 2.10: Exponential Growth Rate of Agricultural Advances During 1970 to 2007 at Deflated Price with Base 1999-2000.



Source: Handbook of Statistics on the Indian Economy, RBI 2007-08

Further, the nationalization of banks in 1981 has added boast to agricultural advances. During this period the agriculture GDP had grown from mere 2.3 per cent to 26.4 per cent (CSO). Another accelerating growth in the direct agricultural advances was during 1972-74 when it had grown again with 20.8 per cent. This period was also marked with high agriculture growth from as low as 1.7 per cent in 1971-72 to 32.3 per cent in 1973-74. This reflects the direct relation between direct agriculture advances and agriculture growth. However, in spite of high growth in agricultural advances during 1975-77 agriculture growth had declined to 1.7 per cent following a negative growth in the immediate earlier period which attracted the attention of the government and the banking sector to advance more credit to the sector and during 1977-79 even more accelerating growth in direct advances has contributed towards the revival of the agriculture in the same period. The most important reason for the fall in the agriculture output was the

drought during 1974-77 for three consecutive years. The same period also marked the political instability in the Indian democracy due to imposition of emergency.

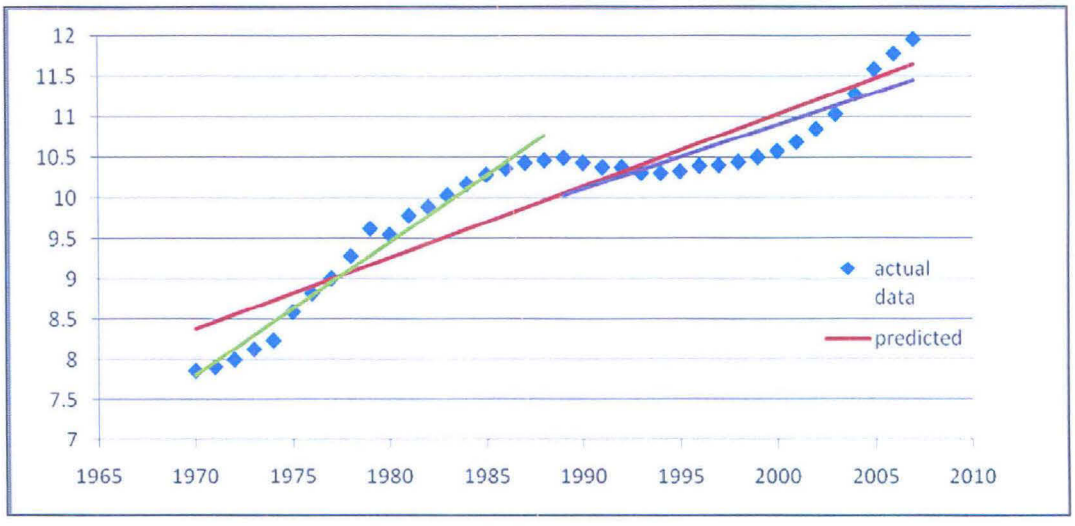
The accelerating growth in direct agricultural advances after the first decade of banks nationalization was due to the leveraging effect of green revolution other regions of the country and its spread to other crops envisaged into the fourth and fifth five year plans. But 1980s saw a decelerating trend in the growth of direct finance to Indian agriculture. It declined to the minimum growth which Indian agriculture had ever faced in getting attention of Indian banking system. This was because of the decreasing share of agriculture finance and shifting to manufacturing sector. The real revival which continued for a long time was started in late 1990s.

So far the indirect advances to agriculture is concerned, its growth rate was below the direct advances. The reason for the slow growth rate was the small percentage of indirect advances to be financed to meet the target of 18 per cent to agriculture of banks' total advances. It achieved a growth rate of almost 20 per cent in late 80s but after that it decelerated continuously till 1991. The revival in growth rate of indirect advances after 1991 was due to the changing definition of indirect finance to agriculture and increasing share of the same to meet the target of agriculture advances. Moreover, it increased with a rate greater than the rate at which direct advances had grown during 1990s but after that it followed the same path as followed by direct advances.

In the Figures 2.11; the deflated series of total direct credit to agriculture have been plotted between 1970-71 and 2006-07. The projected linear trend line shows that there has been an increasing trend in the total direct advances to agriculture. However the rate of increase was greater in the sup-period 1970 to 1988. And in the second sup-period, that is, between 1989 and 2007 the rate was low as already explained. As it is clear from the figure that the trend line of direct credit supply crosses the trend line of entire period by about mid of 1970s shows the boast that has been given to agriculture sector by establishing RRBs in 1975. But, there has been a structural shift in the trend line in later 1980s. In fact this was the period when economic reforms were introduced in india. However, in the second sub-period the projected value was higher for almost 10 years

from 1994 to 2004 but after that the projected value has shown lower trend value than actual.

Figure 2.11 : Trends in the Supply of Total Direct Agricultural Advance between 1970-71 and 2006-07 and the Projected Linear Trend Line for Credit Supply at Deflated Price with base 1999-2000.



Source: Authors' own calculation, data has been taken from Handbook of Statistics on the Indian Economy, RBI 2007-08

2.11 Trends in Agriculture Credit at State Level

The data given for the period, December 1972 to March 2007 with a ten years interval in Table2.11; presents the trends in agriculture credit by scheduled commercial banks at state-wise and region-wise. The analysis is done with the help of share of a state's agriculture loan to total loans given in that state and as a proportion of all-india credit. It will capture two things. One is the regional distribution at all-India level. On the other hand, it also shows the performance across the sector within a state. Among underdeveloped regions, the north-eastern region has the lowest share throughout the period within region as well as at all-India level. Its share in agriculture credit to state's total bank credit has declined from 39.6 per cent in December 1972 to 20.6 per cent in December 1982 and even drastically after economic reforms to the lowest value for any

period 6.1 per cent in March 2002. Its share at all-India level has also declined considerably from 5.4 per cent in 1972 to 0.8 per cent in 2007.

Table 2.11: Trends in Agriculture Credit by Scheduled Commercial Banks : State-wise and region-wise

Year	Dec. 1972		Dec. 1982		March 1992		March 2002		March 2007	
Region/States	1	2	1	2	1	2	1	2	1	2
1	2	3	4	5	6	7	8	9	10	11
Northern	**9.2**	**13.1**	**16.7**	**21.9**	**14.6**	**17.5**	**10**	**22.1**	**13.5**	**25**
Haryana	6.2	1.4	29.5	4.6	26	4	21.3	4.3	23.8	4.3
Himachal	4.1	0	23.8	0.6	14.5	0.4	10.4	0.5	14.7	0.5
J &K	1.5	0	10.4	0.4	9.5	0.5	4.7	0.4	7.6	0.4
Punjab	8.5	2.2	27.5	7.3	24.6	6.4	17.9	6.3	23.8	5.7
Rajasthan	12.5	2.2	27.8	4.4	26.9	5	23.4	6.4	24	5.6
North-eastern	**39.6**	**5.4**	**20.6**	**1.5**	**16**	**2**	**6.1**	**0.9**	**9.2**	**0.8**
Arunachal	0	0	10.1	0	9.9	0	9.6	0	8.2	0
Assam	42.5	5.4	20.7	1.2	14.9	1.4	4.8	0.6	8.3	0.5
Manipur	1.4	0	17.1	0	13.2	0.1	11.8	0	12.6	0
Meghalaya	2.6	0	17.2	0	26.9	0.1	9	0.1	10.3	0.1
Mizoram	0	0	7.7	0	22.9	0	10.4	0	12	0
Nagaland	2	0	14.7	0	19.9	0.1	11.7	0	9.5	0
Tripura	9.6	0	27.8	0.1	22.2	0.2	19.1	0.1	13.1	0.1
Eastern	**6.7**	**13.3**	**13.3**	**10.8**	**13.5**	**11.3**	**8.8**	**8.3**	**11.5**	**8.7**
Bihar	3.7	1.5	22.2	3.8	25.2	4.9	22.7	2.3	24.2	2.9
Jharkhand	10.8	1	10.1	0.5						
Orissa	3.8	0.3	33.2	2.9	20	2.2	13.2	1.9	12.7	1.7
Sikkim	10.8	0	13.5	0	3.9	0	6.2	0		
West	7.6	11.5	7.3	4.1	7.8	4.1	5	2.9	7.9	3.5
Central	**13.4**	**11.4**	**26.1**	**15.4**	**22.6**	**17.8**	**19.8**	**18.1**	**23.7**	**16.2**
Chhattisgarh	8.8	0.7	13.2	0.8						
Madhya	9	2.1	26.9	4.6	23.2	6.3	22.8	5.9	25.1	4.6
Uttar	14.9	9.3	25.8	10.7	22.2	11.5	20.5	10.8	25.6	10.2
Uttaranchal	13.8	0.6	14.9	0.6						
Western	**5.9**	**22.4**	**9.3**	**16**	**8**	**15.2**	**4.9**	**16.1**	**6**	**16**
Goa	2.6	0.2	8.5	0.3	7.1	0.2	1.9	0.1	4.4	0.1
Gujarat	9.5	8.1	15.3	5.2	15.7	6.2	10.5	5.9	11.5	5.3
Maharashtra	4.9	14.1	7.8	10.5	5.9	8.8	3.8	10.2	4.9	10.6
Dadra	3.1	0	3.9	0	5.5	0	0.7	0	1.3	0
Daman	2.4	0	0.8	0	2.5	0				
Southern	**12**	**34.4**	**22.8**	**34.4**	**19.1**	**36.3**	**12.6**	**34.5**	**13.8**	**33.3**
Andhra	16.6	8.9	36.7	12.6	23.9	12	17.5	11.8	18.8	10.5
Karnataka	13.2	9.8	22.6	8.2	20.5	9.1	15.4	10.5	12	8.9
Kerala	10.1	3.7	17.1	4.1	17	4.2	11.9	4.2	13.9	3.7
Tamil	9.7	11.6	16.7	9.2	15.6	10.9	7.8	7.9	12	10
All-India	**9**	**100**	**16.6**	**100**	**14.8**	**100**	**9.8**	**100**	**11.8**	**100**

Notes: 1 stand for the per cent to state's total bank credit; and 2 stands for per cent to all-India agriculture credit. Goa includes Daman & Diu for the year Dec. 1972 and 1982.

Source: RBI: Banking Statistics: Basic Statistical Returns, Various Issues.

Within region there was also disparity in the share of agriculture credit to state's total bank credit. In eastern region West Bengal has the lowest share thoughout the period. The share of Bihar has increased considerably from 3.7 per cent to 25.2 per cent in 1992 and further to 34 per cent in 2007 if we combine the share of Jharkhand and Bihar. In case of central region, the two major states of India has almost equal share in agriculture credit to state's total bank credit despite a big difference in tems of geographical spread and distribution of population.

In case of eastern region, the share of agriculture credit to region's total bank credit has increased initially in 1970s from 6.7 per cent to 13.3 per cent and further to 13.5 per cent during 1980s, after that there was a significant fall in the share in 1990s and went down to 8.8 per cent. On the other hand, share to all-India agriculture credit has also declined from 13.3 per cent in 1972 to 11.3 per cent in 1992 and further to 8.3 per cent in 2002. Likewise in central region, the region's share in agriculture credit to region's total bank credit has increased by double between 1972 and 1982 from 13.4 per cent to 26 per cent. Thereafter, there was a continuous decline in the share till 2002 and came down to 19.8 per cent, although greater than the initial level. In 2000s it has got some improvenent in the share. To all-India agriculture credit the region's share has increased right from 1972 to 2002 from 11.4 per cent to 18 per cent explains that there was a net credit inflow in this period in the region from outside.

Southern region has the highest share of agriculture credit to all-India agriculture credit throuighout the period followed by western region, northern region and central region with a competitive nature to get as much share as possible. The share of region's agriculture credit in first decade of economic reforms was not good for regions except northern, central and western region to all-India's agriculture credit. But the second phase of economic reforms comes as a hope for agriculture to revive and try to get its due place.

Table 2.12: Index of Inequality of Distribution of Agriculture Credit Across Regions and States

Region/State/	Ratio of Percentage Share of Agr. Cr. to States' Total Bank Cr. and Percentage Share of Agr. GDP to GSDP				Ratio of Percentage Share of States Agr. Cr. To all-India Agr. Cr. and Percentage Share of States' Agriculture GDP to All-India Agr. GDP			
	1980-81	1990-91	2000-01	2006-07	1980-81	1990-91	2000-01	2006-07
1	2	3	4	5	6	7	8	9
Northern	**0.38**	**0.35**	**0.34**	**0.55**	**1.11**	**0.93**	**1.03**	**0.99**
Haryana	0.56	0.60	0.72	1.14	1.11	0.93	1.03	0.99
Himachal Pradesh	0.68	0.55	0.49	0.81	0.93	0.74	0.62	0.61
Jammu and Kashmir	0.56	0.27	0.17	0.30	0.44	0.66	0.36	0.34
Punjab	0.57	0.56	0.51	0.77	1.31	1.07	0.97	0.95
Rajasthan	0.58	0.63	0.91	1.03	0.86	0.78	1.24	0.98
North-eastern	**0.51**	**0.50**	**0.22**	**0.40**	**0.46**	**0.58**	**0.23**	**0.22**
Arunachal Pradesh	0.29	0.33	0.32	0.38	0.00	0.00	0.00	0.00
Assam	0.50	0.44	0.16	0.34	0.50	0.54	0.22	0.20
Manipur	0.40	0.40	0.47	0.56	0.00	0.51	0.00	0.00
Meghalaya	0.50	1.16	0.43	0.53	0.00	0.67	0.49	0.44
Mizoram	0.34	1.06	0.57	0.85	0.00	0.00	0.00	0.00
Nagaland	0.57	0.85	0.42	0.34	0.00	0.90	0.00	0.00
Tripura	0.65	0.63	0.85	0.66	0.36	0.76	0.33	0.30
Eastern	**0.38**	**0.44**	**0.35**	**0.44**	**0.63**	**0.70**	**0.49**	**0.54**
Bihar	0.52	0.67	0.66	0.94	0.52	0.68	0.48	0.71
Jharkhand	0.00	0.00	0.71	1.09	0.00	0.00	0.84	0.54
Orissa	0.75	0.67	0.57	0.63	0.77	0.94	0.78	0.55
Sikkim	0.22	0.32	0.19	0.35	0.00	0.00	0.00	0.00
West Bengal	0.28	0.30	0.21	0.43	0.66	0.62	0.35	0.45
Central	**1.75**	**1.88**	**2.42**	**3.68**	**0.62**	**0.75**	**0.87**	**0.75**
Chhattisgarh	0.00	0.00	0.54	0.84	0.00	0.00	0.68	0.49
Madhya Pradesh	0.65	0.67	1.00	0.95	0.62	0.82	1.34	0.83
Uttar Pradesh	0.53	0.55	0.63	0.93	0.62	0.71	0.74	0.75
Uttaranchal	0.00	0.00	0.53	0.84	0.00	0.00	0.65	0.67
Western	**0.09**	**0.10**	**0.07**	**0.09**	**0.28**	**0.28**	**0.26**	**0.20**
Goa	0.63	0.56	0.26	0.01	2.44	1.72	0.81	0.00
Gujarat	0.44	0.62	0.79	0.78	0.88	1.21	1.63	0.85
Maharashtra	0.33	0.30	0.27	0.41	1.15	0.97	1.18	1.08
Southern	**0.67**	**0.70**	**0.59**	**0.89**	**1.65**	**1.78**	**1.40**	**1.49**
Andhra Pradesh	0.91	0.72	0.67	0.91	1.65	1.44	1.28	1.15
Karnataka	0.56	0.66	0.55	0.83	1.41	1.72	1.40	1.87
Kerala	0.54	0.64	0.76	1.03	1.32	1.55	1.50	1.18
Tamil Nadu	0.71	0.87	0.53	0.99	2.11	2.69	1.50	1.87
All-India	**0.51**	**0.55**	**0.46**	**0.72**	**1.00**	**1.00**	**1.00**	**1.00**

Source: RBI: Banking Statistics: Basic Statistical Returns, Various Issues. CSO, Human Development Report 2001, Agriculture Statistics of India, Various Issues.

To look at the inequality in the distribution of agriculture credit across regions and states an index has been prepared. One has been made by taking the ratio of percentage share of

agricultural credit to state's total bank credit and the percentage share of agriculture GDP to state's total GDP. The analysis would be as follows: the value of the index greater than or close to 1 signifies that a region or state has got due share for agriculture credit to state's total bank credit as the performance of agriculture sector in that state has been good. So, the state has got credit for agriculture according to performance of his agriculture sector.

The index value at all-India level is 0.51 in 1980-81. It increased marginally to 0.55 in 1990-91. But after that it declined to 0.46 during 2000-01 and but thereafter increased to 0.72 which is the highest value over a period of almost four decades. The rise in the value of index during 80s shows that the banks performance in the distribution of agricultural credit has been better in that period. It has been due to the better performance of agriculture sector. But the 1990s had been very bad both for agriculture sector and financial sector. This was the period when the wholesome economic reforms policies were introduced in the country in the name being competitive. The pro-market economists had the view that to make the agriculture sector develop or to increase its share in exports it has to be competitive and for that it was felt necessary to remove the barriers in the path of development of the agriculture sector. The structural changes that had been brought in the economy in that period had in fact undermined the performance of agriculture sector. The prime reason could be that in agriculture the major share of farmers are either marginal or small and they have to depend on the monsoon which in itself is uncertain. Further the adoption of policy like prudential norms propagated by international financial institutions to reduce the risk of default has adversely affected the growth of agriculture sector.

But, the revival of the agriculture sector in 2000 has attracted the banks to lend for agriculture sector in greater proportion. Although the ratio of agriculture to total GDP has declined over the period but the increment in the index value during 2000 shows that with the attention given by the central and respective state government(s) and RBI to the agriculture sector considering it as the prime source of livelihood of the larger section of the population brought a revival in the credit policy. The regional and state level values

show the same trend in the disbursement of agriculture credit. Further the considerable variation in the index value across regions and state shows the extent of inequality existed. Like, the value greater than 1 in central region and the lowest value in western region show the wide variation in the inequality level. On the other hand the only region where the banks agriculture credit has increased is central region. In this region the value has increased steadily from as low as 1.75 in 1980-81 to 3.68 in 2006-07. In other words, the inequality between regions has widened over the period.

The another index presented in the same table is the ratio of percentage share of state's agricultural credit to all-India credit and percentage share of states' agriculture GDP to all-India agriculture GDP. This ratio measures the horizontal equity in distribution of the agriculture credit at all-India level across regions and states with the share of states agriculture GDP to country's national agricultural GDP. In other words, it expresses the inequality within the country at macro level. Regions or states having index value greater than 1 show that a particular region or state has got more share in agriculture credit disbursed at all-India level even if the agriculture sector in that region or state has not performed well. This in a way shows the mismatch between relative agricultural performance and credit flow to a state. But the other way around, the state where agricultural sector performance was not good needs more credit for investment in agriculture sector to augment the productivity in the sector.

In 1980-81 the value was as high as 2.44 in Goa shows that Goa has got relatively higher share in agricultural credit to all-India total bank credit despite very small share in country's agriculture GDP. The values for agriculturally developed regions and states shows that they had got their due share in agriculture credit disbursed at all-India level. But during 1980s the performance has been some how different from the earlier period. Like, northern region which has value 1.11 in 1980-81 declined to 0.93 in 1990-91 shows that the focus has shifted to other regions such as southern region and to some extent to eastern and central region where the value has increased. However, the 1990s was not so good for most of the regions. The only state in northern region that has performed well is Rajasthan where value has increased during 1990s. the better performance of the

Rajasthan has been due to the leveraging effect of the green revolution. So far 2000s is concerned, some states have performed well whereas some the focus was shifted to southern region. The prime reason has been the better performance of the banking sector in the region due to high repayment rate.

2.12 CORRELATION MATRIX

The correlation matrix (Table 2.13) shows the association of agricultural credit outstanding to the variables like Agricultural GDP share in GSDP, irrigation, rural literacy rate and urbanization. In the year of 1982, agricultural credit has negative relation with agriculture GDP share. Even if, the credit in the agriculture has been provided, its share has decline in the economy. The credit does not have any effect on the irrigation growth too. It has declined by 0.03 per cent over the period. Literacy and credit go into one to one relation. The credit issuing requires lots of paper work to be done, which automatically require minimum education which is explained by the positive relation. Urbanization has very high correlation with credit. Most of the credit institutions and banks are concentrated near the urban areas and thus it is 75% related with urbanization of the economy. Again, one interesting result comes into light, as the level of education increase, the share of Agriculture into the GDP which has declined presents the picture of young generation moving out of this stagnated sector. It shows that literacy has opposite relation with agriculture GDP.

Somewhat same picture is found in the 1992, which highlighted the downfall of the agriculture share in the economy, even with the rise in the credit facilities. The negative association between agricultural credit and agriculture GDP shows that the availability of credit alone does not support the growth in agriculture share. Further the relation has weakened over the period. But a different relation has been seen in the irrigation upliftment from 1982, with rise in credit facility to the irrigation system. There may be other way around relation that the agriculture credit has been given more to the region with developed irrigation system. The developed irrigation system reduces the uncertainty associated with crop failure due to untimely monsoon. Further, the government in that period had started various schemes and programmes by which the

poor and uneducated farmers can have access to the credit. Various Self help groups, rural banks were set-up and NGOs came into picture to guide and supervised them. Urbanization has too shown the same picture of positive relation but the magnitude has fallen well from 75% to 30%. In the same period, the regional biasness too has reduced. Urban concentration of the banks and financial institutions were promoted which undermined the fall in agriculture credit clearly visible from the weakening of association between urbanization and agricultural credit.

In the year of 2002, the share of agriculture has increased in the overall economy but still it has the negative relation with the credit. Irrigation has become positively related with the credit as infrastructures are improving for enhancing agriculture production. Thus, irrigation has positive relation of 0.04%. Literacy has again positive relation with agriculture credit by 0.11%. However, the urbanization has now become negative relation by 0.4% as the financial system has brought policy to shift to urban areas for mobilizing savings and therefore the credit has also risen in urban areas. But by the period government focus was attracted to the deteriorating condition of agriculture sector and they started promoting agricultural credit and for that debt weaver relief schemes were announced. This in the way reflects weak association of Urbanization gives with agriculture credit.

The overall scenario presents that agriculture credit has no or little effect on its share in the GDP of the economy. Even if the credit available to the agriculture sector has been increased still it has no significant role in the upliftment of the very sector. Though, literacy and credit availability go hand in hand and various measures have been taken to make it available to all in general. The concentration of banks and institution in the urban areas and biasness towards urban population has been reduced through presence of various NGOs and schemes by the government. Over time the improvement of infrastructures has been seen through improvement in irrigation facilities which is mutually related with the credit availability.

Table 2.13: Correlation matrix

1982					
Variables	Agriculture Credit	Agriculture GDP	Irrigation	Literacy	Urbanization
Agriculture Credit	1				
Agriculture GDP	-0.0153	1			
Irrigation	-0.0382	-0.0217	1		
Literacy	0.2259	-0.3636	-0.0299	1	
Urbanization	0.7567	0.1719	0.018	-0.11	1
1992					
Agriculture Credit	1				
Agriculture GDP	-0.0657	1			
Irrigation	0.945	0.0748	1		
Literacy	0.0221	-0.4656	-0.1534	1	
Urbanization	0.3099	-0.2336	0.2294	0.2456	1
2002					
Agriculture Credit	1				
Agriculture GDP	-0.1355	1			
Irrigation	0.0045	0.4404	1		
Literacy	0.1115	-0.5474	-0.2182	1	
Urbanization	-0.4097	-0.4312	-0.0498	0.3234	1

Note: Population figures have been taken of Census 1981, 1991 and 2001 for 1982, 1992 and 2002 respectively.

2.13 SUMMARY AND CONCLUSION

The whole analysis done above concludes that there has been a structural deterioration in the banking system .The pre-reform period after banks nationalization, was favorable for the rural and semi-urban areas but the economic reforms came as a catastrophe for them. In the post- reform period there has been a structural shift in the economy as a whole, becomes clear through sectoral analysis. Further, the studies show that the cost of reforms has been paid by the underdeveloped regions for the rapid growth of urban and metropolitan areas. Since the major share of population in rural and semi-urban areas are linked to agriculture as principle occupation, it suffered most due to the deterioration in credit disbursement. This has been clear from the credit advances to agriculture according to operational land holding size classification. But the second phase of economic reforms came as a silver line for the agriculture sector. It reversed the traditional trend of falling share of agriculture credit. Notwithstanding, all other reasons, the change in political regime has also influenced it greatly.

CHAPTER 3

DISTRIBUTION OF FARMER HOUSEHOLDS AND THEIR INDEBTEDNESS

3.1 Introduction

Although, the indebtedness among the Indian farmers has been recognized since long before independence as reported by the Deccan Riots Commission(1875), the Famine Commission of 1880, The Famine Commission of 1901, the observers of rural scene in India (Sidhu and Gill, 2006). They further argue that the problem of indebtedness of the farmer is still continuing in post-independent India. In the period after banks nationalization and bringing attention towards agriculture as recognizing it a priority sector, the proportion of indebted cultivators came down significantly from 46.1 per cent in 1971 to 22.3 per cent in 1981. But, in the 1980s and 1990s it again increased to 25.9 per cent and further to 57.2 per cent respectively. As shown in the earlier chapter that in the period of 1990s the share of agricultural credit to total banks credit has fallen considerably that resulted into the deceleration in agricultural growth during the very same period has been regarded by many as one of the most important factors responsible for increasing indebtedness.

The whole analysis in this and the next chapter is based on the unit level data of Situation Assessment Survey of Farmer Households which was carried out by National Sample Survey Organization(NSSO) in 2003(59^{th} Round). Although, NSSO conducts a regular survey on debt and investment in every ten years at all-India level both in rural and urban India. But this survey, especially on the indebtedness of farmer households in rural India only, was conducted for the first time in the history of independence India under the auspices of Ministry of Agriculture to assess the concern of farmer suicides. This survey provides information on the educational level of farmer households; level of living as measured by consumer expenditure, income, productive assets and indebtedness; their farming practices and preferences; resource availability; awareness and access to technological developments etc. Here, we have considered only the credit given to farmer

households during one complete year from January to December, 2003. All the definitions used here are what NSSO defines. Only some clubbing has been done wherever it has been found to be necessary.

Beside the introduction there are fourteen sections in this chapter. In the second section spatial distribution of total farmer and indebted farmer households in rural India has been described. The next section is on the incidence of indebtedness of farmer households. Fourth section deals with distribution of total and indebted farmer households according to social groups. Distribution of farmer households has been undertaken in the fifth section. Sixth one is again on distribution of indebted farmer households but according to land holding size. In seventh section sources of borrowing has been elaborated among social groups and land holding classes. Total loan amount outstanding has been described in the eighth section while the next section gives an idea of average amount outstanding according to sources. Section Ten, Eleven and Twelfth presents cross classification considering different characteristics of the farmer households. While first one is on education level and social group, the next two are on education and land size and on land size and social group respectively. The thirteenth section provides the effect of land titles on indebtedness by looking at the distribution of farmer households and their indebtedness according to land holding types. In the next section distribution of indebted farmer households have been elaborated according to size of loan. In the final section an index has been prepared to look at the relative effectiveness of loans borrowed for different purposes. This section also discusses the indebtedness of farmers of different education level borrowing for different purposes.

3.2 Spatial Distribution of Rural Households, Total and Indebted Farmer Households

To study the distribution of farmer households, the entire country has been divided broadly into six regions. Addition of group of UT's makes it seven. The basis for this

classification is to make the data comparable with those presented in previous chapter at macro level.

Table 3.1 shows the spatial distribution of total rural households, farmer households and indebted farmer households and their share at all-India and state level. At all-India level, about 60 per cent of rural households were farmer households and of them 49 per cent were indebted. It means that rest of the 40 per cent rural households might be engaged in some non-farm economic activities. Comparing the distribution of rural households region-wise, southern region alone provided inhabitation to one fourth of the rural households followed by central region with 24.5 per cent and eastern region with 23 per cent. The northern and western region had percentage of rural households between 10 to 12 per cent. It is the north-eastern region which had lowest share of rural households: around 5 per cent. Among states, share of rural households was found highest in Uttar Pradesh, around 15 per cent at all-India level. Then, Andhra Pradesh comes with 9.6 per cent, only one per cent less than what is the share of northern region. States like, Bihar, West Bengal, Madhya Pradesh, Maharashtra and Tamil Nadu had share of rural households in the range of 6 to 8 per cent. Further, Assam is the only state from north-eastern India who had 3 per cent rural households at all-India level.

But, on the contrary, central region had the highest proportion of farmer households at all-India level with 30.4 per cent which is quite obvious due to large and fertile area of great Ganges plain. Southern region with 18 per cent farmer households was lagging behind eastern India which had a share of 23.6 per cent farmer households indicating that people in rural sector in southern region were comparatively more engaged in non-farm economic activities. Northern and western region were have almost the same share of farmer households at all-India level around 12 per cent. North-eastern region had the smallest share of farmer households, only 4 per cent. Looking at the share of farmer households across different states at all-India level, Uttar Pradesh was found having the highest proportion of rural households: 19 per cent. Bihar and west Bengal from eastern India, Madhya Pradesh from central India, Maharashtra from western India and Andhra Pradesh from southern India had same share of farmer households, i.e., around 7 per cent.

Table 3.1: Distribution of Total Rural Households and Total and Indebted Farmer Households in ('00) and their Share in(per cent) at All-India and State Level

Region/State	Total Rural HHs	All-India Share	Total Farmer HHs	All-India Share	State Share	Indebted Farmer HHs	All-India Share	State Share
1	2	3	4	5	6	7	8	9
Northern	**153839**	**10.35**	**109460**	**12.25**	**71.15**	**56238**	**12.97**	**51**
Haryana	31474	2.12	19445	2.18	61.78	10330	2.38	53
Himachal	11928	0.80	9061	1.01	75.96	3030	0.70	33
J & K	10418	0.70	9432	1.06	90.54	3003	0.69	32
Punjab	29847	2.01	18442	2.06	61.79	12069	2.78	65
Rajasthan	70172	4.72	53080	5.94	75.64	27806	6.41	52
North-Eastern	**70915**	**4.77**	**34874**	**3.90**	**49.18**	**6872**	**1.58**	**20**
Arunachal	15412	1.04	1227	0.14	7.96	72	0.02	6
Assam	41525	2.79	25040	2.80	60.30	4538	1.05	18
Manipur	2685	0.18	2146	0.24	79.93	533	0.12	25
Meghalaya	3401	0.23	2543	0.28	74.77	103	0.02	4
Mizoram	942	0.06	780	0.09	82.80	184	0.04	24
Nagaland	973	0.07	805	0.09	82.73	294	0.07	36
Tripura	5977	0.40	2333	0.26	39.03	1148	0.26	49
Eastern	**342461**	**23.03**	**211140**	**23.63**	**61.65**	**84244**	**19.43**	**40**
Bihar	116853	7.86	70804	7.92	60.59	23330	5.38	33
Jharkhand	36930	2.48	28238	3.16	76.46	5893	1.36	21
Orissa	66199	4.45	42341	4.74	63.96	20250	4.67	48
Sikkim	812	0.05	531	0.06	65.39	174	0.04	33
W B	121667	8.18	69226	7.75	56.90	34597	7.98	50
Central	**363672**	**24.46**	**271341**	**30.37**	**74.61**	**112670**	**25.98**	**42**
Chhattisgarh	36316	2.44	27598	3.09	75.99	11092	2.56	40
M P	93898	6.31	63206	7.07	67.31	31756	7.32	50
U P	221499	14.90	171575	19.20	77.46	69178	15.95	40
Uttaranchal	11959	0.80	8962	1.00	74.94	644	0.15	7
Western	**181192**	**12.19**	**103662**	**11.60**	**57.21**	**55721**	**13**	**54**
Gujarat	63015	4.24	37845	4.24	60.06	19644	4.53	52
Maharashtra	118177	7.95	65817	7.37	55.69	36077	8.32	55
Southern	**372544**	**25.05**	**161578**	**18.08**	**43.37**	**117413**	**27.08**	**73**
Andhra	142512	9.58	60339	6.75	42.34	49496	11.41	82
Karnataka	69908	4.70	40413	4.52	57.81	24897	5.74	62
Kerala	49942	3.36	21946	2.46	43.94	14098	3.25	64
Tamil Nadu	110182	7.41	38880	4.35	35.29	28922	6.67	74
Group of UTs	**2325**	**0.16**	**1449**	**0.16**	**62.32**	**461**	**0.11**	**32**
All-India	**1486948**	**100**	**893504**	**100**	**60.09**	**433618**	**100**	**49**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Agriculturally developed states of northern India, Haryana and Punjab together had only 4 per cent farmer households whereas, Rajasthan alone had 6 per cent farmer households at all-India level more than these two states taken together.

Comparing the proportion of farmer households to total rural households at region and state level we found that central region was leading the tally with 75 per cent farmer households. Then northern India comes with 71 per cent followed by eastern region, and western region with 62 per cent and 57 per cent respectively. The States, where percentage of farmer households to rural households was less than all-India average are Maharashtra (56 per cent), west Bengal (57 per cent) and each and every state of southern region. The point to be noted here is, in case of north-east region where all states except Arunachal Pradesh and Tripura had more than 75 per cent farmer households with Assam only had as much as all-India average. Another state to be mentioned here is Jammu and Kashmir, where around 91 per cent rural households were engaged in farming.

As far the distribution of indebted farmer households across different states out of total indebted farmer households at all-India level is concerned, again Uttar Pradesh had the largest share, 16 per cent out of 43.3 million farmer households, then comes Andhra Pradesh with 11.4 per cent. Moreover, states like, Maharashtra, West Bengal, Madhya Pradesh, Tamil Nadu, Rajasthan, Karnataka and Bihar have shares in a range of 5 per cent to 8 per cent in all-India.

The above analysis shows the relative concentration of rural households and farmer households across different regions and states. It was shown that although it was the southern region where the rural households were more but, in the case of farmer households it was central region. On the other hand, among states it was Uttar Pradesh where the rural and farmer households were largely concentrated. Comparing the above estimates with the Census 2001 we find some deviation in the above trend. Even the largest share of rural population resides in central region (26.8 per cent) followed by eastern (24.9 per cent) and southern (20 per cent). Further, the share of cultivators and agricultural labours was highest in central region (27 per cent) which supports the above estimates. Moreover, in terms of proportion of cultivators only, it was again central

region with 30.7 per cent followed by eastern (17.5 per cent), northern (17 per cent) and southern region (16 per cent). But, so far agricultural labours are concerned; it was southern region with 27.7 per cent followed by eastern (24.5 per cent) and central (22.8 per cent). Again, the state level pattern of Census 2001 shows the same as NSSO estimates. Up was leading in all sense proportion of rural population, cultivators, cultivators and agricultural labours together. But, Bihar had marginally higher share of agricultural labours (12.8 per cent) than UP (12.6 per cent).

3.3 Distribution of Incidence of Indebtedness among Farmer Households

The incidence of indebtedness explains the proportion of households indebted during the time of survey but it does not explain the extent (average amount of debt per farmer household) of indebtedness (EOI) of the farmer households (Narayanamoorthy and Kalamkar, 2005). Narayanmoorthy et al (2005) defines indebtedness in a comprehensive way. According to him, it has various facets such as regional distribution, distribution among different farm size, distribution among different social groups, source of income, source of loan, purpose of borrowing and so on. He further argues that borrowing and indebtedness are two sides of the same coin. He explains the borrowing and indebtedness as a cause and effect relation.

Though, at all-India level, out of 89 million farmer households around 49 per cent were indebted. The same trend was found in most of the states (Table 3.1). But, some states had incidence much higher than the national average. In fact, the level of incidence of indebtedness in southern region was highest with 73 per cent. Other regions where indebtedness was more than all-India average are western region (54per cent) and northern region (51per cent). Central region and eastern region also had level of incidence of indebtedness between 40 to 42 per cent. The lowest incidence was in north-eastern region, only 20 per cent, which is even smaller than the group of UTs (32per cent). The incidence of indebtedness at state level was highest in Andhra Pradesh (82 per cent) followed by Pondicherry (80 per cent), Tamil Nadu (74 per cent), Punjab (65 per cent), Kerala (64 per cent) and Karnataka (62 per cent). Further, Maharashtra (55 per cent), Haryana (53 per cent), Gujarat and Rajasthan each (52 per cent) and West Bengal

and Madhya Pradesh each (50 per cent) are above the all-India average. Those having lowest indebtedness are Uttaranchal (7 per cent), Arunachal Pradesh (6 per cent) and Meghalaya (4 per cent). States where level of indebtedness was less than all-India average are Himachal Pradesh, Jammu and Kashmir, Bihar, Jharkhand, Orissa, Sikkim, Chhattisgarh, Uttar Pradesh, group of UTs and all other states except Tripura of north-eastern region fall within range of 18 per cent to 48 per cent.

The above analysis shows that although southern region had more rural households at all-India level but the proportion of farmer households was highest in central region. It shows that in southern region peoples in rural areas are diversifying their economic activities and relying more on non-farm activities rather than farming. In case of level of indebtedness of farmer households it is the southern region which shows the highest level of indebtedness. This might be due to the developed cooperative banks and self-help groups to support the credit requirements. Further, Uttar Pradesh was on the top in terms of share of rural households, farmer households, and indebted farmer households at all-India level among the states.

The above analysis supports the argument put forward by Namboodiri, 2005; Narayanamoorathy and Kalamkar, 2005; Sidhu and Gill, 2006; Jeromi, 2007; Singh, Kaur and Kingra, 2008 that the indebtedness was found to be high among the states where agriculture is in highly developed state. But, the reason behind such a high level of indebtedness found by many studies conducted in individual states was both internal and external (Namboodiri, 2005). According to him, the inability to repay the debt due to natural calamities which affects the agricultural output to a great extent was considered as the prime external reason. He also mentioned that the inability to repay the past loan and therefore denial to access fresh credit due to either crop failure or low yield or the inability to get remunerative prices for output increase the indebtedness.

3.4 Distribution of Total and Indebted Farmer Households According to Social Group

Access to credit market has been varying among different sub-groups of the society. Here, the distribution of total and indebted farmer households have been divided according to their social groups presented in Appendix 3.1. The proportion of Farmer households belonging to OBC category was highest at all-India level followed by Others, SCs, and STs. But, at region-level same trend was found only in southern, central and eastern regions. But in West Bengal coming under eastern region, the share of OBC households was lowest. In northern region where agriculturally developed regions are situated, others were in large proportion in comparison to OBC. Similar trend was there across all the states except Rajasthan.

Following the same line OBC farmers also had highest share among total indebted farmer households at all-India level. Similar trend was found among southern and central regions. In Tamil Nadu almost 73 per cent indebted farmer households belong to OBC whereas, in Jammu & Kashmir and West Bengal only 4.6 and 7.3 per cent indebted farmers respectively were OBC. Across all the states falling into southern region, the proportion of indebted farmer households belonging to OBC was higher compared to other social groups. Maharashtra too showed high indebtedness among OBCs and others together which about 82.1 per cent is. Of the total indebted farmer households Uttar Pradesh in the central region had 55.7 per cent OBCs followed by Chhattisgarh (49.2 per cent) and Madhya Pradesh (47.3 per cent). It should be noted here that in Uttaranchal not a single farmer household from ST was indebted even there was 3.5 per cent ST farmers. In Northern region indebtedness varies from Others to OBCs to SCs. Rajasthan had 47 per cent share of indebted OBC farmer households out of total indebted farm households in the state. Punjab and J&K had 58 per cent and 76.5 per cent others out of total indebted respectively. In Himachal Pradesh 65 per cent of the indebted farmers comprise SCs and others.

North-east region showed high indebtedness among others. Among all states coming under this region only Manipur had more than 50 per cent indebted farmer households of

Table 3.2: Index of Representation of percentage share of the category Indebted farmer households to percentage share among all farmers.

Region/States	ST	SC	OBCs	Others	All Category
1	2	3	4	5	6
Northern Region	**0.87**	**1.06**	**1.02**	**0.99**	**1**
Haryana	0.72	1.02	1.07	0.95	1
Himachal	0.63	1.27	1.12	0.92	1
J & K	0.00	1.45	0.28	1.11	1
Punjab	0.53	0.83	0.97	1.12	1
Rajasthan	0.90	1.12	1.02	0.96	1
North-Eastern Region	**0.74**	**1.11**	**0.99**	**1.18**	**1**
Arunachal	0.57	0.00	0.00	3.75	1
Assam	0.50	0.97	0.87	1.21	1
Manipur	0.47	0.00	1.59	1.35	1
Meghalaya	0.99	0.00	1.00	1.13	1
Mizoram	1.01	0.00	0.00	0.00	1
Nagaland	1.02	0.00	0.06	0.41	1
Tripura	1.07	0.94	0.98	0.95	1
Eastern Region	**0.66**	**1.14**	**0.93**	**1.18**	**1**
Bihar	1.13	1.18	0.97	0.94	1
Jharkhand	0.60	1.49	1.16	1.50	1
Orissa	0.67	1.02	1.17	1.36	1
Sikkim	0.91	0.77	1.04	1.09	1
W B	0.69	1.00	1.09	1.04	1
Central Region	**0.83**	**1.07**	**1.07**	**0.83**	**1**
Chhattisgarh	0.73	1.33	1.19	0.88	1
M P	0.76	1.22	1.07	0.92	1
U P	0.99	1.03	1.03	0.88	1
Uttaranchal	0.00	1.50	2.87	0.68	1
Western Region	**0.73**	**0.86**	**1.05**	**1.13**	**1**
Gujarat	0.82	0.89	1.03	1.17	1
Maharashtra	0.66	0.85	1.06	1.10	1
Southern Region	**0.95**	**1.00**	**1.03**	**0.95**	**1**
Andhra	0.94	0.97	1.02	1.02	1
Karnataka	0.93	0.84	1.12	0.95	1
Kerala	0.77	1.01	0.99	1.02	1
Tamil Nadu	0.98	1.04	0.99	0.79	1
Group of UTs	**1.16**	**1.75**	**2.08**	**0.36**	**1**
All-India	**0.75**	**1.03**	**1.06**	**1.02**	**1**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

OBC. In Mizoram and Nagaland among indebted farmer households more than 95 per cent were ST. Bihar, Jharkhand and Orissa in the eastern region had the highest number of indebted farmer households belonging to OBC. West Bengal and Sikkim constitutes highest indebted farmers of others, around 57.3 per cent and 35 per cent respectively. The group of UTs also had somewhat similar picture. And the share of indebted farmer households out of total indebted was high among OBC (52 per cent) followed by STs 22 per cent.

Further, to look at the equity aspect of among farmers belonging to different social groups an index of representation shown in Table 3.2 has been prepared by taking the ratio of percentage share among indebted farmers to percentage share among total farmers. The value greater than or close to 1 shows the fact that the share of indebted farmers of a particular social group is higher than its share among total farmer households. The value 1.03, 1.06 and 1.02 of SC, OBC and others respectively signifies the fact that they had got due representation among total farmers. On the other hand, value less than 1 for farmers of a particular group has not received due share among those indebted as their share among total. One can look at in other way also. The value greater than or close to 1 also reflects the higher indebted among farmers belonging to a particular social group even higher than its share among total farmers.

3.4.1. Distribution of Incidence of Indebtedness (IOI) across Different social group

Table 3.3 presents the incidence of indebtedness across different social groups among different states and at all-India level. All-India figure shows that the incidence of indebtedness is 36.24 per cent among STs, 50.22 per cent among SCs, 51.3 per cent among OBC and 49.4 per cent among others. At region level also the incidence among SCs, OBCs and Others was in increasing order. It was only STs in whose case the incidence was lowest across all the regions except, southern region.

Table 3.3: Incidence of Indebtedness in(per cent) at All-India and State Level according to Social Group

State	ST	SC	OBCs	Others	All Category
1	2	3	4	5	6
Northern Region	**44.73**	**54.42**	**52.40**	**51.09**	**51.38**
Haryana	38.20	54.38	57.08	50.25	53.13
Himachal	21.21	42.61	37.45	30.84	33.44
J & K	0.00	46.22	9.07	35.39	31.84
Punjab	34.54	54.21	63.79	73.04	65.45
Rajasthan	47.35	58.88	53.48	50.53	52.39
North-Eastern	**14.61**	**21.86**	**19.56**	**23.26**	**19.76**
Arunachal	3.35	0.00	0.00	22.20	5.92
Assam	9.17	17.59	15.73	21.97	18.18
Manipur	11.49	0.00	39.23	33.27	24.68
Meghalaya	4.03	0.00	4.03	4.57	4.05
Mizoram	24.38	0.00	0.00	0.00	24.12
Nagaland	37.36	0.00	2.09	0.00	36.46
Tripura	53.06	46.77	48.80	47.37	49.68
Eastern Region	**26.22**	**45.46**	**37.29**	**47.11**	**39.94**
Bihar	37.27	38.77	32.13	31.07	32.99
Jharkhand	12.57	31.10	24.13	31.27	20.87
Orissa	31.93	48.90	55.98	64.91	47.83
Sikkim	29.89	25.45	34.18	35.72	32.92
W B	34.77	49.91	54.61	51.89	50.07
Central Region	**34.38**	**44.55**	**44.59**	**34.49**	**41.58**
Chhattisgarh	29.32	53.38	47.68	35.43	40.19
M P	38.31	61.51	53.86	46.05	50.24
U P	40.08	41.69	41.57	35.45	40.40
Uttaranchal	0.00	10.76	20.61	4.88	7.18
Western Region	**39.41**	**46.33**	**56.27**	**60.53**	**53.75**
Gujarat	42.34	45.98	53.50	60.58	51.91
Maharashtra	36.06	46.48	57.99	60.51	54.81
Southern Region	**69.15**	**72.41**	**74.91**	**69.33**	**72.67**
Andhra	77.07	79.36	83.41	83.58	82.03
Karnataka	57.16	51.88	68.96	58.70	61.61
Kerala	49.55	64.69	63.90	65.28	64.24
Tamil Nadu	72.76	77.35	73.91	58.73	74.39
Group of UTs	**36.77**	**55.69**	**66.23**	**11.30**	**31.78**
All-India	**36.24**	**50.22**	**51.30**	**49.39**	**48.57**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Southern region had high level of incidence of indebtedness among all social groups. The same is also true for all states falling in this region. Only Kerala had a bit less than 50 per cent incidence of indebtedness in the case of STs. In Karnataka, it was SCs who had just 52 per cent incidence of indebtedness. In western region, SCs and Others both were having same incidence of indebtedness at region and state level each 46 per cent and 61 per cent respectively. However, STs had the least incidence level, 42 per cent and 36 per

cent in Gujarat and Maharashtra respectively and at region as a whole. In northern region also the lowest incidence was in the case of STs across all states. In Eastern region the level of incidence of indebtedness among social groups was highest in the case of others and the lowest was among ST. In central region, both STs and Others had same level of indebtedness, 34 per cent and SCs and OBCs each had 45 per cent.

3.5 Distribution of Total and Indebted Farmer Households According to Principal Source of Income

Here, farmer households have been divided into four major categories considering their principal source of income. First category is of cultivators. Under second comes those farm households who were engaged in farming but other than cultivation. Third one belongs to those who were involved in other agricultural activity. And lastly, others which include all those who were not doing the above three types of economic activities. To get an idea about their distribution data have been presented in percentage terms in Appendix 3.2.[6] The largest share was of those farm households who were having cultivation as their principal source of income and it was 57 per cent at all-India level. All regions except northern (51per cent) and southern (49per cent) had share of cultivator farmer households less than all-India average. Point to be noted here is, all states of north-eastern India had share more than 65 per cent share of cultivator farmer households. States of northern region had share of cultivator households in range of 42.5 per cent to 54 per cent and region as a whole had 51 per cent. In southern region only Kerala had share of cultivator farmer households less than 20 per cent and other three states had share between 49 to 58 per cent, where as southern region as a whole had a share of 48.7 per cent. In eastern region, only Orissa had as low as 44.5 per cent cultivator farmer households.

Households engaged in farming other than cultivation and other agricultural activity was 3 per cent (2.6 million) and 4 per cent (3.5 million) respectively at all-India level.

[6] Central region had highest, 17.1 million followed by eastern region with 11.9 million cultivator farmer households. Northern, southern and western region had also cultivator farmer households more than 5.6 million each. At state level Uttar Pradesh was at the top with 11.3 million cultivator farmer households. No states except Assam in north-east region had more than one million cultivator households.

Southern region had share 5.5 per cent and 6 per cent more than all-India average, also in absolute sense. The second highest share among farming other than cultivation was of northern region (4per cent), but in absolute terms it is central region (0.6 million), and in other agricultural activity was of eastern region both in percentage (4.6per cent) and in absolute sense (0.9 million). At state level, Kerala had highest share of farmers engaged in farming other than cultivation (11.7per cent) followed by Tamil Nadu (6.5 per cent) and group of UTs (6.1 per cent). Other two states which had share more than 5 per cent are Haryana and Rajasthan.

Farmer households who were having other kinds of principal source of income had a share of 35.8 per cent at all-India level. In percentage, northern region had highest share (41.7per cent) followed by southern region (39.6per cent), eastern region (36.8per cent), western region (34.8per cent) and central region (31.6per cent).

Now comparing share of indebted farmer households it has been found that at all-India level 57 per cent were cultivators, followed by others(35.7per cent), other agricultural activity(4per cent) and 3 per cent for farmers doing other than cultivation. Among regions, share of indebted farmer households who were having their principal source of income as cultivation was even higher in central region (64.9per cent), north-east (62.9per cent) and western region (62.6per cent). In absolute sense also, it is central region with 7.3 million indebted cultivator households. Southern region which had lowest share of indebted cultivator households (50per cent) keeping aside north-east region was at the second position with 5.8 million cultivator households after central region. Northern region and western region changed their position when we move from percentage to absolute with former was leading in percentage, whereas follower led in absolute sense. In activities like, farming other than cultivation and other agricultural, either taken individually or together, Kerala led the tally. Northern and central region both had same share, 6.4 per cent of indebted households considering both these activities together. In case of other activities, eastern, southern and northern region had share of indebted households more than all-India average, 40.4 per cent, 38.7 per cent and 38 per cent respectively. Only central region and western region as a whole and all states belong

to corresponding region were less than all-India average indebted households engaged in other activities. If we compare at state level, Himachal Pradesh, Jammu & Kashmir, and Kerala had less share of indebted cultivators than households engaged in other activities, shows that in these states lenders were finding those households less risky to lend.

3.5.1. Distribution of Incidence of Indebtedness of Farmer Households According to Principal Source of Income

The incidence of indebtedness (IOI) has been presented in Table 3.4 the highest incidence was among farmers doing farming other than cultivation, 51.9 per cent followed by those engaged in other agricultural activity with 50.3 per cent. Cultivators and Others were having the same incidence level each 48.4 per cent. No other region and states were following the same pattern as all-India. Among cultivators the level of incidence was 74.5 per cent in southern region. Then western region comes with 56.8 per cent and northern region, 55.7 per cent. The lowest incidence was in north-east region. All states of western and southern region had high indebtedness among cultivators even more than national as well as regional average. Other three regions eastern, central and north-east each have only one state where the incidence was more than 50 per cent among farmer households doing cultivation. Besides, states belong to north-east region; Uttaranchal was the only state having least incidence among cultivators.

In case of farming other than cultivation, again south India as a whole as well as all states had greater incidence of indebtedness, more than 65 per cent. Like cultivation, same three states had incidence level more than 50 per cent in addition to western region in this principal source of income. Similarly the lowest percentage of indebtedness was in Uttaranchal. Those were having principal source of income as other agriculture activity, only southern region had indebtedness more than 60 per cent across all states in the region. Madhya Pradesh (62 per cent), Tripura (51.5 per cent) and Punjab and Rajasthan had indebtedness more than 50 per cent greater than national average. So far principal source of income of others is concerned; it is southern region where indebtedness was between 57 to 81 per cent. On the same line, the lowest was in Uttaranchal.

Table 3.4: Distribution of Incidence of Indebtedness According to Principal Source of Occupation

Region/State	Cultivation	Farming other than cultivation	Other agricultural activity	Others	All Groups
1	2	3	4	5	6
Northern region	**55.71**	**45.07**	**47.47**	**46.98**	**51.38**
Haryana	59.99	40.05	44.82	46.12	53.13
Himachal	32.36	41.40	25.33	34.84	33.44
J & K	24.40	62.73	0.00	39.58	31.84
Punjab	75.48	50.03	53.72	57.76	65.44
Rajasthan	56.76	45.19	53.19	47.09	52.39
North-Eastern	**18.21**	**27.33**	**6.94**	**23.64**	**19.71**
Arunachal	5.18	0.00	3.54	17.11	5.92
Assam	16.61	22.22	0.48	21.72	18.15
Manipur	18.73	50.22	23.55	35.51	24.49
Meghalaya	4.40	25.33	2.66	2.96	4.05
Mizoram	21.39	87.27	0.00	44.93	23.61
Nagaland	36.72	24.91	0.00	36.96	36.46
Tripura	52.54	20.92	51.53	44.23	49.20
Eastern Region	**37.47**	**34.52**	**40.85**	**43.77**	**39.88**
Bihar	28.62	28.53	39.86	39.81	32.95
Jharkhand	16.40	10.19	20.46	30.90	20.87
Orissa	55.93	43.39	37.72	41.75	47.83
Sikkim	27.06	42.73	0.00	42.50	32.79
West Bengal	47.28	50.22	48.85	54.81	49.95
Central Region	**42.63**	**43.02**	**45.48**	**39.00**	**41.57**
Chhattisgarh	43.46	37.42	27.86	36.98	40.19
M P	54.35	51.81	61.99	41.77	50.24
U P	40.44	44.21	38.33	40.08	40.39
Uttaranchal	7.62	3.68	0.00	6.78	7.18
Western Region	**56.81**	**46.65**	**46.56**	**49.76**	**53.75**
Gujarat	52.86	41.47	47.68	51.75	51.91
Maharashtra	59.24	51.93	45.49	48.83	54.81
Southern Region	74.51	73.03	67.74	71.12	72.67
Andhra	83.16	81.94	76.22	81.36	82.03
Karnataka	63.69	59.79	62.89	57.79	61.61
Kerala	55.48	77.69	66.39	63.73	64.24
Tamil Nadu	76.85	65.24	57.33	74.58	74.39
Group of UTs	**41.61**	**38.76**	**66.97**	**21.97**	**31.78**
All-India	**48.34**	**51.88**	**50.29**	**48.42**	**48.55**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

3.6. Distribution of Total and Indebted Farmers Household According to Landholding size

Here, farmer households were classified in five groups according to their operational land holding sizes such as landless (up to 0.002ha), marginal (less than 1 ha), small (up to 2 ha), medium (up to 4 ha) and lastly large land holder having size more than 4 hectares7. The share has been shown in Appendix 3.3.

In India the distribution of share of farmer households by operational land holding sizes was as follows; 64.95 percent were marginal, 18.09 percent were small, 10.8 percent were medium, 5.8 percent were large and landless had 0.32 percent. Among all regions of India mostly farmers are marginal land holders followed by small, medium and large land sizes. Only exception was Rajasthan where the share of large farmer households (17.5per cent) was slightly higher than medium land holders (16.7per cent).

The question here arises of the representation about reality. Does it really seem that the proportion of landless farmer households would be so low? The plausible answer would be "no". Then what are the reasons for such a low representation. One could be the effect of land reforms initiated in the early period after getting independence recognizing the conditions of tenants and understanding the importance of land to do at least subsistence agriculture to reduce the poverty and inequality prevailing in the country immediately after Independence. So, after that the landless has reduced to a great extent. The other possible reason could be with the definitions followed of farmers in this survey. For, this only those households have been considered as farmer households in which at least one member is engaged in agriculture and allied activities for last 365 days. On the other hand, for being a farmer one must have some land to do agriculture activities. But, many studies had questioned the reliability and accuracy of estimates of the extent of landlessness shown by official surveys of NSSO and argued that there were more than 40 per cent households in rural India did not own any land (Ramachandran, 1980; Sharma and Dreze, 1998; Ramakumar, 2000; Rawal, 2008). So, in that sense they have not been taken into account for this survey as definition says. As Rawal (2008) argued that the

differences in the way ownership and operational holdings were defined is the main cause of discrepancy in the extent of landlessness. According to him, to get a meaningful understanding about landless households, households that do not own any productive land should be considered only.

On the other hand, the percentage of marginal farmers in eastern region was very much high even greater than all-India average as 80.44 percent. But, in absolute sense it was central region where 17.2 million farmer households were having average land holding size as less than one hectare. Thereafter, it was north-eastern region in percentage but, lowest in absolute terms besides group of UTs. Eastern region had second highest number of marginal farmer households, 16.9 million. Southern and central region also had share of marginal farmer households between 63.4 to 64.1 per cent. In northern region, the share was 56 per cent. The share was less than 50 per cent in western region. Regions which had share of small farmer households less than all-India average are northern region (17.3per cent), southern region (17.5per cent) and eastern region (13.45per cent). In medium category, central region was at the leading position with 17.8 per cent. Other regions where it was more than 10 per cent are northern (14.1per cent), southern (12.1per cent), and central region (11.1per cent).

The percentage share of large landholders was found high in northern region and western region as 12.13 percent and 11.42 percent respectively. Among states Rajasthan had the highest share of large landholding farmer households, 17.5 per cent, even higher than national and regional average. Madhya Pradesh, Maharashtra, Punjab, and Gujarat had also share in a range of 10.6 per cent to 12.9 per cent falls in the same group. In regions like, southern and central the percentage share of large size landholders were in between 5 per cent to 6 percent. Rest had share less than 1.2 per cent.

So far the distribution of indebted farmer households across different farm sizes are concerned, among all categories of indebted farmer households which was 48.5 per cent, marginal landholders share was 60.13 percent followed by small, medium and large as 18.97 percent, 12.70 percent, and 7.73 percent respectively. The share of landless farmer

7The classification has been made here on the basis of H R Sharma (2007).

households among indebted farmer households was significantly low, 0.29 per cent. In southern region, out of 72.6 per cent indebted households, 62.46 per cent were marginal land holders. So far north-India is concerned, out of all indebted farmers, marginal farmers were 49.91 percent, small farmers were 18.63 percent, medium 6.93 percent and large farmers were 14.27 percent, whereas landless were 0.24 percent. In north-eastern region percentage of indebted marginal farmer households were 73.79 per cent. Others share was as, 19.33 percent small landholders, 6.5 percent medium and 0.3 percent large farmer households. In eastern region, among all indebted farmers, 82.39 percent were marginal, 12.42 percent were small and 3.86 percent were medium farmer households. Western region had share of indebted farmers, 37.82 percent marginal, 24.04 percent small, 21.96 percent, medium and 15.43 percent large farmer households. Southern region follows the same story of distribution as other region of India. Here, the percentage of indebted farmers was 62.4 percent in marginal, 18.80 percent were small, 12.5 percent were medium and 6.16 percent were large landholding farmer households. In group of UT's share of indebted was very high in marginal farmer households followed by small, medium and large. The share of landless farmers to indebted farmers was less than1 percent in the entire region.

3.6.1. Distribution of Incidence of Indebtedness According to Landholding size

Interestingly large landholders were highly indebted in comparison to others as Table 3.5 clearly shows. On one hand, 64.6 percent farmers of large landholding size were indebted. On the other hand, among those who are landless, only 43.9 percent were indebted. The indebtedness corresponding to different landholding sizes varies significantly across regions and states. In northern region, medium landholders were highly indebted, 61.7 percent and landless farmers were least indebted, 30.3 percent. In the north-eastern region the incidence was high in the case of marginal farmers (21.5per cent) whereas, only 0.3 percent were indebted among landless. It is to be noticed here that in eastern region the incidence was almost at the same level among marginal and landless. On the contrary, central region had incidence level 62.3 percent and 37.2 per cent among large and marginal farmers respectively. Among the states, in Uttaranchal

Table 3.5: Distribution of Incidence of Indebtedness in (per cent) According to Operational Land Holding Sizes

State	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
Northern Region	**30.3**	**45.8**	**55.3**	**61.7**	**60.4**	**51.4**
Haryana	36.8	45.3	65.9	69.8	58.6	53.1
Himachal	0.0	33.1	33.2	34.3	53.8	33.4
J & K	0.0	30.0	30.7	49.3	55.0	31.8
Punjab	31.6	56.3	75.8	82.7	83.6	65.4
Rajasthan	27.8	49.5	53.7	55.8	55.9	52.4
North-Eastern	**0.3**	**21.5**	**17.3**	**14.0**	**6.0**	**19.7**
Arunachal	0.3	3.2	8.8	8.9	0.0	5.9
Assam	0.0	18.9	16.8	15.9	13.3	18.1
Manipur	0.0	25.4	22.8	29.1	9.8	24.8
Meghalaya	0.0	5.0	2.9	3.1	0.0	4.0
Mizoram	0.0	22.8	28.0	21.6	0.0	23.6
Nagaland	0.0	37.5	39.0	16.9	0.0	36.5
Tripura	0.0	49.9	42.5	0.0	0.0	49.2
Eastern Region	**40.5**	**40.9**	**36.8**	**33.0**	**36.0**	**39.9**
Bihar	29.2	35.5	24.6	18.4	26.7	32.9
Jharkhand	38.0	21.1	21.1	12.9	27.2	20.9
Orissa	35.5	45.4	54.8	54.5	57.3	47.8
Sikkim	0.0	34.3	27.9	28.4	7.4	32.8
West Bengal	63.1	50.9	44.2	43.8	40.9	50.0
Central Region	**51.2**	**37.2**	**45.4**	**49.4**	**62.3**	**41.5**
Chhattisgarh	37.7	35.1	46.9	40.4	52.3	40.2
M P	67.0	42.0	49.9	57.3	63.4	50.2
U P	52.5	38.5	42.7	45.2	64.4	40.3
Uttaranchal	0.0	5.9	20.4	11.4	0.0	7.2
Western Region	**43.5**	**43.7**	**55.5**	**66.2**	**72.6**	**53.8**
Gujarat	50.2	42.3	55.8	71.1	70.2	51.9
Maharashtra	28.5	44.7	55.4	64.3	73.9	54.8
Southern Region	**47.8**	**70.7**	**77.8**	**74.7**	**74.0**	**72.6**
Andhra	65.9	79.1	87.5	85.2	83.0	81.9
Karnataka	41.6	59.0	64.9	61.7	68.3	61.6
Kerala	0.0	63.4	71.1	70.7	55.4	64.2
Tamil Nadu	37.9	74.3	78.7	73.3	62.8	74.4
Group of UTs	**87.7**	**28.8**	**33.7**	**49.4**	**69.9**	**31.8**
All-India	**43.9**	**45.0**	**50.9**	**56.9**	**64.6**	**48.5**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

there was no farmer household who was indebted among landless. Western region had also followed the same pattern. Highly incidence was among large farmers which is 72.6 percent, whereas 44 percent farmers among landless and marginal farmers were indebted with marginal variation. In southern region, all class of land holders but landless, had incidence of indebtedness more than its regional average, i.e., 72.6 per cent. Within region, Tamil Nadu had the lowest, 37.9 per cent, less than the regional as well as national average of indebtedness in landless class. In group of UT's 87.7 percent landless farmers were indebted but only 28.8 per cent marginal farmer households out of 82 per cent were indebted.

The data clearly reveals that indebtedness was very high in southern region, which was found as more than 70 percent across all farm sizes but landless. Among the landless farmers the incidence level was 51.2 percent in central region, 47.8 percent in southern region, and 87.7 percent in UT's but only 0.3 percent were found in north-eastern region. Most indebted farmers among marginal landholders were in southern region, 70.7 percent. Indebted farmers among small landholders are found to be high again in southern region as 77.8 percent, whereas the lowest share was 17.3 percent in north-east region. Again, in the case of medium farmers north-eastern region had indebtedness about 14 percent whereas in southern region it was 74.7 percent.

3.7. Distribution of Indebted farmer Households According to Sources of Borrowing

As has been explained in the previous section, sources of loan are an important dimension for assessing indebtedness. Therefore, in this section an attempt has been made to bring forth the level of outreach of institutional credit delivery agencies at household level recognizing the fact that institutional sources lend credit at relatively low rate of interest because of the directed credit to agriculture. For this the sources have been divided into two broad groups. One is institutional credit agencies under which mainly government outlets, cooperative societies and commercial banks have been considered. Other is of non-institutional in nature. In this category, agricultural/professional money lenders, trader, relatives and friends, doctors/lawyers and other professionals, and others have been taken together. The data have been shown in Table 3.6.

This has been repeatedly argued by development economists, policy makers and planners that reduction in the dependence of rural households on non-institutional sources of credit is one of the indicators of development of rural credit delivery system (Kumar et al, 2007). Putting this argument forward, it becomes necessary to look at the proportion of farmer households having access to different sources of credit together with share of outstanding loan by sources of credit. The share of farmer households borrowing loan from institutional sources out of total borrowing farmer households was 47 per cent at all-India level. In other words, 53 per cent farmer households were borrowing from non-institutional sources shows the higher dependence on them. At the regional level, western region was the only one where the share of institutional borrowers was even greater than all-India average. Further, regions which had institutional borrowers less than all-India average were northern region (39 per cent), eastern region (41 per cent), central region (44per cent) and group of UTs with 35 per cent. The lowest share was that of the north-eastern region (20 per cent). In northern region only Haryana had 58 per cent institutional borrowers, higher than all-India average. Within north-eastern region all states had proportion of institutional borrowers between 12 per cent to 45 per cent along with two states Manipur and Meghalaya where the share was only 2 per cent to 4 per cent, less than all-India average.

In Eastern region each and every state except Orissa (62per cent) had proportion of institutional borrowers less than all-India average. So far as the central region is concerned, three states out of four, Madhya Pradesh, Chhattisgarh and Uttaranchal, had share of institutional borrowers in a range of 49.5 per cent to 58 per cent. Further, both states of western region had share of institutional borrowers more than 58 per cent. In southern region, Andhra Pradesh and Tamil Nadu were the two states having share less than all-India average. Column 8 and 9 of the same table shows the ratio of share of indebted farmers borrowing from institutional and non-institutional sources respectively to share of total indebted farmers. It varies from as low as 0.18 in Manipur to as high as 2.06 in Jharkhand. In the case of borrowing from non-institutional sources the ratio ranges from 0.37 in Maharashtra to significantly very high as 24.16 in Meghalaya. The variation in ratio explains the disparity in access to institutional credit market among the

states. The plausible factors for this disparity in access to formal credit market could be the availability of banking infrastructure among states. On the other hand, the literacy

Table 3.6: Distribution of Total Indebted Farmer Households According to Sources of Borrowing loans

Region/state	Total Indebted Farmer			Share of Indebted Farmer			Index	
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal
1	2	3	4	5	6	7	8	9
Northern Region	**21899**	**34339**	**56238**	**38.94**	**61.06**	**100**	**0.76**	**1.19**
Haryana	6082	4248	10330	58.88	41.12	100	1.11	0.77
Himachal	1408	1622	3030	46.47	53.54	100	1.39	1.60
J & K	229	2773	3003	7.64	92.36	100	0.24	2.90
Punjab	5405	6664	12069	44.78	55.22	100	0.68	0.84
Rajasthan	8775	19031	27806	31.56	68.44	100	0.60	1.31
North-Eastern	**1350**	**5520**	**6870**	**19.64**	**80.32**	**100**	**1.00**	**4.08**
Arunachal	9	63	72	12.18	87.72	100	2.08	14.96
Assam	673	3863	4536	14.83	85.13	100	0.82	4.70
Manipur	24	508	533	4.57	95.37	100	0.18	3.84
Meghalaya	2	101	103	2.13	97.78	100	0.53	24.16
Mizoram	59	125	184	31.90	68.16	100	1.35	2.89
Nagaland	63	231	294	21.30	78.57	100	0.58	2.15
Tripura	520	628	1148	45.31	54.70	100	0.92	1.11
Eastern Region	**34887**	**49357**	**84245**	**41.41**	**58.59**	**100**	**1.04**	**1.47**
Bihar	4795	18534	23330	20.55	79.44	100	0.62	2.41
Jharkhand	2532	3361	5893	42.96	57.04	100	2.06	2.73
Orissa	12471	7779	20250	61.59	38.42	100	1.29	0.80
Sikkim	32	143	174	18.13	81.99	100	0.55	2.50
W B	15057	19540	34597	43.52	56.48	100	0.87	1.13
Central Region	**49726**	**62943**	**112669**	**44.13**	**55.87**	**100**	**1.06**	**1.35**
Chhattisgarh	6147	4945	11092	55.41	44.58	100	1.38	1.11
M P	15722	16033	31756	49.51	50.49	100	0.99	1.00
U P	27483	41696	69178	39.73	60.27	100	0.99	1.49
Uttaranchal	374	269	644	58.12	41.82	100	8.09	5.82
Western Region	**40108**	**15613**	**55721**	**71.98**	**28.02**	**100**	**1.34**	**0.52**
Gujarat	11369	8275	19644	57.88	42.13	100	1.11	0.81
Maharashtra	28739	7338	36077	79.66	20.34	100	1.45	0.37
Southern Region	**55306**	**62042**	**117348**	**47.10**	**52.84**	**100**	**0.65**	**0.73**
Andhra	18669	30763	49431	37.72	62.15	100	0.46	0.76
Karnataka	12693	12204	24897	50.98	49.02	100	0.83	0.80
Kerala	10643	3455	14098	75.49	24.51	100	1.18	0.38
Tamil Nadu	13301	15620	28922	45.99	54.01	100	0.62	0.73
Group of UTs	**162**	**259**	**421**	**35.07**	**56.15**	**91**	**1.21**	**1.93**
All-India	**203458**	**230093**	**433551**	**46.92**	**53.06**	**100**	**0.97**	**1.09**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

rate among farmers is another reason which increases the farmer's accessibility to formal market. The development of agriculture sector and the resource endowments in terms of irrigation facility augments the disbursement of formal credit. Opposite to this, the deficiency of all these correlates induces the prevalence of informal lenders.

It makes clear that still more than half of the farmer households are taking loans from non-institutional sources. Some states had more than 50 recent institutional borrowers and others are still struggling to get rid from the non-institutional money-lenders. The most affected states lagging behind in accessing institutional sources are the north-eastern states. The other thing is the disparity in access to institutional credit market.

3.7.1 Among Different Social Groups

An issue which is strongly associated with the growth is the distribution of agricultural credit among different states and in respective social groups within the states. We have already seen that there was a wide variation in the availability of institutional credit in different states. Moreover the variation is even more within states among different social groups. The outreach of institutional credit agencies to different social groups in the country has been analyzed and the information is being presented in the Table 3.7. It has been already shown that on an average 54 per cent farm household were getting loan from non-institutional credit sources, while only 46 per cent were have access to institutional sources. It was seen that in western part of the country more than 50 per cent of indebted farm households among all social groups had accessibility to institutional sources across. Here, in Maharashtra the accessibility was up to a level of 80 per cent across all social groups except STs whereas, in Kerala formal credit sources had outreach to 83 per cent of indebted farmer belonging to ST category. Then others come with 78.8 per cent, OBC with 73 per cent and lastly SCs with 64.7 per cent shows the highly active status of institutional agencies. Other three states of southern region had outreach level in terms of institutional sources comparatively low. In Andhra Pradesh and Tamil Nadu, 72 per cent and 62 per cent of indebted SCs farm households had approached informal sources.

Table 3.7: Distribution of Share of Indebted Farmer Households belonging to different Social Groups According to Sources of borrowing loans

State	Institutional				
State	ST	SC	OBC	Others	Total
1	2	3	4	5	6
Northern	**31.44**	**35.65**	**35.50**	**46.45**	**38.94**
Haryana	67.21	54.52	48.71	68.26	58.88
Himachal	59.37	51.17	52.55	39.68	46.46
J & K	0.00	7.11	17.57	7.16	7.64
Punjab	45.38	30.21	23.56	57.16	44.78
Rajasthan	30.11	30.84	33.33	28.93	31.56
North-Eastern	**24.93**	**29.76**	**21.77**	**14.23**	**19.66**
Arunachal	22.24	0.00	0.00	2.73	12.19
Assam	11.89	22.77	20.56	11.90	14.84
Manipur	1.50	0.00	6.79	1.92	4.62
Meghalaya	2.30	0.00	0.00	0.00	2.13
Mizoram	31.88	0.00	0.00	0.00	31.88
Nagaland	21.97	0.00	0.00	0.00	21.32
Tripura	43.57	46.04	56.54	41.25	45.29
Eastern	**55.94**	**42.67**	**34.09**	**43.42**	**41.44**
Bihar	12.72	19.83	16.42	34.52	20.59
Jharkhand	47.96	62.64	32.60	48.55	42.96
Orissa	73.56	56.28	55.85	64.23	61.59
Sikkim	17.27	0.00	8.85	30.26	18.11
West Bengal	35.09	45.92	56.69	41.47	43.54
Central	**53.98**	**36.68**	**41.49**	**58.27**	**44.14**
Chhattisgarh	54.04	54.35	57.24	46.41	55.42
M P	59.54	31.68	46.53	67.21	49.51
U P	30.72	36.04	37.22	54.65	39.73
Uttaranchal	0.00	72.95	64.29	43.51	58.16
Western	**60.28**	**64.16**	**70.67**	**78.31**	**71.98**
Gujarat	52.46	21.30	53.83	72.69	57.87
Maharashtra	70.74	82.02	80.30	80.51	79.66
Southern	**43.70**	**31.90**	**45.75**	**61.19**	**47.13**
Andhra	43.83	28.40	36.22	44.52	37.77
Karnataka	43.04	32.18	39.60	72.15	50.98
Kerala	82.98	64.69	73.30	78.77	75.49
Tamil Nadu	37.15	33.12	50.41	43.57	45.99
Group of UTs	**36.52**	**22.89**	**39.30**	**50.25**	**39.43**
All-India	**37.15**	**33.12**	**50.41**	**43.57**	**45.99**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Among states falling in northern region it is only Haryana and Himachal Pradesh where indebted farm households hailing from STs and SCs had access to formal credit facility.

While Rajasthan and J&K had to depend on the informal sources for their credit requirements. In Punjab also the higher accessibility to formal sources was in the case of Others group of indebted farmer households who were mostly large land holders compare to SCs and OBC.

In the north-east region, significantly low presence of institutional credit sources was found. There 80 per cent of the society had to depend on the non-institutional sources. In Meghalaya and Nagaland all indebted farm households belonging to OBC and Others were depended on informal agents. Only in Assam and Tripura, the presence of commercial banks was found to some extent to provide loans. Bihar, west Bengal, Jharkhand all in the eastern region was depended on the informal credit availability. Only in Orissa farmer households being indebted had access to formal credit agencies up to 62 per cent. But, still the indebted SCs and OBCs of the state were dependent on the informal agencies for their credit requirements. In group of UTs, a mixed picture can be seen where 60.6 per cent of the credit demand was met by the non-institutional sources and only 39.4 per cent was met by the institutional agencies. Again, others had high accessibility to formal lenders than any other social groups of that particular region.

Further to study the equity aspect of the accessibility to institutional sources an index of representation has been constructed by taking the ratio of percentage share in institutional borrowers to percentage share among total borrowers for every social group separately (Table 3.8). The same has been made too to find the prevalence of for non-institutional sources. The value of the index greater than 1 symbolizes that the percentage of indebted farmer households belonging to a particular social category taking loans from institutional sources is greater than his share in the total indebted farmer households. Whereas, the value less than 1 implies that one group has not been represented duly. The index value 1.49 and 1.03 for others and SC shows that the proportion of borrowers borrowing from institutional sources of these categories are greater than the share of borrowers from these categories. It explains that they had more access to institutional sources than other two social groups. On the other hand, as low as 0.7 for OBC who had largest share among indebted farmers were relied on informal market for their

Table 3.8: Index of Representation of Ratio of Percentage Share of category in Institutional Borrowers to Percentage Share among Total Borrowers

Region/State	ST	SC	OBC	Others	Total
1	2	3	4	5	6
Northern	**0.81**	**0.92**	**0.91**	**1.19**	**1**
Haryana	1.14	0.93	0.83	1.16	1
Himachal Pradesh	1.28	1.10	1.13	0.85	1
J & K	0.00	0.93	2.30	0.94	1
Punjab	1.01	0.67	0.53	1.28	1
Rajasthan	0.95	0.98	1.06	0.92	1
North-Eastern	**1.27**	**1.50**	**1.11**	**0.72**	**1**
Arunachal Pradesh	1.82	0.00	0.00	0.22	1
Assam	0.80	1.53	1.39	0.80	1
Manipur	0.32	0.00	1.47	0.42	1
Meghalaya	1.08	0.00	0.00	0.00	1
Mizoram	1.00	0.00	0.00	0.00	1
Nagaland	1.03	0.00	0.00	0.00	1
Tripura	0.96	1.02	1.25	0.91	1
Eastern	**1.35**	**1.03**	**0.82**	**1.05**	**1**
Bihar	0.62	0.96	0.80	1.68	1
Jharkhand	1.12	1.46	0.76	1.13	1
Orissa	1.19	0.91	0.91	1.04	1
Sikkim	0.95	0.00	0.49	1.67	1
West Bengal	0.81	1.05	1.30	0.95	1
Central	**1.22**	**0.83**	**0.94**	**1.32**	**1**
Chhattisgarh	0.98	0.98	1.03	0.84	1
M P	1.20	0.64	0.94	1.36	1
U P	0.77	0.91	0.94	1.38	1
Uttaranchal	0.00	1.25	1.11	0.75	1
Western	**0.84**	**0.89**	**0.98**	**1.09**	**1**
Gujarat	0.91	0.37	0.93	1.26	1
Maharashtra	0.89	1.03	1.01	1.01	1
Southern	**0.93**	**0.68**	**0.97**	**1.30**	**1**
Andhra	1.16	0.75	0.96	1.18	1
Karnataka	0.84	0.63	0.78	1.42	1
Kerala	1.10	0.86	0.97	1.04	1
Tamil Nadu	0.81	0.72	1.10	0.95	1
Group of UTs	**0.93**	**0.58**	**1.00**	**1.27**	**1**
All-India	**0.87**	**1.03**	**0.70**	**1.49**	**1**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

requirements. In northern region only others had access to formal credit market. But, in north-eastern region it was ST, SC and OBC who were have access to institutional sources. In eastern region, except OBC all other social categories had access to formal credit sources. So far southern and western region are concerned, except others no one else had been duly represented through having access to institutional sources. The

prevalence of non-institutional sources reflected through the lower value of index for disadvantaged group is a matter of concern.

3.7.2. Across Different Land Holding Sizes

For showing the proportion of indebted farmer households getting loans from institutional and non-institutional sources for each farm size of operational holding Table 3.9 has been created. Here, only 37.8 per cent indebted marginal farmers were getting loans from institutional sources. It has already been shown that the large farmer households had high indebtedness. Further, their accessibility to formal market is even greater than their share in total farmer households. The farm size that was just behind of large land holders in getting loans from institutional sources was medium farm size with 64.7 per cent. Also more than 55 per cent farmer households of small farm size had accessibility to formal credit market. The point to be noted here is that more than 82 per cent landless farmer households were denied access to institutional credit and were left to the grip of informal sources.

The regional level figures present a wide variation in the accessibility to institutional credit market. In the southern region where 70.7 per cent indebted marginal farmer households reside, only 41 per cent had taken loan from institutional sources and rest 59 per cent were left to informal market. Whereas, in western region, all indebted farmers of small, medium and large farm sizes had accessibility more than 75 per cent to institutional sources while the marginal farmer households had accessibility up to 57.9 per cent to formal sources. The Central region where highest marginal farmer households were found, only 32.7 per cent had access to institutional sources. In eastern region also marginal land holders were struggling with the exploitative lending policy of informal credit sources. Here, only 37 per cent were having access to institutional credit market for their requirements. So far farmer households of land less is concerned, they had even low accessibility, 36.6 per cent to institutional sources. In northern region also the lowest outreach of formal credit sources was in the case of land less, only 11.6 per cent. Although, at aggregate level 38.9 per cent were getting loans from institutional sources, but the share was just 30.8 per cent for indebted marginal farmers. North-east region was

following the same pattern. Here, only large landholders had access to formal sources and that was too to a limited extent.

Table 3.9: Distribution of Share of Indebted Farmer Households in (per cent) at Intra Land Holding Size According to Sources of Borrowing

Region/State	Institutional					
	Landless	Marginal	Small	Medium	Large	All
1	2	3	4	5	6	7
Northern	**11.6**	**30.8**	**41.6**	**51.8**	**49.1**	**38.9**
Haryana	21.6	50.5	63.3	74.7	64.5	58.9
India	0.0	45.9	48.7	43.9	58.9	46.5
J & K	0.0	7.2	12.5	6.2	0.1	7.6
Punjab	4.2	30.5	43.5	74.1	65.4	44.8
India	7.4	23.4	35.5	36.3	41.5	31.6
North-Eastern	**0.0**	**18.5**	**20.6**	**28.4**	**51.8**	**19.7**
India	0.0	0.0	11.9	18.8	0.0	12.2
India	0.0	11.1	20.9	28.7	54.0	14.8
Manipur	0.0	4.9	2.7	12.3	0.0	4.6
Meghalaya	0.0	0.0	13.6	0.0	0.0	2.1
Mizoram	0.0	39.9	19.3	29.2	0.0	31.9
Nagaland	0.0	16.8	22.9	84.2	0.0	21.3
Tripura	0.0	45.0	50.2	0.0	0.0	45.3
Eastern	**36.6**	**37.0**	**60.0**	**70.5**	**60.1**	**41.4**
India	17.4	16.5	44.5	50.5	31.1	20.6
Jharkhand	100.0	35.6	70.7	42.6	100.0	43.0
Orissa	64.9	58.0	65.4	82.3	75.0	61.6
Sikkim	0.0	17.3	14.1	39.3	0.0	18.1
West Bengal	15.1	41.0	61.8	71.8	50.5	43.5
Central	**14.6**	**32.7**	**54.0**	**58.4**	**78.1**	**44.1**
Chhattisgarh	100.0	37.7	65.4	69.6	83.7	55.4
M P	4.6	37.0	47.9	51.9	73.8	49.5
U P	13.8	31.1	55.2	63.5	84.6	39.7
Uttaranchal	0.0	56.7	53.6	92.9	0.0	58.2
Western	**8.9**	**57.9**	**74.8**	**84.0**	**86.9**	**72.0**
Gujarat	0.6	36.5	64.0	82.0	88.1	57.9
Maharashtra	42.1	73.0	79.8	84.8	86.3	79.7
Southern	**29.4**	**41.0**	**50.9**	**63.5**	**65.0**	**47.1**
Andhra	40.8	29.1	41.8	56.4	53.1	37.8
Karnataka	15.4	37.4	53.1	71.2	79.7	51.0
India	0.0	74.0	82.8	92.5	80.2	75.5
Tamil Nadu	19.7	39.6	60.5	66.5	67.4	46.0
Group of UTs	**0.0**	**34.6**	**70.1**	**44.6**	**45.4**	**39.4**
All-India	**17.9**	**37.8**	**55.2**	**64.7**	**70.0**	**46.9**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The state level figures show that only in Jharkhand and Chhattisgarh all indebted farmer households of landless type had access to formal credit market. In north-east region, nonetheless, the population was very less of landless farmer households altogether were left totally to rely on informal agents to fulfill their credit requirements. Jammu and

Kashmir was one of the state in the country were no class of farmer households were in better condition. Moreover across all the states medium and large land holders were in better condition in terms of accessing formal credit market. Only few states had provided better facility to marginal farmers where more than 50 per cent were have access to institutional sources. They are Haryana (50.5 per cent), Orissa (58 per cent), Uttaranchal (56.7 per cent), Maharashtra (73 per cent) and Kerala (74 per cent).

Table 3.10: Index of Representation of Percentage Share of farm size in Institutional Borrowers to Percentage Share Among Total Borrowers

State	Landless	Marginal	Small	Medium	Large	All
1	2	3	4	5	6	7
Northern	**0.30**	**0.79**	**1.07**	**1.33**	**1.26**	**1**
Haryana	0.37	0.86	1.07	1.27	1.10	1
Himachal	0.00	0.99	1.05	0.95	1.27	1
J & K	0.00	0.94	1.63	0.81	0.01	1
Punjab	0.09	0.68	0.97	1.66	1.46	1
Rajasthan	0.23	0.74	1.12	1.15	1.32	1
North-Eastern	**0.00**	**0.94**	**1.05**	**1.45**	**2.64**	**1**
Arunachal	0.00	0.00	0.97	1.54	0.00	1
Assam	0.00	0.75	1.41	1.93	3.64	1
Manipur	0.00	1.08	0.60	2.68	0.00	1
Meghalaya	0.00	0.00	6.41	0.00	0.00	1
Mizoram	0.00	1.25	0.61	0.92	0.00	1
Nagaland	0.00	0.79	1.08	3.95	0.00	1
Tripura	0.00	0.99	1.11	0.00	0.00	1
Eastern	**0.88**	**0.89**	**1.45**	**1.70**	**1.45**	**1**
Bihar	0.85	0.80	2.17	2.46	1.51	1
Jharkhand	2.33	0.83	1.65	0.99	2.33	1
Orissa	1.05	0.94	1.06	1.34	1.22	1
Sikkim	0.00	0.95	0.78	2.17	0.00	1
West Bengal	0.35	0.94	1.42	1.65	1.16	1
Central	**0.33**	**0.74**	**1.22**	**1.32**	**1.77**	**1**
Chhattisgarh	1.80	0.68	1.18	1.26	1.51	1
M P	0.09	0.75	0.97	1.05	1.49	1
U P	0.35	0.78	1.39	1.60	2.13	1
Uttaranchal	0.00	0.97	0.92	1.60	0.00	1
Western	**0.12**	**0.80**	**1.04**	**1.17**	**1.21**	**1**
Gujarat	0.01	0.63	1.11	1.42	1.52	1
Maharashtra	0.53	0.92	1.00	1.06	1.08	1
Southern	**0.62**	**0.87**	**1.08**	**1.35**	**1.38**	**1**
Andhra	1.08	0.77	1.11	1.49	1.41	1
Karnataka	0.30	0.73	1.04	1.40	1.56	1
Kerala	0.00	0.98	1.10	1.22	1.06	1
Tamil Nadu	0.43	0.86	1.32	1.45	1.46	1
Group of UTs	**0.00**	**0.88**	**1.78**	**1.13**	**1.15**	**1**
All-India	**0.38**	**0.80**	**1.18**	**1.38**	**1.49**	**1**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Further, to study the equity aspect of the indebted farmer households across different farm sizes an index of representation has been prepared in Table 3.10. Again, index value greater than 1 represents that farmers belonging to a particular farm size are getting their due representation in the formal credit market.

Whereas, the value less than 1 reflects that they were not represented properly. As the given table shows that only farm sizes of small and above size were got their due representation in the formal credit market. On the other hand, landless and marginal farmers are struggling for their due representation. One most important point to be mentioned here is that it has been already shown that marginal farmers were have the largest share among total farmers as well in indebted farmers but their share was even less in accessing formal credit market. The reason behind this undue representation might be their small size of loan demanded especially for ongoing farming activities or for some other non-productive purposes.

3.8. Distribution of Total Loan Outstanding in Percentage According to Sources

In this section the percentage of total outstanding loan from institutional sources has been discussed with respect to different farm sizes and across different social groups. To do this here, only those loan amounts have been taken into account that were in more than Rs.300. For, this data have been presented in Table 3.11. As mentioned above only 47 per cent farmer households at all-India level had borrowed from institutional sources. They got a share of 59 per cent of total amount outstanding. Rest 41 per cent of outstanding amount was from non-institutional sources went to those 53 per cent indebted farmers who had borrowed from informal sources. The region that had got highest share of institutional finance was western region with 78 per cent. Other regions who had got almost the same share of institutional finance as all-India average are central region (60per cent), group of UTs (60per cent) and eastern India with 58 per cent. Northern and southern region had share between 52 to 55 per cent. Only region that got less than 50 per cent of institutional finance is north-eastern region.

Table 3.11: Distribution of Share of Loan Amount in(per cent) and Average Amount of Loan Borrowed in (Rs.) According to Sources

State	Share of Total Loan Outstanding (per cent)			Loan Borrowed Per Capita Farmer Household (Rs.)			Loan Per Capita Borrowing Farmer Household (Rs.)			Loan Per Capita Borrowing Farmer Household from respective Sources.		
	Formal	Informal	Total	Informal	Formal	Total	Informal	Formal	Total	Informal	Formal	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
Northern	**52.18**	**47.82**	**100**	**10279**	**11215**	**21494**	**20007**	**21827**	**41834**	**32766**	**56053**	**41834**
Haryana	63.66	36.34	100	9451	16556	26006	17789	31163	48951	43258	52928	48951
Himachal	64.04	35.96	100	3459	6159	9618	10343	18416	28759	19320	39634	28759
J & K	56.73	43.27	100	823	1079	1902	2585	3388	5973	2798	44370	5973
Punjab	59.50	40.50	100	16838	24738	41576	25729	37800	63529	46596	84407	63529
Rajasthan	39.32	60.68	100	11149	7223	18372	21282	13789	35071	31095	43695	35071
North-Eastern	**44.98**	**55.02**	**100**	**556**	**454**	**1010**	**2821**	**2307**	**5128**	**3511**	**11739**	**5128**
Arunachal	21.69	78.31	100	386	107	493	6585	1823	8408	7500	14958	8408
Assam	39.28	60.72	100	493	319	812	2723	1761	4484	3197	11869	4484
Manipur	17.78	82.22	100	1865	403	2269	7515	1625	9140	7875	35542	9140
Meghalaya	5.99	94.01	100	68	4	72	1672	107	1779	1709	5006	1779
Mizoram	63.58	36.42	100	683	1193	1876	2893	5050	7944	4247	15841	7944
Nagaland	68.84	31.16	100	321	709	1030	881	1946	2826	1119	9124	2826
Tripura	77.07	22.93	100	682	2292	2974	1386	4658	6044	2534	10282	6044
Eastern	**57.84**	**42.16**	**100**	**1979**	**2715**	**4695**	**4961**	**6805**	**11766**	**8468**	**16433**	**11766**
Bihar	46.07	53.93	100	2414	2062	4475	7325	6257	13583	9221	30443	13583
Jharkhand	63.83	36.17	100	797	1407	2205	3821	6742	10564	6700	15694	10564
Orissa	74.25	25.75	100	1512	4359	5870	3161	9113	12274	8229	14798	12274
Sikkim	58.12	41.88	100	860	1193	2052	2621	3637	6259	3201	20089	6259
West Bengal	55.84	44.16	100	2312	2924	5236	4626	5850	10477	8191	13443	10477
Central	**59.76**	**40.24**	**100**	**3405**	**5057**	**8462**	**8201**	**12179**	**20380**	**14680**	**27596**	**20380**
Chhattisgarh	68.83	31.17	100	1285	2837	4122	3197	7059	10255	7170	12738	10255
M P	57.96	42.04	100	5978	8240	14218	11898	16401	28299	23566	33126	28299
U P	60.10	39.90	100	2962	4462	7425	7347	11067	18414	12190	27858	18414
Uttaranchal	75.47	24.53	100	272	836	1108	3785	11644	15429	9045	20022	15429
Western	**77.78**	**22.22**	**100**	**3654**	**12791**	**16445**	**6797**	**23797**	**30594**	**24258**	**33060**	**30594**
Gujarat	66.84	33.16	100	5149	10377	15526	9920	19992	29912	23548	34544	29912
Maharashtra	83.54	16.46	100	2794	14179	16973	5097	25869	30965	25058	32474	30965
Southern	**54.61**	**45.39**	**100**	**10830**	**13027**	**23856**	**14911**	**17937**	**32848**	**28204**	**38059**	**32848**
Andhra	33.25	66.75	100	15997	7968	23964	19527	9726	29253	31377	25753	29253
Karnataka	71.10	28.90	100	5240	12895	18135	8506	20931	29437	17354	41055	29437
Kerala	78.89	21.11	100	7158	26749	33907	11143	41639	52782	45467	55157	52782
Tamil Nadu	55.38	44.62	100	10692	13271	23963	14374	17840	32213	26613	38790	32213
Group of UTs	**60.21**	**39.79**	**100**	**2620**	**3965**	**6585**	**8244**	**12474**	**20718**	**13612**	**31635**	**20718**
All India	**58.92**	**41.08**	**100**	**5169**	**7415**	**12584**	**10653**	**15282**	**25935**	**20074**	**32564**	**25935**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

At state level, Jammu and Kashmir was the only state in northern region that got only 39 per cent of institutional finance reveals the predominance of informal money lenders. Bihar was another state from eastern region that got 46 per cent institutional finance. In southern region, Andhra Pradesh is the only state got abysmally low, 33 per cent institutional share. An important finding here is that out of seven states from north-eastern region in three states, viz., Mizoram, Nagaland and Tripura had share of institutional finance to total outstanding loan amount varied between 64 to 77 per cent. States where money lenders dominate in terms of credit outstanding, that is, supplying more than 50 per cent of total credit are Rajasthan(61per cent), other four states of north-east India(between 61per cent to 94per cent), Bihar(54per cent) and Andhra Pradesh(67per cent).

3.8.1. Across Different Social Groups

The foregone paragraph has made clear that there has been much less dispensation of credit from institutional sources at aggregate level. To analyze this more at micro level, here in Table 3.12 the share of amount outstanding has been presented across different social groups. It is the 'others' who were getting more than two third of the total loan amount outstanding from institutional sources. STs and OBCs were having almost same share in total loan outstanding from formal agencies with slight variation 54 per cent to 54.8 per cent. But, in the case of SCs more than 55 per cent share of loan outstanding was from non-institutional sources. This indicates that the disbursal of institutional finance across social groups is inequitable. There are some regional variations in terms of access of different social groups to formal finance. Western region were getting proportionately higher share from institutional finance across all social groups. Nonetheless, it was OBCs who were have relatively more influence on institutional structures. Central region also had share in institutional finance more than national average at aggregate level. The same was true in all social groups but SCs and comparatively better than former in case of OBCs. In eastern region too, all social groups had share more than 54.6 per cent. The STs were in much better position. Northern region had preference for others rather than STs, SCs and OBCs who constitute around 65 per cent of total farmer households. So far

north-east region is concerned; STs and SCs were relatively getting more loans from institutional sources. State level figures give some remarking results which are as follows.

Table 3.12: Distribution of share of outstanding Loan to different

State	Share of Institutional loan Outstanding				
	ST	SC	OBC	Others	Total
1	2	3	4	5	6
Northern	**42.80**	**35.60**	**45.05**	**62.37**	**52.18**
Haryana	95.54	44.46	55.68	71.19	63.66
Himachal	82.69	69.47	59.94	60.68	64.04
J & K	0.00	17.50	43.03	61.10	56.73
Punjab	97.54	30.23	33.77	64.45	59.50
Rajasthan	37.17	28.64	42.72	38.52	39.32
North-	**53.69**	**52.33**	**34.26**	**44.69**	**44.99**
Arunachal	29.97	0.00	0.00	14.74	21.69
Assam	17.65	35.46	39.29	42.60	39.28
Manipur	3.61	0.00	10.72	42.05	17.81
Meghalaya	6.51	0.00	0.00	0.00	5.99
Mizoram	63.58	0.00	0.00	0.00	63.58
Nagaland	69.50	0.00	0.00	0.00	68.84
Tripura	80.94	89.14	71.57	67.09	77.07
Eastern	**69.21**	**61.35**	**54.64**	**57.62**	**57.86**
Bihar	17.04	30.00	39.34	64.16	46.11
Jharkhand	86.04	74.74	56.64	61.97	63.83
Orissa	80.15	78.95	73.09	71.01	74.25
Sikkim	62.68	0.00	57.74	55.83	58.12
West Bengal	55.72	65.81	64.68	51.11	55.87
Central	**60.33**	**45.07**	**52.87**	**78.02**	**59.76**
Chhattisgarh	66.10	76.33	66.17	78.78	68.83
M P	61.37	31.84	49.15	76.79	57.96
U P	52.03	47.43	53.81	79.17	60.10
Uttaranchal	0.00	77.63	87.55	69.05	75.47
Western	**74.34**	**73.04**	**80.42**	**77.10**	**77.78**
Gujarat	73.68	42.87	72.75	63.28	66.84
Maharashtra	75.28	86.23	84.03	83.77	83.54
Southern	**41.46**	**34.25**	**50.72**	**66.94**	**54.61**
Andhra	26.84	21.98	28.28	43.03	33.25
Karnataka	56.72	49.23	56.20	85.15	71.10
Kerala	91.90	73.51	74.29	83.49	78.89
Tamil Nadu	49.82	40.28	57.22	83.03	55.38
Group of	**46.96**	**51.85**	**62.16**	**76.42**	**63.84**
All-India	**54.77**	**44.48**	**54.02**	**68.63**	**58.93**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

First, in Haryana and Punjab where only 0.6 and 0.4 per cent ST Farmer households reside, were having share more than 95 per cent in the total outstanding loan amount from institutional agencies. Second, Kerala too had just 2.1 per cent of farmer households and they were having 91 per cent of institutional finance outstanding to total loan outstanding. Third, Jharkhand and Orissa where correspondingly 39.7 per cent and 34.9 per cent ST Farmer households engaged in agricultural activity were having 80 to 86 per cent of outstanding loan amount of institutional in nature. Fourth, Arunachal Pradesh with 85.9 per cent ST farmer households, has only 30 per cent outstanding amount of institutional agencies whereas, Manipur and Meghalaya demographically larger number of ST Farmer households had least share of outstanding institutional loan, only 3 to 6 per cent. Fifth, Rajasthan where 90 per cent ST Farmer households of the entire northern region reside were have only 37 per cent of outstanding loan from formal agencies. Sixth, except states of north-east region all other states had larger share more than 60 per cent of outstanding loan amount of institutional sources in case of OBCs and Others considering together. Seventh, Punjab and Rajasthan together provides space more than 60 per cent to SC farmer households but were have relatively very less share of loan outstanding of institutional kind.

3.8.2 Across Different Operational Land Holding Sizes

Table 3.13 presents the share of outstanding loan to farmer households belonging to different land holding classes. We have already seen that landless farmer households were mainly dependent on locally and easily available informal agencies. And as the land size increases, household's access to institutional credit sources has increased. So, it is quite natural that the share of institutional loan outstanding in case of landless farmer households would be low. And the given table clearly supports this. They were having only 23.86 per cent of loan outstanding of formal kind. It was in increasing from 47.94 per cent for marginal, 60.2 per cent for small and 67.24 and 70 per cent for medium and large land holders respectively. It is important to note that although the marginal land holders constitute a major part of the farming community but they had less share of institutional loan in total outstanding loan relative to other farm sizes.

Table 3.13: Distribution of Share of Outstanding Loan to Different Farm Sizes

state	Share of Institutional loan Outstanding					
	Landless	Marginal	Small	Medium	Large	All
1	2	3	4	5	6	7
Northern	**6.50**	**37.56**	**46.94**	**62.74**	**58.14**	**52.18**
Haryana	7.25	53.28	55.83	86.34	55.07	63.66
Himachal	0.00	61.14	77.12	51.55	86.12	64.04
J & K	0.00	53.77	42.88	89.65	0.10	56.73
Punjab	4.21	33.18	50.31	68.82	67.63	59.50
Rajasthan	6.41	23.51	37.32	41.93	50.00	39.32
North-	**0.00**	**3.04**	**5.80**	**5.26**	**1.75**	**3.50**
Arunachal	0.00	0.00	22.93	21.69	0.00	21.69
Assam	0.00	34.29	49.80	46.39	23.03	39.28
Manipur	0.00	19.97	3.38	16.66	0.00	17.78
Meghalaya	0.00	0.00	36.81	0.00	0.00	5.99
Mizoram	0.00	65.27	50.31	81.24	0.00	63.58
Nagaland	0.00	55.57	71.97	97.96	0.00	68.84
Tripura	0.00	78.32	58.87	0.00	0.00	77.07
Eastern	**38.39**	**51.82**	**73.44**	**67.50**	**71.98**	**57.84**
Bihar	26.29	36.80	68.19	51.86	67.30	46.07
Jharkhand	100.00	56.12	84.27	61.04	100.0	63.83
Orissa	73.01	73.28	72.85	78.49	89.74	74.25
Sikkim	0.00	68.12	13.16	44.43	0.00	58.12
West Bengal	13.85	49.84	78.24	71.47	18.91	55.84
Central	**37.12**	**41.21**	**62.73**	**67.58**	**79.06**	**59.76**
Chhattisgarh	100.00	43.15	71.60	69.11	83.08	68.83
M P	37.26	36.45	57.72	58.81	68.15	57.96
U P	20.02	41.91	65.81	77.92	95.52	60.10
Uttaranchal	0.00	76.32	76.71	7.29	0.00	75.47
Western	**16.03**	**63.55**	**77.50**	**84.52**	**82.41**	**77.78**
Gujarat	5.76	36.08	68.26	84.05	74.90	66.84
Maharashtra	38.80	80.69	80.74	84.82	86.36	83.54
Southern	**17.68**	**49.85**	**54.23**	**60.53**	**64.76**	**54.61**
Andhra	23.44	22.74	36.74	45.54	38.67	33.25
Karnataka	19.13	58.07	61.43	75.23	91.09	71.10
Kerala	0.00	76.39	91.91	82.28	67.58	78.89
Tamil Nadu	8.85	46.47	64.06	64.15	70.67	55.38
Group of UTs	**83.36**	**54.92**	**55.88**	**67.58**	**97.15**	**58.07**
All-India	**23.86**	**47.94**	**60.21**	**67.24**	**70.13**	**58.92**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Regional story was not very much different to national one. The first three farm sizes were following the same pattern. The only variation has been seen between medium and large farmers and even in some regions. Except group of UTs all main six regions of the country does not present any encouraging findings so far the share of landless and marginal farmer households are concerned. It is just because of the fact that they together constitutes more than 70 per cent of total farmer households and getting less than 50 per cent of total loan outstanding from institutional sources. The only inspiring result comes from Jharkhand and Chhattisgarh where 100 per cent outstanding loan was from formal credit market.

3.9. Distribution of Average Amount of Debt (AOD) Per Farmer Household According to Sources

In this section average amount of loan borrowed per farmer household and per borrowing farmer household has been explained8. The average amount of debt also represents the extent of indebtedness prevailing in the country. This also reflects the density of indebtedness across the states (Narayanamoorthy and Kalamkar, 2005). Table 3.11 presents the figure on extent of indebtedness or the average loan amount outstanding per farmer household across states.The average amount of debt borrowed per farmer household was Rs.12585 at all-India level. Out of this Rs.7415 was of institutional in nature. The regional level figures give some kind of appreciation that all agriculturally developed regions were having AOD more than all-India average. Southern region was at the top where per farmer households had borrowed Rs.23856, followed by northern region and western region with Rs.21494 and Rs.16445 respectively. North-eastern region had the lowest amount borrowed per farmer household. It was as low as Rs.1010.

State level figures are more encouraging in case of some states. The highest amount per borrower was of Punjab (Rs. 41576) followed by Kerala (Rs.33907), Haryana (Rs. 26006), Andhra Pradesh and Tamil Nadu each (Rs. 23964). The institutional loan per farmer household in these states was Rs.24738, Rs.26749, Rs.16556, Rs.7968 and

8Here, a loan amount Rs. 300 and above only has been taken as per information given in the schedules of NSS 59th Round.

Rs.13271 respectively. Other states where per farmer household total loan amount was in the range of Rs.15000 to 20,000 are Rajasthan, Gujarat, Maharashtra, and Karnataka. In class of Rs. 10000 to 15000 only Madhya Pradesh falls. States like, Himachal Pradesh, Orissa, west Bengal, Uttar Pradesh comes in group where per capita total amount is between Rs.5000 to 10000. States who had in the category of Rs.2500-5000 are Bihar and Chhattisgarh only. Rest all states come under less than Rs.2500 category.

If we compare the loan borrowed per farmer household from institutional sources, Punjab and Haryana both from northern India, all states of western region and of southern region except Andhra Pradesh had amount more than Rs.10000. States where it was between Rs.5000-10000 are Himachal Pradesh, Rajasthan, Madhya Pradesh, and Andhra Pradesh. In category of Rs2500 to 5000, fall Orissa, west Bengal, Chhattisgarh and Uttar Pradesh. And the last category belongs to Jammu and Kashmir, Bihar, Jharkhand, Sikkim, Uttaranchal and all states of north-eastern region. It was really shocking to notice that, Meghalaya had as low as Rs.4.

The difference between average loan borrowed per farmer household from institutional and non-institutional sources was Rs.2246 at all-India level. But the spread was highest in western region, Rs. 9137. Moreover, central and southern region also had difference in a range of Rs. 1652 to Rs. 2197. The lowest difference was in eastern region but still positive, that is, in favor of institutional source. The most concerning finding is of north-eastern region demanding sincere attention to boast and augment institutional credit market and its delivery system.

Now, the figures on loan borrowed per indebted farmer household gives an inflated figure. And this inflated figure is just because of an arithmetic calculation. The all-India figure has just doubled due to this. But, here a question should be asked, whether one should take population figure or the number of only those who are indebted to get the exact picture of extent of indebtedness. It is really surprising to note that north-eastern region had showed 500 per cent increment compared to its earlier level. Central and eastern region had also reported increment 150 per cent to 200 per cent. Only northern and southern region has showed less than 100 per cent increment. Almost similar pattern

is showing in the case of AOD borrowed of institutional type per indebted farmer household. But, the point to be noted is that the AOD of non-institutional kind borrowed per indebted farmer household has also followed the same pattern, revealing the dominance of non-institutional lenders not only in terms of their spread but also in extent of loan amount. A more revealing picture is coming out if we compare the AOD per farmer household and per indebted farmer household with AOD per indebted farmer household borrowing from institutional and non-institutional sources separately. Here, no state was having AOD of institutional kind per indebted farmer household less than Rs.5000.

3.9.1. Across Different Social Groups

Average amount borrowed per farmer household across different social groups presented in Table 3.14 gives us a sense of effort made by banking institutions and government for the welfare of society as a whole and particularly for those who are disadvantaged. On the other hand, it also explains the relative prosperity among different social groups. It has been deeply researched and strongly said that it was the STs and SCs who belong to the most disadvantaged section. And that's why there has been made special provisions in the constitution for reservation to these group of people to provide them equal opportunity to participate in the development of the society and building of democratic institutions.

The average amount borrowed per farmer household in STs and SCs was very low in comparison to OBCs and Others on one hand, and even less to all-India average on the other. STs and SCs were having average loan amount Rs.5506 and Rs.7166 respectively. In the case of OBC, it was Rs.13488, higher than national average. It was even much higher in case of Others, Rs.18117. The point to be noted here is that northern region and southern region had in much better position across all social groups. In both of these regions, the average amount borrowed was greater than all-India average among all social groups. Western region is also in relatively better position than central, eastern and north-eastern regions. At state level, Jammu and Kashmir shows a worrisome picture compared to some states of north-east region. All states falling in north-east and eastern region does

Table 3.14: Distribution of Average of Amount of Loan Borrowed in (Rs.) Across

States/Region	Average Amount of Institutional loan per					Average Amount of Total loan per farmer				
	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	12	13	14	15	16
Northern	**5162**	**4583**	**9720**	**18330**	**11215**	**12061**	**12872**	**21574**	**29390**	**21494**
Haryana	22506	5931	14603	22458	16556	23556	13341	26226	31547	26006
Himachal	4390	7938	9833	4649	6159	5308	11427	16405	7662	9618
J & K	0	163	443	1432	1079	0	931	1029	2344	1902
Punjab	115587	3143	7383	42631	24738	118501	10399	21862	66147	41576
Rajasthan	4467	4786	9403	7142	7223	12017	16708	22009	18538	18372
North-	**364**	**748**	**381**	**502**	**454**	**678**	**1429**	**1112**	**1122**	**1010**
Arunachal	79	0	0	291	107	264	0	0	1973	493
Assam	69	405	235	413	319	391	1141	598	970	812
Manipur	19	0	426	1650	403	536	0	3978	3923	2269
Meghalaya	4	0	0	0	4	71	0	61	98	72
Mizoram	1193	0	0	0	1193	1936	0	0	0	1876
Nagaland	749	0	0	0	709	1078	0	191	132	1030
Tripura	2149	2883	2972	1821	2292	2654	3234	4152	2714	2974
Eastern	**1307**	**2445**	**2619**	**3788**	**2715**	**1889**	**3985**	**4794**	**6575**	**4695**
Bihar	617	948	1577	4371	2062	3619	3161	4010	6814	4475
Jharkhand	642	2236	1801	2047	1407	746	2992	3181	3304	2205
Orissa	1891	3830	5734	7413	4359	2359	4850	7845	10439	5870
Sikkim	1749	0	891	1224	1193	2790	586	1543	2192	2052
West Bengal	1309	2828	3761	3126	2924	2349	4297	5815	6117	5236
Central	**2184**	**2455**	**4710**	**10458**	**5057**	**3621**	**5448**	**8907**	**13405**	**8462**
Chhattisgarh	1021	4110	3934	6945	2837	1544	5384	5944	8816	4122
M P	2953	2837	7681	19512	8240	4812	8910	15628	25411	14218
U P	3489	2320	3917	8938	4462	6706	4893	7280	11290	7425
Uttaranchal	0	739	3663	631	836	0	951	4184	914	1108
Western	**5376**	**6532**	**13286**	**17581**	**12791**	**7232**	**8943**	**16519**	**22803**	**16445**
Gujarat	5881	3934	10040	16663	10377	7981	9175	13800	26333	15526
Maharashtra	4802	7627	15298	17942	14179	6379	8845	18205	21417	16973
Southern	**5491**	**3922**	**12667**	**21897**	**13027**	**13245**	**11452**	**24976**	**32712**	**23856**
Andhra	3425	2796	6702	16264	7968	12760	12720	23697	37802	23964
Karnataka	6386	3154	9672	21203	12895	11259	6405	17210	24901	18135
Kerala	9956	9783	24601	31736	26749	10832	13308	33116	38013	33907
Tamil Nadu	10473	5150	15654	19747	13271	21024	12786	27355	23782	23963
Group of	**2357**	**2745**	**10079**	**1702**	**3965**	**5019**	**5295**	**16214**	**2227**	**6585**
All-India	**3016**	**3187**	**7286**	**12433**	**7415**	**5506**	**7166**	**13488**	**18117**	**12585**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

not exhibit any promotional behavior in taking loan in case of STs and SCs. One more thing to be noted is, Chhattisgarh where STs Farmer households was more than others,

they were borrowing very much less reveals their inability and unproductiveness. Madhya Pradesh also does not give very enthusiastic figure in case of STs On bifurcating the average total loan borrowed per farmer household in institutional and non-institutional sources provides us more space to speak out about the outreach and the extent of delivery status of institutional credit agencies. At all-India level all social groups but SCs had taken more loan from institutional sources rather than non-institutional. But the difference between the amounts borrowed is much less in case of STs, only Rs.500, whereas the same is much higher in others case, more than Rs.6500. But contrary to above findings, in both northern and southern regions the amount borrowed from institutional sources is much less than the amount borrowed from non-institutional sources among STs and SCs. In former region the same is true for OBCs also. Regions where the amount borrowed from institutional sources was greater than non-institutional among STs and SCs are north-east, eastern, central and western. While in western region the amount was much greater across all social groups. In eastern and central region the focus was more on OBCs and Others.

At state level, one group is of those states where all social groups had borrowed more loans from institutional sources. Haryana, Himachal Pradesh, Jharkhand, Orissa, west Bengal, Chhattisgarh, Uttaranchal, Kerala and group of UTs come under this group. But in most of the states the amount borrowed was much less than the national average under respective categories of farmer households. However, the number of states where only "Others" had borrowed more from institutional sources is Jammu and Kashmir, Punjab, Bihar, and Madhya Pradesh. The most remarkable point to be noted here is of Punjab. Here, the average amount borrowed per farmer household from institutional sources in case of STs are very much higher than its regional average and even much higher than the all-India average of all category taken together.

3.9.2. Across Different Land Holding Sizes

The average amount of loan outstanding was highest for large farmer holders, Rs.46869, followed by medium (Rs.22865), small (Rs.13744), marginal (Rs.7517) and landless (Rs.5990) as shown in Table 3.15. The above distribution clearly explains that as land

size increases, the loan amount borrowed per farmer household has also increased. But some regions were not following the same pattern as all-India. These are north-eastern, central and group of UTs. In north-east region, it was small farmer households who had borrowed least amount per household. The largest amount borrowed was in the case of large farmers followed by landless and marginal farmers. So far central region is concerned; the least amount borrowed was of marginal farmers. Further, as the land size increases the loan amount has also increased. The only exception is landless who were borrowing more amounts per household than marginal farm size. Figures of group of UTs show landless had borrowed Rs.98046 per farmer household even more than double of what large farmer household borrowed at national level.

States like, Jammu and Kashmir in the northern region where average loan amount per farmer household is lowest in the region. In Rajasthan amount borrowed per farmer household in landless case is even greater than marginal. In north-east region average amount borrowed is much higher Rs. 12995 even greater than eastern and central region. Here, amount borrowed per farm household in the case of marginal farm size is greater than those of small and medium farm sizes. The largest amount was in the case of large farms. In eastern region no states had per farmer amount borrowed as much as national average across all the land classes. Same case is of central region. Only point to be noted here is, the amount borrowed per landless farm was much higher than the national average in Chhattisgarh. In western region, Gujarat has higher amount for medium and large farms than all-India. Whereas, in Maharashtra marginal and small farms had also more amount outstanding in addition to the above two classes in which Gujarat was leading. Southern region in general and Karnataka and Tamil Nadu particularly do not give encouraging figure in case of landless.

Table 3.15: Distribution of Average Amount of Loan Borrowed Per Farmer Household Across Different Operational Land Holding Sizes According to Sources.

State/Region	Institutional						Total					
	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7	14	15	16	17	18	19
Northern	**710**	**3782**	**8781**	**25542**	**32682**	**11215**	**10932**	**10069**	**18709**	**40711**	**56210**	**21494**
Haryana	610	7275	19518	43613	30612	16556	8411	13655	34960	50511	55590	26006
Himachal	0	4934	8652	9822	34043	6159	0	8069	11220	19051	39528	9618
J & K	0	665	1512	5132	3	1079	0	1238	3528	5724	2630	1902
Punjab	168	4480	13856	64927	104062	24738	3981	13501	27543	94344	153879	41576
Rajasthan	863	2331	5696	11074	18119	7223	13460	9918	15264	26413	36242	18372
North-Eastern	**0**	**460**	**426**	**490**	**440**	**454**	**18820**	**15101**	**7347**	**9322**	**25208**	**12995**
Arunachal	0	0	156	249	0	107	7	34	681	1149	0	493
Assam	0	240	446	529	1018	319	0	701	896	1141	4420	812
Manipur	0	495	45	1136	0	403	0	2479	1346	6819	116	2269
Meghalaya	0	0	20	0	0	4	0	96	53	22	0	72
Mizoram	0	1509	761	925	0	1193	0	2312	1512	1139	0	1876
Nagaland	0	439	849	2223	0	709	0	789	1179	2270	0	1030
Tripura	0	2335	1824	0	0	2292	0	2981	3098	0	0	2974
Eastern	**1081**	**2101**	**4795**	**5556**	**9773**	**2715**	**2816**	**4054**	**6529**	**8231**	**13577**	**4695**
Bihar	507	1378	4562	3309	10514	2062	1928	3744	6691	6382	15622	4475
Jharkhand	1141	1165	1654	1315	11050	1407	1141	2075	1963	2154	11050	2205
Orissa	3186	3800	4996	7424	11316	4359	4364	5185	6857	9459	12610	5870
Sikkim	0	1342	201	1938	0	1193	0	1970	1527	4362	88	2052
West Bengal	600	2241	7009	9807	2208	2924	4334	4497	8958	13722	11680	5236
Central	**2250**	**1929**	**5705**	**10738**	**29169**	**5057**	**6062**	**4682**	**9094**	**15889**	**36894**	**8462**
Chhattisgarh	35586	752	2797	3702	17122	2837	35586	1743	3907	5358	20608	4122
M P	948	2228	6938	10860	24544	8240	2544	6112	12020	18466	36014	14218
U P	1127	2088	5714	13703	43380	4462	5631	4981	8683	17585	45414	7425
Uttaranchal	0	564	4533	32	0	836	0	739	5909	435	0	1108
Western	**804**	**4725**	**11301**	**18221**	**41044**	**12791**	**5016**	**7435**	**14582**	**21558**	**49807**	**16445**
Gujarat	287	2417	8140	25292	37992	10377	4989	6698	11925	30093	50721	15526
Maharashtra	1969	6442	12771	15562	42607	14179	5076	7984	15818	18348	49339	16973
Southern	**1002**	**8938**	**15874**	**19204**	**36033**	**13027**	**5666**	**17931**	**29274**	**31724**	**55639**	**23856**
Andhra	2179	3632	12120	13654	19494	7968	9299	15973	32993	29982	50416	23964
Karnataka	831	6803	9285	18683	43611	12895	4344	11716	15116	24834	47878	18135
Kerala	0	21937	58401	60886	100976	26749	0	28717	63541	73995	149419	33907
Tamil Nadu	326	8210	20290	25933	61951	13271	3688	17669	31674	40424	87665	23963
Group of UTs	**81727**	**3013**	**5378**	**5056**	**26010**	**3629**	**98046**	**5486**	**9625**	**7481**	**26773**	**6249**
All-India	**1429**	**3604**	**8276**	**15375**	**32870**	**7415**	**5990**	**7517**	**13744**	**22865**	**46869**	**12585**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The division of total amount borrowed per farmer household in institutional and non-institutional sources does not give an encouraging result in the case of landless and marginal farm size. The larger share of loan outstanding from informal sources reveals their dependency on these sources to meet their requirements. On the other hand, it can be said that small, medium and large farm households have greater influence on formal sources. The same is true for some regions also. In eastern, western and southern regions marginal farmers were getting more loan from institutional sources rather than non-institutional. But, the average amount from formal agencies was not even equivalent to what all-India average is for landless farms in most of the regions except group of UTs. In the case of marginal farms only western and southern regions have equal or higher amount to national average. The poor condition is of north-eastern states where all farm sizes had borrowed very less in comparison to all-India average from institutional sources.

The state level figures show that only Jharkhand, Orissa and Chhattisgarh are the three states where all farmer households of across all farm sizes had borrowed more amounts from formal sources than informal. The point to be noted is that the amount borrowed in landless class was very much high in Chhattisgarh, Rs.35586 followed by Orissa Rs.3186. Other states where landless class had amount over and above national average are Andhra Pradesh and Maharashtra. Andhra Pradesh is the only state in southern region where all farm households had taken much larger amount from non-institutional sources. On the other hand there are many states where marginal farmers had also borrowed more amounts from formal credit agencies. The amount is much higher in agriculturally developed regions, Haryana and Punjab in case of small, medium and large farms. Gujarat also failed to provide more support to marginal farm households. Nonetheless, Tamil Nadu had greater amount borrowed in marginal farms than national average but it was lesser than informal sources.

3.10 Distribution of Total and Indebted Farmer Households across Different Social Groups and Education Level

From here onwards a cross classification has been made among different variables. Table 3.16 gives the distribution of farmer households across social groups at various levels of education. Share of farmer households is very low in ST at all education levels. OBC has very significant share more than 40 per cent up to secondary level of education. At the higher secondary level or above it shifts to others whose share in total has become significant, between 40 to 49 per cent. Overall the share is decreasing in the case of STs and OBCs as the level of education is increasing while it was increasing in others case. Percentage of illiterate in ST and SC group has been very significant i.e., 58 per cent and 57.7 per cent respectively whereas around 3 to 4 per cent are of Higher Secondary and Degree level. At higher level of education i.e., Higher secondary and Degree level, share of all social group is very low around 3 per cent to 5 per cent considering together. In the case of "Others" social group it reached around 10per cent compared to rest of the social group.

Table 3.16: Distribution of Total Farmer Households Across Different Level of Education and Social Groups

Education level	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Illiterate	16.71	21.71	42.56	19.02	100	58.00	57.67	47.53	31.88	46.37
Up to Primary	12.81	15.84	41.46	29.89	100	25.98	24.60	27.07	29.28	27.10
Secondary	8.25	11.62	40.78	39.35	100	12.65	13.64	20.13	29.14	20.49
Higher Secondary	7.75	12.82	38.56	40.87	100	2.00	2.53	3.20	5.10	3.45
Degree	7.07	10.53	33.16	49.24	100	1.37	1.56	2.07	4.61	2.59
All	13.36	17.46	41.51	27.67	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Here, in Table 3.17, again OBC has the largest share of Indebted Farmer Households in the society at every level of education around 43 per cent. "Others" share is increasing with the increasing level of education but the share in SC and ST is decreasing. At intra social group level the share of illiterates has been significantly high among all social groups. But it is relatively high in ST and SC.

Table 3.17: Distribution of Indebted Farmer Households Across Different Level of Education and Social Groups

Education level	ST	SC	OBC	Others	Tota l	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Illiterate	12.27	23.11	44.92	19.70	100	56.44	58.67	46.99	32.12	45.86
Up to Primary	9.30	16.02	44.25	30.43	100	26.64	25.33	28.83	30.90	28.56
Secondary	6.90	11.48	42.21	39.41	100	13.91	12.78	19.36	28.15	20.10
Higher Secondary	6.07	11.49	42.23	40.20	100	1.93	2.01	3.04	4.52	3.16
Degree	4.64	9.41	33.66	52.29	100	1.08	1.21	1.78	4.32	2.32
All	9.97	18.06	43.84	28.13	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Table 3.18: Distribution of Incidence of Indebtedness of Farmer Households Across Different Level of Education and Social Groups

	Education level	SC	OBC	Others	Total
1	2	3	4	5	6
Illiterate	35.27	51.13	50.70	49.76	48.04
Up to Primary	37.16	51.74	54.63	52.11	51.18
Secondary	39.86	47.08	49.32	47.72	47.65
Higher Secondary	34.87	39.89	48.73	43.77	44.49
Degree	28.58	38.93	44.22	46.27	43.56
All	36.24	50.25	51.29	49.39	48.57

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The indebtedness is almost same as all-India average in the case of illiterates (Table 3.18). It is even higher by 3 per cent in educated households up to primary level. But it is really remarking that as level of education is increasing the Incidence of Indebtedness of farmer households is falling from 47.6 per cent at secondary level to 44.5 per cent at higher secondary level and further to 43.6 per cent at degree level. Among social groups it is also high around 50 per cent across all social groups except ST up to primary level of education. At secondary level it has been fell down among SC, OBC and Others while it increased in STs. As we moved to higher secondary it again decreased but this time in all social groups. Moreover, it has increased again in others only as education has increased from higher secondary to degree. The above analysis reveals that as education increases, people get more aware to other ways of financing especially, saving.

Table 3.19 clearly shows that as level of education is increasing, farmer household's dependence on informal agencies is decreasing. There were only 40 per cent illiterates who were able to access to formal credit market and more 60 per cent were left in the hands of informal sources. But it goes on increasing in former case and reached 68 per cent while in latter it falls to 31.75 per cent as the education level has increased to degree level. The same trend is being followed among all social groups. But it is not consistent in the ST or SC. Around 70 per cent of OBC and Others social group took loan from formal sources who were degree level educated. In the case of OBC and Others more and more are opting formal source as there level of education is increasing. In the SC group, it is increasing only up to higher secondary level. And as they move to degree level their share in formal sources are decreasing from 54.5 per cent to 46.6 per cent which is very significant.

Table 3.19: Distribution of Indebted Farmer Households Across Different Level of Education and Social Groups According to Sources

	Institutional					Non-institutional				
Education level	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Illiterate	43.83	33.32	36.01	49.43	38.99	56.17	66.68	63.99	50.57	61.01
Up to Primary	55.70	44.43	47.59	53.11	49.52	44.30	55.57	52.41	46.89	50.48
Secondary	55.80	45.70	53.46	63.21	56.57	44.20	54.30	46.54	36.79	43.43
Higher Secondary	55.66	54.55	58.93	68.47	62.06	44.34	45.45	41.07	31.53	37.94
Degree	66.76	46.63	70.34	70.93	68.25	33.24	53.37	29.66	29.07	31.75
All	49.13	38.30	44.04	56.23	46.94	50.87	61.70	55.96	43.77	53.06

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

3.11. Distribution of Total and Indebted Farmer Households across Different Land Holding Classes and Education Level

So far distribution of total farmer households across different land holding sizes on the basis of education level (Table 3.20) is concerned; the proportion of farmer households who were illiterates, 69 per cent was marginal, which is significantly high, followed by small, medium, and large. Up to primary level of education also, the share of marginal farmers is too high compared to others but has fallen down than earlier. It was still 60 per cent at secondary level of education. Further, the share was almost same at higher secondary and degree level. At the same time share of small and large farm households

was keep on increasing as education level is increasing. While in the case of landless it had continuously declined. Moreover, medium farm households share has increased up to Higher secondary level and reached from 9.45 per cent to 17.4 per cent but as we moved to another higher level, that is, degree level it is declined to 14.9 per cent.

Table 3.20: Distribution of Total Farmer Households Across Different Level of Education and Operational Land Holding Sizes

Education Level	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
Illiterate	0.43	68.76	16.86	9.45	4.50	100	61.86	49.10	43.23	40.44	35.94	46.38
Up to Primary	0.25	64.89	18.24	10.57	6.05	100	21.34	27.07	27.31	26.43	28.25	27.09
Secondary	0.24	59.99	19.59	12.71	7.47	100	15.00	18.92	22.19	24.02	26.37	20.48
H. Secondary	0.13	52.74	21.10	17.39	8.65	100	1.34	2.80	4.02	5.54	5.14	3.45
Degree	0.06	52.70	22.69	14.92	9.63	100	0.46	2.10	3.25	3.57	4.30	2.59
All	0.32	64.95	18.09	10.84	5.80	100	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Looking at the distribution at different level of education of total farm households in Table 3.21 reveals that 46 per cent were illiterate considering all classes together whereas 27 per cent were literate up to primary level. Further, 20.5 per cent were educated up to secondary level. Moreover, only 6 per cent farm households were having higher secondary or degree level education. So far distribution at intra land holding class is concerned, the highest illiterates were found within landless class. It is as high as 62 per cent. Among marginal farmer households also share of illiterates was high; around 49 per cent more than what it was at all-India considering all classes together. The important point to be noted here is that, as level of education has increased, the share of farm households has fallen steadily within all farm sizes. Moreover, it's really shocking that very less share of farm households were educated in higher secondary and degree level. It was almost same each in large and medium classes. But very low nearly 2 per cent in landless class[9].

Now, Table 3.21 shows the distribution of indebted farm households across different land holding classes at different level of education. Here, we found that at every level of education the largest share of indebted farm households was of marginal, followed by

[9] Education has been found to be one of the key determinants of technology adoption.

small. However, there has been found a transition between medium and large farm households as move from higher secondary to degree level with former was leading at higher secondary but at degree level it was follower.

Table 3.21: Distribution of Indebted Farmer Households Across Different Level of Education and Operational Land Holding Sizes

Education Level	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
Illiterate	0.45	64.11	18.20	11.35	5.89	100	70.87	48.75	43.97	40.95	34.97	45.85
Up to Primary	0.18	60.10	19.45	12.39	7.88	100	17.41	28.46	29.28	27.85	29.13	28.56
Secondary	0.17	54.91	19.57	15.22	10.13	100	11.56	18.31	20.74	24.09	26.36	20.11
Higher Secondary	0.00	46.70	21.31	19.20	12.78	100	0.00	2.45	3.55	4.78	5.23	3.16
Degree	0.02	52.74	20.12	12.78	14.34	100	0.17	2.03	2.46	2.34	4.31	2.32
All	0.29	60.30	18.98	12.70	7.73	100	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Column 13 of the same table strongly reveals that as level of education has increased the share of indebted farm households has declined in general. There were 45.85 per cent indebted farm households who were illiterates which declined to 5.5 per cent at higher secondary and degree level accounting together. Intra land class surprisingly figure out some crude facts. Among all land classes the larger share of indebted farm households was predominantly of illiterates. Among landless there was 70 per cent indebted farm households who were illiterates. It was also significantly high in case of marginal, 48.75 per cent. But, there was very low proportion of indebted farm households at higher secondary and degree level.

Table 3.22: Distribution of Incidence of Indebtedness of Farmer Households Across Different Level of Education and Operational Land Holding Sizes

Education Level	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
Illiterate	50.28	44.73	51.78	57.60	62.90	47.98
Up to Primary	35.79	47.38	54.57	59.92	66.65	51.16
Secondary	33.82	43.61	47.60	57.02	64.61	47.64
Higher Secondary	0.00	39.35	44.89	49.07	65.70	44.44
Degree	16.49	43.52	38.57	37.24	64.75	43.49
All	43.89	45.06	50.91	56.88	64.64	48.53

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Table 3.22 presents the distribution of incidence of indebtedness among different land holding farm sizes at different level of education. The highest indebtedness was at primary level, 51 per cent, followed by illiterates. It was fallen as level of education has increased from primary to degree. The highest incidence was found among large farms at all level of education followed by medium and small till higher secondary level. Further, it is illiterate landless in which IOI was 50 per cent more than marginal illiterates. Afterwards, the incidence was high among marginal land holdings compared to landless.

On dividing indebted farm households according to sources of borrowing among institutional and non-institutional we found a very clear trend showing the importance of education (Table 3.23). The lowest accessibility to institutional sources was found among illiterates. They were more dependent on informal agencies to meet their needs. An increasing trend was found of access to formal agencies among all land holding classes as the level of education has increased. In other words, education reduces the dependency over informal market. It even reduces the influence of land holding sizes.

Table 3.23: Distribution of Indebted of Farmer Households Across Different Level of Education and Operational Land Holding Sizes According to Sources

Education Level	Institutional						Non-institutional					
	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
Illiterate	14.15	30.87	52.71	53.59	58.64	38.98	85.85	69.13	47.29	46.41	41.36	61.02
Up to Primary	21.79	41.23	52.92	70.34	72.05	49.50	78.21	58.77	47.08	29.66	27.95	50.50
Secondary	33.60	46.68	60.70	73.68	76.76	56.56	66.40	53.32	39.30	26.32	23.24	43.44
Higher Secondary	0.00	50.07	59.59	74.92	90.60	62.05	0.00	49.93	40.41	25.08	9.40	37.95
Degree	100.00	59.24	73.56	80.57	82.95	68.25	0.00	40.76	26.44	19.43	17.05	31.75
All	17.87	37.76	55.19	64.74	70.04	46.93	82.13	62.24	44.81	35.26	29.96	53.07

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

From the above discussion made in section 3.10 and 3.11, education has been found to be one of the important determinants of access to institutional credit. Education helps in access to information and it also reduces the transaction cost of borrowing.

3.12. Distribution of Total and Indebted Farmer Households across Different Land Holding Classes and Social Groups

Here distribution has been seen across different social groups and land holding sizes of total and indebted farmer households. Table 3.24 shows that up to medium class, the major share was of OBC farm households compared to other social groups.

Table 3.24: Distribution of Total Farmer Households Across Different Social Groups and Operational Land Holding Sizes

Land Size	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Landless	12.39	31.94	34.25	21.42	100	0.30	0.59	0.27	0.25	0.32
Marginal	12.49	21.65	41.57	24.29	100	60.72	80.46	65.03	57.02	64.93
Small	15.94	11.31	41.88	30.87	100	21.59	11.71	18.26	20.19	18.09
Medium	15.88	8.96	40.97	34.18	100	12.89	5.56	10.70	13.40	10.84
Large	10.36	5.05	41.08	43.51	100	4.50	1.68	5.75	9.13	5.81
Total	13.36	17.47	41.51	27.66	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Only in large class, the former was found marginally behind of the latter. Further, in landless it was SC who was proportionately more than Others but in other land classes, they had less dominance than OBCs and Others. Moreover, SCs share was high till marginal class in comparison to STs then it turned to STs from small onwards. At intra social group, share of marginal's was significantly high among all social groups followed by small, medium and large. The lowest share was of landless in each and every land holding size.

So far distribution of indebted farm households are concerned, at intra land class the largest share was of OBCs in marginal, small and medium land holdings(Table 3.25). In landless, SCs share was larger than all other social groups. On the other hand, "Others" had highest share than other social groups in large land holding size.

Moreover, the lowest percentage was of STs in the first three land classes but in last two land holding sizes, it was of SCs. Considering distribution at intra social group across different land holding sizes, we have found that among all social groups the highest indebted farm households were belonging to marginal class. And it has decreased in every social group as land size has

increased. Lastly, share of landless was significantly low in every social group.

Table 3.25: Distribution of Indebted Farmer Households Across Different Social Groups and Operational Land Holding Sizes

Land Size	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Landless	12.83	33.23	32.86	21.08	100	0.38	0.54	0.22	0.22	0.29
Marginal	9.29	23.27	43.94	23.49	100	56.22	77.67	60.45	50.36	60.30
Small	11.69	12.62	45.22	30.47	100	22.25	13.25	19.57	20.55	18.97
Medium	11.21	9.07	43.95	35.77	100	14.29	6.38	12.74	16.15	12.71
Large	8.86	5.05	39.80	46.29	100	6.87	2.16	7.02	12.72	7.73
Total	9.97	18.07	43.83	28.13	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Table 3.26: Distribution of Incidence of Indebtedness of Farmer Households Across Different Social Groups and Operational Land Holding Sizes

Land Size	ST	SC	OBC	Others	Total
1	2	3	4	5	6
Landless	45.49	45.70	42.14	43.24	43.93
Marginal	33.55	48.48	47.68	43.62	45.10
Small	37.34	56.85	54.98	50.25	50.92
Medium	40.16	57.60	61.04	59.54	56.90
Large	55.31	64.60	62.64	68.78	64.65
Total	36.24	50.22	51.29	49.39	48.56

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The incidence of indebtedness presented in Table 3.26 clearly shows that the proportion of indebted farm households out of total was significantly high in large land holding size among all social groups ranging from 55 per cent in ST to 68 per cent in others. Further, as land size has decreased share also declined among all social groups. Only exception here is SC category in which indebtedness was high in landless than medium land size.

On bifurcating the distribution of indebted farm households across different land sizes and social groups between the types of sources of borrowing to check their accessibility we have found that the lowest accessibility was among landless across all social groups (Table 3.27)

And the access to formal credit market was increasing with land size in all social groups. One deviation has been found here in the case of SC in which accessibility to institutional

sources has declined from 55 per cent to 50 per cent as land size has increased from medium to large.

Table 3.27: Distribution of Indebted Farmer Households Across Different Social Groups and Operational Land Holding Sizes According to Sources

Land Size	Institutional					Non-institutional				
	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
1	2	3	4	5	6	7	8	9	10	11
Landless	28.49	21.51	14.70	10.64	17.87	71.51	78.49	85.30	89.36	82.13
Marginal	38.22	34.96	35.01	45.54	37.77	61.78	65.04	64.99	54.46	62.23
Small	57.87	48.10	52.89	60.49	55.18	42.13	51.90	47.11	39.51	44.82
Medium	64.84	55.82	60.87	71.73	64.74	35.16	44.18	39.13	28.27	35.26
Large	78.56	50.07	67.46	72.81	70.04	21.44	49.93	32.54	27.19	29.96
Total	49.13	38.29	44.04	56.23	46.94	50.87	61.71	55.96	43.77	53.06

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

3.13. Distribution of Total Farmer Households and their Indebtedness across Different Farm Sizes According to Type of Holding

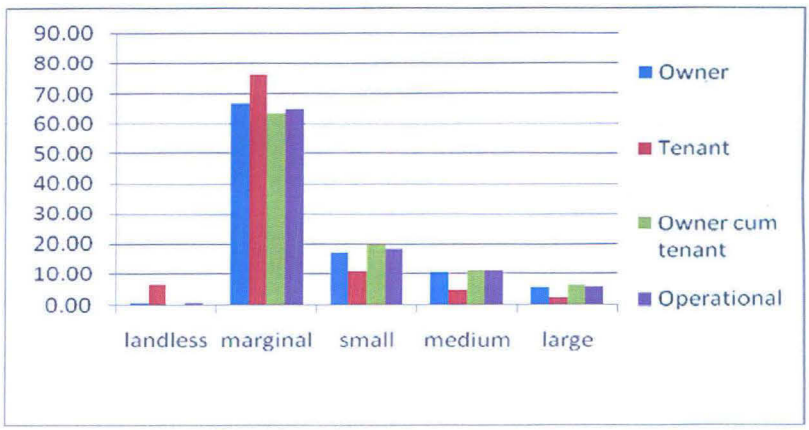
The distribution of farmer households according to holding type as purely owner, purely tenant and owner-cum-tenant across different farm size shown in Table 3.28 and Figure 3.1, shows that in all kinds of type of holding the major share was of marginal farms. The important point to be noted here is that a significantly high share of landless farmer households was of tenant.

Table 3.28: Distribution of Share of Total Farmer Households in (per cent) Across Different Farm Size According to land Holding Type

Holding Type	landless	marginal	small	medium	large	total
1	2	3	4	5	6	7
Owner	0.41	66.96	16.92	10.25	5.46	100
Tenant	6.23	76.28	10.59	4.80	2.11	100
Owner cum tenant	0.00	63.49	19.39	11.00	6.11	100
Operational	0.32	64.95	18.09	10.84	5.80	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Figure 3.1: Distribution of Share of Total Farmer Households in (per cent) Across Different Farm Size According to land holding Type



Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Further, Table 3.29 depicts the distribution of farmer households among different farm size according to type of holding, viz., pure owner, pure tenant and owner-cum-tenant at region and state level which clearly shows that in each and every type of holding the share of marginal farmers was largest. However, there is a wide variation across regions among different size so far their share out of total farmers is concerned. In the case of pure ownership, the proportion of marginal farms in eastern and group of UTs was significantly higher than the all-India average. The least share was of landless but not in pure tenant case in some regions. The important point to be noted here is that the share of medium and large farm sizes were very much high in northern region in tenant case. The question must be asked here is that who were those leasing-in land of such a large size. The probable answer would come with a clear resemblance with reality. And, that is, they are large farmers leasing-in land of landless or marginal ones which were having their land adjacent to their lands. The logic behind such an argument underlies with the typical character of inter-linkages in rural market.

Table 3.29: Distribution of Share of Total Farmer Households in (per cent)Across Different Farm Size According to Type of Holdings At Regional Level

Region	Pure Owner						Pure Tenant						Owner-cum-Tenant					
	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
Northern	0.5	57.3	17.6	13.5	11.1	100	4.9	47.1	19.5	16.7	11.8	100	0.0	28.5	19.6	25.9	26.1	100
North-Eastern	0.2	69.5	20.3	8.9	1.1	100	3.6	84.2	9.5	1.8	0.9	100	0.0	60.0	33.6	5.7	0.7	100
Eastern	0.4	82.5	11.4	4.5	1.2	100	8.9	84.2	5.9	0.9	0.1	100	0.0	82.2	14.2	2.9	0.7	100
Central	0.4	66.2	18.1	10.4	4.8	100	5.2	79.3	11.1	3.5	0.9	100	0.0	60.4	24.6	11.0	4.0	100
Western	0.6	47.3	23.4	17.5	11.1	100	8.6	58.5	16.3	9.6	7.0	100	0.0	42.1	16.1	20.8	21.1	100
Southern	0.2	66.4	17.0	10.9	5.5	100	3.1	71.4	13.7	9.0	2.9	100	0.0	55.4	17.8	18.4	8.4	100
Group of Uts	0.3	83.2	9.7	3.1	3.7	100	0.2	89.4	5.5	4.9	0.0	100	0.0	88.4	1.2	10.3	0.1	100
All-India	0.4	67.0	16.9	10.3	5.5	100	6.2	76.3	10.6	4.8	2.1	100	0.0	63.5	19.4	11.0	6.1	100

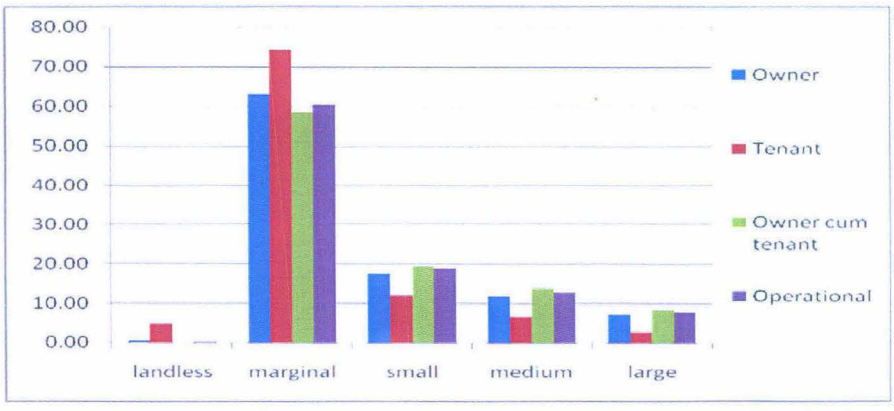
Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Table 3.30: Distribution of Share of Indebted Farmer Households in (per cent) Across Different Farm Size According to land Holding Type

Holding Type	landless	marginal	small	medium	large	total
1	2	3	4	5	6	7
Owner	0.42	63.07	17.70	11.71	7.10	100
Tenant	4.57	74.18	11.95	6.56	2.74	100
Owner cum tenant	0.00	58.59	19.38	13.81	8.22	100
Operational	0.29	60.30	18.97	12.70	7.73	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Figure 3.2: Distribution of Share of Indebted Farmer Households in (per cent) Across Different Farm Size According to land holding Type



Source: Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

On the same line, share of marginal farm households was largest out of total indebted farmer households in every type of holding as shown in Table 3.30 and Figure 3.2. Here, again the share of indebted farmer households under marginal size in the case of tenant was significantly greater than its share in operational holding case.

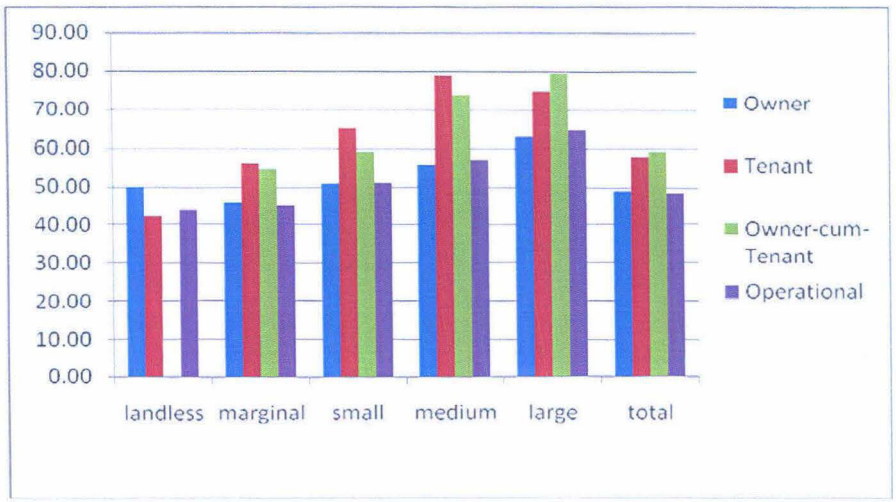
Table 3.31: Distribution of Incidence of Indebtedness of Farmer Households Across Different Farm Size According to land Holding Type

Holding Type	landless	marginal	small	medium	large	total
1	2	3	4	5	6	7
Owner	49.96	45.79	50.87	55.51	63.16	48.61
Tenant	42.26	55.99	64.98	78.73	74.75	57.57
Owner cum tenant	0.00	54.43	58.95	74.01	79.34	58.98
Operational	43.88	45.05	50.91	56.88	64.64	48.52

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The important point to be noted here is that the incidence of indebtedness shown in Table 3.31 and Figure 3.3 states that in the case of tenant and owner-cum-tenant type of holding was even higher than its level in operational holding. Looking across farm size gives even more startling results.

Figure 3.3: Distribution of Incidence of Indebtedness of Farmer Households Across Different Farm Size According to land Holding Type



Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

As shown above that at all-India level the incidence of indebtedness under pure owner was lowest in marginal farm size of farmers and it has increased as the farm size has increased with an exception in the case of landless class in whose case the incidence was higher than the marginal one. But, the regional level figures show a wide variation so far the prevalence of incidence of indebtedness is concerned (Appendix 3.4). As in the north-eastern and eastern region the incidence of indebtedness was highest among the landless farmers and it keeps on declining as it moves towards larger farmer. On the other hand, the opposite pattern is prevailing in the Central region and Northern region of India. It is not merely with the larger farmers but the data reveals that the indebtedness keeps on declining as the land size among the farmer increases. Western and southern region were following the same pattern as all-India with some variations in between.

So far the level of incidence of indebtedness in the case of pure tenant holding type is concerned (Appendix 3.5); it has been following the same pattern as it was for the pure owners. Moreover, the regional level distribution is also following more and less the same pattern. The only major variation in the pattern was visible in north-eastern region in the case of landless farmers in which case the incidence was significantly less, and eastern region where it was low for medium farm size. In the central region there was a break up between medium and large farm size. The same is also true for southern region.

Under the owner-cum-tenant holding type (Appendix 3.6), the incidence was completely absent in the case of landless farms. It is because there was no farmer at all under this type of holding in landless case. Further, the pattern in the prevalence of incidence of indebtedness was the same as in the other two holding types mentioned above. But, on the contrary there existed some regional variations visible in some regions quite prominently. In the eastern region the incidence level was comparatively same across all farm size.

Table 3.32: Distribution of Indebted Farmer Households Across Different Farm Size According to land Holding Type taking Loans From Institutional Sources

Holding Type	landless	marginal	small	medium	large	total
1	2	3	4	5	6	7
Owner	0.18	50.93	21.36	16.61	10.92	100
Tenant	5.70	67.25	14.46	9.24	3.34	100
Owner cum tenant	0.00	45.06	23.24	19.64	12.06	100
Operational	0.11	48.52	22.31	17.52	11.53	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

One step ahead on looking at the proportion of indebted farmer households across different farm sizes and land holding types who were taking loans from institutional (Table 3.32) and non-institutional (Table 3.33) sources gives a more clear insight about the expansion of formal credit market. Under every land holding type the largest share was of marginal farm size of indebted farmer households who were taking loans from institutional sources. And it is just because of their larger share among total farmer households. The important point to be noted here is that there was a significant share of landless farmer of tenant type accessing formal credit market.

Table 3.33: Distribution of Indebted Farmer Households Across Different Farm Size According to land Holding Type taking Loans From Non- Institutional Sources

Holding Type	landless	marginal	small	medium	large	total
1	2	3	4	5	6	7
Owner	0.65	73.86	14.45	7.35	3.70	100
Tenant	3.88	78.42	10.41	4.92	2.38	100
Owner cum tenant	0.00	66.88	17.02	10.23	5.86	100
Operational	0.45	70.73	16.02	8.44	4.36	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

But, the most concerning fact of the matter is that the proportion of indebted farmer households who were taking loans from non-institutional sources was also significantly high compared to their share in borrowings from institutional sources among marginal farmers and to some extent in landless case also under all categories of land holding types.

3.14 Distribution of Indebted Farmer Households across Different Farm Sizes According to Loan Size

Table 3.34 showing the distribution of indebted farmer households across different farm sizes according to size of loan reveals that as the size of loan increases from less than Rs. 300 and reaches more than Rs. 2 lakh and up to Rs. 5 lakh the share of indebted farmer households among marginal farm size has decreased from 86.67 per cent to 21.66 per cent. The share has again increased and reached the level equivalent to the share of indebted marginal farmers in the loan size more than Rs. 1 lakh and up to Rs. 2 lakh as the loan size has increased to more than Rs. 5 lakh and up to Rs. 10 lakh. It again decreased and reached the lowest level of 5 per cent only in the loan size more than Rs. 10 lakh and up to Rs. 25 lakh. The important point to be noted is that the cent per cent indebted farmers taking loans of more than Rs. 25 lakh have complete concentration in the marginal farm size.

Table 3.34: Distribution of Indebted Farmer Households in (per cent) Across Different Farm Size According to Size of Loan

Loan Size	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
< Rs. 300	0.00	86.67	8.61	3.73	0.98	100
300-1000	0.66	80.88	13.11	4.30	1.05	100
1001-2500	0.27	77.70	14.79	5.48	1.75	100
2501-5000	0.33	71.59	15.80	8.29	4.00	100
5000-10000	0.30	64.57	19.17	11.56	4.39	100
10001-25000	0.33	56.41	22.00	14.08	7.19	100
25001-50000	0.15	45.94	23.08	18.74	12.08	100
50001-100000	0.20	39.06	19.95	21.56	19.22	100
100001-200000	0.00	27.43	19.45	24.40	28.72	100
200001-500000	0.00	21.66	20.61	25.72	32.01	100
500001-1000000	0.00	27.87	4.18	16.17	51.78	100
1000001-2500000	0.00	5.09	21.09	11.35	62.47	100
>2500000	0.00	100.00	0.00	0.00	0.00	100
All	0.29	60.30	18.97	12.70	7.73	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

On the other hand, there is a proportion relation between the loan size and large farm size. Its share has increased from a meager less than 1 per cent to 62.5 per cent as the loan size has increased from less than Rs. 300 and reaches more than Rs. 10 lakh and up

to Rs. 25 lakh. Unlike the above mentioned two farm sizes with opposite movements with loan size, the share of other two class of farm size like, small and medium initially increases but it was not uniform throughout all the loan sizes. There has been peak and trough in their distribution.

The above trend shows the obvious fact that as the farm size increases their capital-labour ratio increases. And to invest in fixed capital and machinery they require large size of loan and for that they have to borrow from the market. On the other hand, looking at the distribution of outstanding loan amount among different farm size according to various classes of loan size exhibits the same trend as the distribution of indebted farmers across different farm sizes under various loan sizes as mentioned above which is as expected(Table 3.35).

Table 3.35: Distribution of Outstanding Loan Amount borrowed in (per cent) Across Different Farm Size According to Size of Loan

Loan Size	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
< Rs. 300	0.00	85.13	10.50	4.31	0.06	100
300-1000	0.67	80.07	13.93	4.06	1.27	100
1001-2500	0.23	77.37	15.00	5.57	1.83	100
2501-5000	0.33	71.31	15.91	8.27	4.17	100
5000-10000	0.36	63.99	19.32	11.87	4.45	100
10001-25000	0.35	55.90	22.09	14.22	7.43	100
25001-50000	0.14	44.58	23.43	18.62	13.23	100
50001-100000	0.26	38.37	19.68	21.80	19.89	100
100001-200000	0.00	26.51	19.80	23.96	29.73	100
200001-500000	0.00	20.77	19.47	26.30	33.45	100
500001-1000000	0.00	26.39	4.50	15.66	53.45	100
1000001-2500000	0.00	4.82	18.61	10.09	66.48	100
>2500000	0.00	100.00	0.00	0.00	0.00	100
All	0.15	38.80	19.75	19.69	21.60	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Out of total loan outstanding in the loan size less than Rs. 300, 85 per cent was taken by marginal farmers. Further, it has declined consistently with his falling share in total indebted farmers as loan size has increased. Whereas, in the case of large farm size the credit outstanding was on the rise as loan size has increased. It was due to their large amount of credit requirement for investing in fixed assets used in farming activities. To say anything about why marginal farmers had high share in total indebted farmers as well

as their larger share in outstanding loan amount of small loan size it would be necessary to look at the borrowing of loans through purpose-wise.

3.15 Distribution of Indebted Farmer Households Borrowing Loans According to Purpose of Loan

In this section the discussion has been made regarding the purpose for which loan has been taken by the farmer households (Table 3.36). There were eight categories of purposes altogether for which loan had been taken. The major share of indebted farmers had borrowed for productive purposes like, current and capital expenditure in farm business with latter has 36.55 per cent and former has 24 per cent respectively. It means that more than 60 per cent of indebted farmers had borrowed for productive purposes. The other purposes for which indebted farmers had share more than 10 per cent are consumption (23 per cent), social ceremonies (11.4 per cent) and other expenditure (10.5 per cent). In other words, around 35 per cent of indebted farmer households were have borrowed for non-productive purposes which has been the main cause of indebtedness. The same is true for most of the states with few exceptions like; in Jammu and Kashmir 87 per cent indebted farmers had borrowed for purposes such as consumption and social ceremonies. Himachal Pradesh is the other state where more than 13 per cent had borrowed for non-farm business shows the diversification in economic activities to support their livelihood. In north-east region, except Meghalaya all other states had larger share of indebted farmers borrowing for non-productive purposes. One important point to be mentioned is that the share of indebted farmers borrowing for education purpose is as high as 10 per cent in Manipur and Nagaland signifies the awareness among the people about the importance of education in one's social and economic life. On the other hand, the high share of indebted farmers 17 per cent in Arunachal Pradesh and 11 per cent Manipur borrowing for medical purpose is a matter of concern.

In eastern region, all states except Orissa and West Bengal farmers had largely borrowed for non-productive purposes. In Sikkim more than 75 per cent indebted farmers had

Table 3.36: Distribution of Indebted Farmer Households Borrowing Loans According to Purpose of Loan

Region/State	Capital Expenditure in Farm Business	Current Expenditure in Farm Business	Non-farm Business	Consumption Expenditure	Marriages & Ceremonies	Education	Medical	Other Expenditure	Total
1	2	3	4	5	6	7	8	9	10
Northern	**24.61**	**29.31**	**4.18**	**31.15**	**14.85**	**0.49**	**4.60**	**10.56**	**100**
Haryana	32.39	35.42	3.74	19.39	13.65	0.00	3.65	13.66	100
Himachal	14.39	10.76	13.36	29.34	19.51	0.67	7.91	22.62	100
J & K	3.76	0.98	4.08	84.80	2.67	0.00	0.24	5.36	100
Punjab	17.02	37.22	4.62	26.57	14.15	0.74	4.44	12.30	100
Rajasthan	28.38	28.68	3.16	31.92	16.41	0.59	5.14	7.90	100
North-east	**11.82**	**10.72**	**7.09**	**33.31**	**7.67**	**1.83**	**5.40**	**24.07**	**100**
Arunachal	4.32	9.52	1.88	38.50	0.00	5.84	17.71	37.38	100
Assam	11.24	11.89	7.00	29.99	9.87	0.56	5.88	25.16	100
Manipur	1.47	5.33	3.99	38.68	6.97	10.14	11.23	25.68	100
Meghalaya	34.80	30.60	0.00	25.46	1.25	0.98	0.00	6.91	100
Mizoram	36.00	0.00	3.49	54.15	0.00	3.28	0.17	5.55	100
Nagaland	6.99	5.98	3.71	51.63	2.46	11.84	2.33	15.62	100
Tripura	14.66	9.83	11.30	36.26	2.91	0.00	2.13	24.86	100
Eastern	**22.96**	**26.60**	**8.01**	**23.22**	**10.52**	**0.58**	**9.11**	**12.75**	**100**
Bihar	21.13	12.34	4.83	21.15	18.38	1.09	17.11	12.27	100
Jharkhand	26.15	10.08	11.29	25.49	9.54	0.00	4.88	14.80	100
Orissa	26.14	36.03	8.37	20.84	7.76	0.13	3.65	8.26	100
Sikkim	12.33	2.89	6.06	74.02	0.87	0.00	1.51	8.08	100
West Bengal	21.84	33.64	9.40	25.38	7.05	0.61	7.68	15.38	100
Central	**27.98**	**32.85**	**4.94**	**20.99**	**14.69**	**0.49**	**8.79**	**8.19**	**100**
Chhattisgarh	26.57	42.23	5.27	22.53	8.41	0.57	5.13	6.32	100
M P	29.36	41.42	3.72	25.69	16.82	0.35	5.13	4.43	100
U P	27.65	27.45	5.33	18.65	14.77	0.54	11.08	10.14	100
Uttaranchal	18.99	29.02	16.70	14.98	8.86	0.00	5.81	16.41	100
Western	**23.94**	**54.35**	**3.55**	**12.87**	**8.12**	**0.22**	**4.39**	**6.57**	**100**
Gujarat	13.45	56.27	1.75	12.60	12.91	0.25	4.53	7.68	100
Maharashtra	29.65	53.31	4.53	13.02	5.52	0.21	4.32	5.96	100
Southern	**22.04**	**43.83**	**4.31**	**26.52**	**9.02**	**2.02**	**4.63**	**12.13**	**100**
Andhra	25.86	50.92	3.21	25.75	8.84	1.18	4.09	8.68	100
Karnataka	20.62	51.56	2.92	19.17	7.20	1.13	0.84	6.97	100
Kerala	15.97	17.12	11.59	27.47	12.10	3.55	8.28	34.17	100
Tamil Nadu	19.68	38.06	3.83	33.70	9.40	3.47	7.01	11.72	100
Group of UTs	**12.89**	**27.92**	**4.45**	**28.55**	**14.87**	**3.80**	**6.97**	**15.02**	**100**
All-India	**24.17**	**36.55**	**5.12**	**23.40**	**11.41**	**0.91**	**6.56**	**10.50**	**100**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003

borrowed for consumption and other purposes. The point of concern is the Bihar, where 17 per cent had borrowed for medical purposes shows that farmers there are struggling

with their problems which not only reduces their productivity and income level but also the cause of pushing into poverty trap. Central region and the states falling under this are following the same pattern as all-India. The only exception is Uttaranchal where more than 21 per cent were borrowed for medical and other purposes. Western region is on the same line as all-India. Lastly, in southern region, more than 2 per cent at region level as a whole and 3 per cent in Kerala and Tamil Nadu were borrowing for education is the refection of high literacy in the region. The other variation from the all-India and other states is in the case of other purpose for which more 30 per cent in Kerala and 11 per cent in Tamil Nadu had borrowed. In Kerala almost 12 per cent had borrowed for non-farm business shows the diversification in economic activities from farming to non-farm. The group of UTs also gives some interesting results where around 4 per cent and 15 per cent had borrowed for education and other purposes respectively.

To look at the pattern of borrowing on purpose-wise through institutional sources another Table 3.37 has been prepared. This table not presents the preference of borrowing on purpose-wise on the demand side as well the preference of formal credit market on supply side for what kind of purposes credit should be given; it also reflects the relative productiveness of farmers using that borrowed credit. For, the purpose capital expenditure in farm business 66 per cent farmers had taken loan mainly from institutional sources. This reveals the fact that for purpose like capital expenditure the preference of farmers was formal credit market. The reason for this preference may be the large amount that would have required for the very same purpose. On the other hand, the inabilities of informal money lenders to lend such a large amount have promoted the access to formal credit market. Further, it also shows the preference of formal institutions to lend the large amount to reduce their transactional and supervision costs and as a result to reduce the probability of default. But the studies suggest that a large default case has been found in large loan amounts rather than small (Namboodiri, 2007).

The same is true for the current expenditure in farm business also for which more than 71 per cent indebted farmers had borrowed from institutional sources. The current

expenditure in farm business is associated with the use of seeds, fertilizers, pesticides, and modern farm equipments used for ploughing, sowing and harvesting.

Table 3.37: Distribution of Share of Indebted Farmer Households Borrowing Loans from Institutional Sources According to Purpose of Loan

Region/State	Capital Expenditure in Farm Business	Current Expenditure in Farm Business	Non-farm Business	Consumption Expenditure	Marriages & Ceremonies	Education	Medical	Other Expenditure	Total
1	2	3	4	5	6	7	8	9	10
Northern	**64.83**	**61.62**	**68.07**	**10.74**	**10.64**	**17.52**	**8.85**	**32.07**	**45.67**
Haryana	82.37	73.76	69.49	22.36	22.53	0.00	22.35	49.86	70.44
Himachal	87.58	73.76	75.78	14.23	26.16	39.31	17.76	54.68	53.98
J & K	65.12	69.05	56.92	1.26	26.42	0.00	0.00	31.43	8.90
Punjab	73.65	69.81	56.86	23.48	14.73	20.32	7.13	21.93	52.63
Rajasthan	53.84	50.92	72.57	5.89	3.15	13.29	4.48	20.50	36.50
North-east	**42.98**	**22.22**	**51.29**	**3.50**	**16.86**	**0.95**	**4.15**	**24.84**	**19.78**
Arunachal	100.00	40.29	0.00	0.00	0.00	28.33	5.57	3.76	12.20
Assam	26.72	10.43	44.70	2.84	19.60	0.00	4.28	17.59	14.84
Manipur	4.97	9.79	27.22	6.57	0.00	0.00	0.00	3.68	5.17
Meghalaya	0.00	0.00	0.00	4.20	0.00	0.00	0.00	15.47	2.14
Mizoram	84.96	0.00	5.76	1.70	0.00	0.00	0.00	2.94	31.88
Nagaland	49.59	44.33	56.24	4.58	15.08	0.00	0.00	66.56	21.33
Tripura	84.76	83.35	73.73	4.37	0.00	0.00	13.35	60.30	45.82
Eastern	**72.08**	**57.56**	**74.55**	**4.46**	**8.46**	**19.89**	**2.77**	**37.75**	**44.94**
Bihar	54.27	32.08	50.36	1.86	4.07	0.00	1.66	18.95	21.61
Jharkhand	87.08	49.37	83.90	4.42	5.77	0.00	0.00	37.76	44.48
Orissa	87.54	78.95	86.21	9.05	14.01	7.20	6.28	46.35	65.58
Sikkim	78.62	100.00	21.90	2.31	0.00	0.00	0.00	41.19	18.94
West Bengal	69.79	50.85	75.12	3.75	13.22	45.41	3.76	45.14	48.80
Central	**74.86**	**68.71**	**65.48**	**5.22**	**7.05**	**16.21**	**2.09**	**21.13**	**50.88**
Chhattisgarh	82.13	81.35	79.17	4.32	8.74	69.76	0.00	22.25	63.86
M P	73.98	78.43	67.88	5.21	3.68	26.87	1.31	26.22	60.02
U P	74.17	58.62	62.15	5.35	8.42	4.09	2.41	19.74	44.45
Uttaranchal	75.16	93.38	78.93	12.56	48.81	0.00	0.00	38.02	67.00
Western	**90.06**	**87.56**	**76.02**	**26.78**	**17.29**	**47.37**	**22.21**	**39.81**	**80.40**
Gujarat	84.28	85.03	46.68	6.10	3.18	52.24	16.82	15.05	63.23
Maharashtra	91.49	89.01	82.20	37.68	35.29	44.19	25.30	57.18	89.74
Southern	**59.37**	**58.53**	**54.56**	**23.82**	**22.11**	**27.25**	**22.61**	**47.90**	**56.80**
Andhra	46.29	52.57	45.56	13.55	6.41	5.44	5.14	23.32	46.56
Karnataka	71.58	61.12	64.73	17.17	20.37	42.48	17.01	46.34	56.77
Kerala	88.09	90.68	73.75	58.95	67.91	52.97	49.06	76.00	94.47
Tamil Nadu	66.38	62.08	32.50	26.54	19.75	22.82	25.40	39.90	55.98
Group of UTs	**53.44**	**47.04**	**61.46**	**25.26**	**9.30**	**0.00**	**52.82**	**47.60**	**42.19**
All-India	**70.88**	**66.46**	**66.65**	**13.24**	**12.18**	**23.80**	**8.62**	**36.52**	**53.94**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003

One more purpose in which case the share of indebted farmers had preference for formal credit market is non-farm business. Before commenting anything it would be necessary to have an idea of what kind of business activities come under non-farm business for which a large share of farmers are borrowing from institutional sources. Intuitionally, it would have been for productive purposes like, transportation, etc. the larger share of farmers borrowing for non-farm business reflects the change in the policy of banking system to lend more credit for non-farm business brought out with the broadening of definitions of priority sector to meet the stipulated target.

For, consumption expenditure and marriages and ceremonies only 25 per cent indebted farmers were have borrowed from formal credit market. The matter of concern is that the rest 75 per cent indebted farmers had to rely on informal market to meet their requirements which further increases their indebtedness. Further, 36 per cent and 23 per cent respectively for other expenditure and education shows the diversification in demand for credit. Loan demanded for education can be considered as a productive purpose because it has an indirect effect on one's efficiency and productivity. The reluctance of formal credit sources to lend for purposes such as consumption, marriages and health might be the fear of becoming default and did not have ability to pay back the loan borrowed. But before giving judgment about the inability of the borrower to repay the loan borrowed for such purposes it would be better to know about the socio-economic status of those who were borrowing. The role of initial endowments of resources such as infrastructure and irrigation system also determines the agriculture output and yield to a great extent. The studies suggest that the inability to repay the loan was greatly associated with natural calamities which are not in control of humans to regulate, although, they are responsible for the changes coming in environment due to rising urbanization and industrialization. At the same time studies also suggest about the willful default of farmers because of the absence of repayment ethics (Narayanmoorthy and Kalamkar, 2005; Namboodiri, 2005).

The same is true for all the regions and state. Almost all regions and state are showing the same pattern. It shows that irrespective the initial conditions prevailing in the respective

region or state every farmer has some certain preference order of how much loan and for what purpose should be borrowed from which source. However, there are some variations among the regions and states. Among regions, northern region should be mentioned first because of the development of agriculture which has taken place after green revolution. Here, at the region level as a whole as well as among all states coming under, the share of indebted farmers borrowing from institutional sources was more than 50 per cent. One major variation is visible in the state of Haryana, Himachal Pradesh, Punjab and Jammu and Kashmir where more than 20 per cent of indebted farmers had borrowed from institutional sources. The reason could be the reliance of banking system on farmers because in these states farmers were mainly of large farm size. For education, Himachal Pradesh had higher preference of formal market because of the high literacy rate compared to other states.

North-east region shows some greater variation in this regard. The most concerning point is in case of Meghalaya where all indebted farmers borrowing for farm business had to rely totally on informal market to meet their demands. In the eastern region, the proportion of indebted farmers borrowing from institutional sources is more than 50 per cent for all the first three purposes across all states with some has very high value. But, the major finding in this region is in the Sikkim where 100 per cent indebted farmers had borrowed from institutional sources for capital expenditure in farm business. Central region where agricultural activities are done on a large scale, the same pattern is observed. The only exception was in Chhattisgarh where share of farmers borrowing from institutional sources for education is highest among all states. This explains the fact that people are getting more aware about the importance of education on one hand and the special policies made by the government for promotion of education and the effort made by RBI and further by commercial banks to implement that policies and money has been lent with some kind of easiness. Other major variation from the pattern is in Uttaranchal where more than 40 per cent indebted farmers borrowing for social ceremonies had taken loan from institutional sources. Western region is somehow different from other regions in the sense that a significant share of indebted farmers borrowing for purposes other than first three had borrowed from formal market. The

reason could be the development of the state in term of infrastructure. This is specifically true for Maharashtra. Lastly, the southern region is also following the same line but for non-farm business. However, the variation among the states falling under this region is more significant so far the first three purposes are concerned. Such a small share 32 per cent of indebted farmers borrowing for non-farm business in Tamil Nadu is showing the non-preference of farmers to borrow either for the very same purpose or if one would have to borrow, go to informal sources. Kerala is the state where over and above 50 per cent indebted farmers borrowing for each purpose had preference for formal credit market. The prime reason could be the development of banking system to provide remittances to the relatives of those whose members are sending the money from overseas countries.

3.15.1 Distribution of Farmer Households Borrowing Loans According to Purpose of Loan across Different Farm Sizes

The preference of farmers to borrow from institutional sources for different purposes exhibits a wide variation across regions and within a region across states. The next step is to look at the distribution of farmer households among different farm sizes borrowing for different purposes altogether and from institutional sources in particular. The findings can be summarized in the following way (Table 3.38); first, at all-India level almost 60 per cent indebted farmer households were borrowing for capital and current expenditure in farm business signifies the fact that there was a greater demand for productive purposes. Second, in every farm size but landless and marginal, the share of borrowers was highest in the purpose for current expenditure in farm business followed by capital expenditure in farm business. This shows the increasing tendency among farmers of large farm sizes to borrow loans for productive purposes.

Third, in the case of marginal farm size, a large share of farmers had borrowed for consumption expenditure followed by current expenditure and then capital expenditure in farm business. But in the landless class, the larger proportion was for the same purpose as it was in marginal farm size but it followed by other expenditure and then capital

expenditure in farm business. This reflects that they had borrowed mainly for non-productive purposes.

Table 3.38: Distribution of Indebted Farmer Households Across Different Farm Size According to Purpose of Loan

Farm size/Purpose	Landless	Marginal	Small	Medium	Large	All
1	2	3	4	5	6	7
Capital Expenditure in Farm Business	18.22	19.27	28.88	33.75	35.27	24.17
Current Expenditure in Farm Business	9.19	26.89	47.85	51.57	60.62	36.55
Non-farm Business	8.12	6.56	3.15	2.85	2.31	5.12
Consumption Expenditure	30.70	27.93	19.06	14.17	13.58	23.40
Marriages & Ceremonies	16.50	13.16	9.49	9.45	5.51	11.41
Education	0.44	1.09	0.73	0.54	0.60	0.91
Medical	8.91	8.51	4.50	2.79	2.51	6.56
Other Expenditure	18.65	13.06	7.89	6.03	3.95	10.50
All	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Fourth, a significant share of farmers among landless and marginal borrowing for medical purposes shows a remarkable fact that this is the class of farmers who are struggling with their health problems which indirectly affect their productivity and income level. Fifth, again the larger share of the farmers of the above mentioned two farm sizes borrowing for non-farm business also supports an important fact that they had their businesses to support their livelihood. Sixth, the comparatively small share of borrowers among marginal farm size borrowing for productive purposes associated with farming like, capital expenditure and current expenditure in farm business with respect to their share among all farmers is a matter of concern.

Moreover, Table 3.39 showing the distribution of the share of borrowers borrowing only from institutional sources for different purposes gives some more interesting results like; 76 per cent farmers at all-India level had borrowed from institutional sources for the farming activities. Further, in every farm size as low as 50 per cent in the case of landless and as high as 90 per cent in the case of large farm size had borrowed for farming purposes. The third purpose for which the farmers had higher demand is other types of expenditure.

Table 3.39: Distribution of Indebted Farmer Households Getting loans from Institutional sources Across Different Farm Size According to Purpose of Loan

Purpose of Loan	Landless	Marginal	Small	Medium	Large	All
1	2	3	4	5	6	7
Capital Expenditure in Farm Business	32.83	28.91	32.89	36.45	34.14	31.75
Current Expenditure in Farm Business	22.34	36.38	51.40	52.25	57.64	45.04
Non-farm Business	16.00	9.90	3.60	2.92	1.97	6.33
Consumption Expenditure	7.16	8.14	4.60	3.06	2.17	5.75
Marriages & Ceremonies	1.09	3.68	1.79	1.56	1.09	2.58
Education	0.00	0.59	0.15	0.19	0.43	0.40
Medical	0.00	1.68	0.62	0.33	0.35	1.05
Other Expenditure	20.57	10.71	4.94	3.25	2.19	7.11
	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The significant variation across farm sizes in the purpose other expenditure has been found. Among landless 20 per cent was borrowing for other expenditure from institutional sources. This shows that they had brought greater diversification in their economic activities to support their livelihood. On the other hand, institutional sources were also enlarged their lending target for other purposes coming under the ambit of micro, small and medium enterprises. The percentage of landless farmers who were borrowing for non-farm business was also high in comparison to other farm sizes which support the above argument of diversifying the economic activities.

3.15.2 Distribution of Farmer Households Borrowing Loans According to Purpose of Loan across Different Levels of Education

This section has been developed to find the effect of education level of farmers on the purposes for which loan has been borrowed. For, Table 3.40 and Table 3.41 have been prepared showing the distribution in percentage of total borrowers and of borrowers borrowing from institutional sources respectively. The findings can be summarized as: The larger proportion of borrowers under every level of education had borrowed for current expenditure in farm business followed by capital expenditure in farm business. In the case of illiterates, although the highest share was for the same purpose as for others level of education, that is, current expenditure in farm business but it was followed by

consumption purpose. Other purpose for which the loans borrowed by farmers has comparatively high share is consumption purposes. Further, this is the case for all levels of education which shows that the demand for consumption purpose is on high. But to have a more extensive understanding about that one has to look into the consumption basket for which loan had been borrowed. The share of indebted farmers borrowing for other expenditure is also significant for all levels of education.

Table 3.40: Distribution of Indebted Farmer Households in (per cent) Across Different Level of Education According to Purpose of Loan

Level of Education/Purpose of Loan	Illiterate	Up to Primary	Secondary	Higher Secondary	Degree	All
1	2	3	4	5	6	7
Capital Expenditure in Farm Business	23.23	24.77	24.53	28.31	26.52	24.17
Current Expenditure in Farm Business	33.71	37.53	40.95	40.13	37.93	36.56
Non-farm Business	3.44	6.09	7.10	5.69	8.43	5.12
Consumption Expenditure	26.02	23.74	18.57	20.01	13.94	23.40
Marriages & Ceremonies	13.50	9.96	9.69	6.82	9.24	11.41
Education	0.50	0.96	1.51	1.89	1.91	0.91
Medical	7.10	6.99	5.12	5.61	4.38	6.56
Other Expenditure	9.58	10.96	11.38	12.34	12.73	10.49
All	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

The purposes like, marriages & ceremonies the larger share of borrowers was among illiterates and literates up to primary level. For, medical purpose the share of indebted farmers among illiterates and literates up to primary level are the same 7 per cent. It shows the greater prevalence of ill-health among illiterates. It may be because of the unawareness about the causes of diseases. And as a result they would have been frequently suffering from ill health.

For, purpose like education farmers under each level of education has less preference but it was relatively increasing as the level of education has increased. This shows that the awareness about education is greater among those farmer households in which the head of the households are educated up to secondary level or above. It may because of the understating of the importance of education in one's social life.

Table 3.41: Distribution of Indebted Farmer Households Getting Loan from Institutional Sources across Different Level of Education According to Purpose of Loan

Level of Education/Purpose of Loan	Illiterate	Up to Primary	Secondary	Higher Secondary	Degree	All
1	2	3	4	5	6	7
Capital Expenditure in Farm Business	33.65	31.05	29.98	33.03	28.43	31.75
Current Expenditure in Farm Business	46.00	44.70	44.89	44.55	39.16	45.04
Non-farm Business	5.07	7.15	7.11	4.60	9.27	6.33
Consumption Expenditure	6.20	5.46	5.05	6.36	7.59	5.75
Marriages & Ceremonies	1.93	2.94	3.21	2.33	2.13	2.58
Education	0.21	0.20	0.64	1.79	0.94	0.40
Medical	0.83	1.00	1.28	0.87	2.48	1.05
Other Expenditure	6.12	7.51	7.83	6.47	9.99	7.11
All	100	100	100	100	100	100

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Lastly, the figures at intra- education level shows that the higher preference of borrowers of every education level was institutional sources for purpose like, current expenditure in farm business followed by capital expenditure in farm business. It means that so far farming is concerned the preference of farmers is institutional agencies first irrespective of their education level. Further, the higher share of borrowers among illiterates and lower level of education to borrow from institutional sources might be due to the faith which credit institutions have on the farmers indirectly associated with the farmers experience or personal relations with the bank personnel. The other reason could be the promotion of schemes by the government and the banks due to which large borrowers under these education levels are approaching formal credit market. But, the unawareness about the procedures to be followed for taking loans might have made the illiterates to rely on non-institutional sources.

For, non-productive purposes also the share of borrowers among higher level of education is greater than those who were illiterates or lower level of education. This shows that for formal credit market they are more credit worthy because of their saving tendency which helps in repayment of loan. The other significant share was for other expenditure followed by non-farm business and then consumption expenditure among all

education levels. The share of borrowers borrowing for education purposes from institutional sources was more than 1 per cent only in the case of those who were educated up to higher secondary or above.

3.16 Summary and Conclusion

Indebtedness has been remained the most concerning matter since independence. This chapter was basically done to look at some of the correlates which make the relative concentration of credit to few hands like, caste, etc. are still valid in post-reform period too, that was playing a major role in the pre-reform period. Through a detailed analysis of the NSSO 59th Round survey enumerated especially for farmers supports the argument.

The relative concentration of rural households and farmer households across different regions and states shows a great variation. Although, it was the southern region where the rural households were heavily concentrated but, in the case of farmer households it was central region. On the other hand, the prevalence of indebtedness among farmer households in rural India was 48 per cent. Among regions it was highest in the southern region. Further, Uttar Pradesh was on the top in terms of share of rural households, farmer households, and indebted farmer households at all-India level among the states. Moreover, the indebtedness among different social groups shows a wide variation across the states and within states among social groups.

Now, the incidence of indebtedness among the farmers based on their principal source of income shows that 57 per cent cultivators were indebted followed by others(35.7per cent), other agricultural activity(4per cent) and farmers doing other than cultivation (3per cent). Further, the indebtedness across farm sizes shows that with the increase in farm size indebtedness has increased from 43.9 per cent among landless to 64.6 per cent among large. The regional level figure exhibits variation in indebtedness among different sizes. Further, it has been found that land titles do have an effect on the indebtedness of farmer households across different farm sizes. It was found highest among pure tenants followed by owner-cum-tenants and then pure owners. The regional distribution is relatively more diversified so far land holdings are concerned across all farm size.

The cross classification of indebtedness among different social groups across different farm sizes shows that the indebtedness was high among large farm size across all social groups. And as land size decreases the indebtedness has decreased among all social groups. With level of education indebtedness is decreasing across all social groups signifying the role that education plays in inducing the thrift of saving into the farmer's behavior. The incidence across different farm sizes has also decreased as education level has increased. This suggests that education make farmers enable to increase their income level by adopting modern techniques of farming and as a result that reduces indebtedness. The figure regarding farm size and loan size exhibits a direct relationship. The large farm size were taking loans of large sizes more whereas small farm sizes were taking loans of small size in greater.

Looking at the accessibility of farmer households to institutional credit market reveals the fact that still more than half of the indebted farmer households were dependent on informal market for meeting their credit requirements. This reflects the prevalence of money-lenders and other agents to cater the demand for credit. There has also been found a great variation in the accessibility to formal credit market across states. The extent of reliance on informal credit market comes out to be more among different social groups. Further, the access to institutional credit market among different farm sizes has showed a direct relationship with the farm size. The land titles also have an effect on the access to formal credit market.

The cross classification among social groups and farm sizes shows the same relation between farm size and accessibility to institutional credit market more clearly. Moreover, with the rising level of education increases the accessibility to formal credit market by reducing the level of transaction costs associated with information and procedures to be followed to get loans from formal credit market. The same is true for different farm sizes also. Increasing level of education further increase the chances of large farmers to get access to formal credit market but it also opens the way for landless and marginal ones.

The loan outstanding of institutional type was around 58.9 per cent to total loan outstanding. This makes sense when looked along with the share of indebted farmers and

among them the share of those taking loans from institutional sources. Further, among different social groups the share in outstanding loan from different sources does not show the same pattern across states except that the larger share was given to others. So far the farmers of different farm sizes is concerned landless had received 23.86 per cent of loan outstanding of formal kind. And as the farm size increased the share in loan outstanding has also increased. Moreover, as farm size has increased the share in outstanding loan of large loan size has also increased showing the fact the larger loan has been dispensed to large farmers in spite of their low percentage in total farmers.

The extent of indebtedness measured through the average amount of debt shows that the AOD was RS. 12585. It was more in agriculturally developed states and less in underdeveloped regions. This reveals the fact that with agricultural development the amount of debt has direct relation. Further, the AOD of according to sources presents a startling result for north-eastern region where the large amount was borrowed from informal sources. Among social groups others and OBC have succeeded in getting large amount and among different farm sizes large farmers had received larger amount from institutional sources and it decreased with decreasing in farm sizes. The landless and marginal farmers were meeting their credit requirement by taking larger amount from informal market.

Lastly, the distribution of farmer households borrowing for different purposes suggest that the major share of the farmer had been borrowing loans for productive purpose such as capital and current expenditure in farm business. A considerable share of borrowers was also borrowing for other non-farm businesses the increasing significance of diversification in economic activities to support the livelihood. Further, the borrowing for farming activities does not depend on education very much. Nonetheless, the loans borrowed for non-productive purpose was reduced with increasing level of education. Moreover, the borrowing from institutional sources for farming activities reduces the dependence on informal sources and this was especially true for large loan size required for capital expenditure in farming.

CHAPTER 4

DETERMINANTS AT HOUSEHOLD LEVEL IN ACCESSING INSTITUTIONAL CREDIT

4.1 Introduction

In the previous chapter we got a thorough idea of the indebtedness of farmer households and their accessibility to institutional credit market. In this chapter an attempt has been made to explain the household level characteristics which affect a farmer's decision to approach credit market of different natures. The explanatory variables taken here are related with the socio-economic traits of farmer households. For, the purpose a logit model has been used to identify the factors which determine the choice of rural credit outlets. The data used for the estimation purpose are the household level data of 59th Round, Situation Assessment Survey of Farmers, conducted by the NSSO, Ministry of Statistics and Programme Implementation, Government of India.

The framing of the chapter is as follows: the first section gives a brief introduction about the work to be done in this chapter. In the second section, the methodology, functional form as well as the formulation of mode has been discussed. The next section elaborates empirical results of the parameters considered for the model formulation. Third and last section discusses the importance of education on the probability of selecting formal credit market for borrowing loans.

4.2 Methodology

The factors which are supposed to influence the farmer's choice of credit source include age of the farmer who is also the head of the household, sex, education of the head of the household, household size, operational land holding, household type, social group, marital status, off-farm income, and association with farmer's organization and self-help groups, etc. The following logistic regression model has been used.

The Function

POICS = f (AHHH, SHHH, HHS, OLHS, SG, EHHH, HHT, NFI,)

Where POICS stands for Probability of Opting Institutional Credit Source,

AHHH stands for Age of the Household Head,

SHHH stands for Sex of the Household Head,

HHS stands for the Household size,

OLHS stands for the Operational Land Holding Size,

SG stands for Social Category of the Head of the Household,

EHHH stands for Education of the Head of Household,

HHT stands for Household Type, and

NFI stands for Non-farm Income;

The Logit Model:

$$\Pr(Y = 1|X_1, X_2, \ldots X_k) = F(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k)$$

$$\Pr(Y = 1|X_1, X_2, \ldots X_k) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k)}}$$

$$\Pr(Y = 1|X_1, X_2, \ldots X_k) = \frac{1}{1 + \left\{\frac{1}{e^{(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k)}}\right\}}$$

Where Pr indicates probability which is nothing but the conditional expectation of Y_i, given X_i, E(Y|X), also called conditional probability that the event will occur. Y is dependent variable indicates the choice of the credit outlet, X_is are explanatory variables which influence a farmer household's decision to access formal or informal credit sources and β_is are their respective coefficients. Further, it assumes the non-linear relationship

between Pr and X.[10] Moreover, the probability Pr must lie between 0 and 1, that is, if the event occurs it gets value 1 and if it doesn't have value 0. The dependent variable is dichotomous considering a value of 1 in case of choice outlet is 'formal institution', and otherwise 0.

$$L_i = \left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 AHHH + \beta_2 SHHH + \beta_3 HHS + \beta_4 OLHS + \beta_5 SG + \beta_6 EHHH + \beta_7 HHT + \beta_8 NFI + u_i$$

Where, L_i is logit which is a linear transformation of the above mentioned non-linear probability equation and $\left(\frac{P_i}{1-P_i}\right)$ is odds ratio. In common parlance, probability and odds ratio are used interchangeably. However, in statistics, they are somehow different. The odds ratio of happening of an event is defined as the ratio of the probability of occurrence to that of non-occurrence of the same. When the odds ratio is equal to one, the probability of the event happening is equal to the probability of the event not happening. When the odds are greater than one, the probability of the event happening is higher than the probability of the event not happening, and when the odds are less than one, the probability of the event happening is less than the probability of the event not happening. Now, logit is nothing but the natural log of odds ratio. It makes the probability equation linear not only in X, but also in the parameters. So, the coefficients in the output of the logistic regression are given in units of log of odds. Therefore, the coefficients indicate the amount of change expected in the log-odds when there is a one unit change in the predictor variable with all of the other variables in the model held constant.

Further, if the coefficient is positive, it means that as the value of the explanatory variable increases, the log-odds that the predicted variable equals 1 (that is, the event of interest happens) increases. On the other hand, if the coefficient is negative, the odds that the predicted variable equals 1 decreases as the value of X increases (Gujarati, 2007).

[10] One which approaches zero at slower and slower rates as X gets small and approaches one at slower and slower rates as X gets very large.

Hypothesis

H_0 : βs=0, both individually and/or collectively.

H_1 : βs≠0, both individually and/or collectively.

Where, βis stand for slope coefficient of the corresponding X_is assuming other variables as constant, which also explains the marginal impact of independent variable on dependent variable. Individually the βs will be tested by using t-test whereas collectively they will be checked by F-test.

4.3 Empirical Results

Under the hypothesis assumed here, for the chances of getting loans from formal credit sources the expected sign of the age of the farmer, sex, education of the head of the household, household size, operational land holding size, household type, social group, marital status, off-farm income, and association with farmer's organization and self-help groups would be positive.

The results of the logit model have been given in the Table 4.1. Before having a glance over the results and their interpretation, it would be constructive to have a primary idea of logit regression. It should be noted that in binary regression models, goodness of fit is of secondary importance11, what matters is the expected signs of the regression coefficients and their statistical significance. To test the null hypothesis that all the slope coefficients are simultaneously equal to zero, the equivalent of the *F* test in the linear regression model is the likelihood ratio (LR) statistic. Given the null hypothesis, the LR statistic follows the χ^2 distribution with degrees of freedom equal to the number of explanatory variables used in the model.

11In logit regression R-square is called pseudo R-squared. Logistic regression does not have an equivalent to the R-squared that is found in OLS regression; however, many people have tried to come up with one. There are a wide variety of pseudo-R-square statistics. Because this statistic does not mean what R-square means in OLS regression which explains the proportion of variance explained by the predictors, one should be very cautious while interpreting this statistic.

Further, in categorical logit regression where some independent variables are categorical in nature, one of the categories has been assumed as reference.[12] Like, in the case of social group those farmer households who are ST have been considered as base. Similarly, in education level illiterates have been made as reference. And, in the case of household type, self-employed in non-agriculture has been kept as reference. The point to be mentioned here is that the reference group has been considered only in case of variables which are categorical in nature.

Table 4.1: The Logit Analysis of the Socio-Economic Determinants of the Farmers Choice to Formal Credit Sources.

Reference Category	Explanatory Variables	Coefficient	Std. Err.	Z
1	2	3	4	5
	Age of the Head of the Household (yrs)	0.019925	0.000026	761.03
	Sex of the Head of the Household, Male =1, otherwise =0	0.125694	0.001310	95.92
	Household Size	-0.013153	0.000135	-97.14
	Operational Land Holding Size (ha)	0.146917	0.000456	322.32
ST	**Social Group**			
	SC	-0.272827	0.001263	-215.95
	OBC	-0.298232	0.001109	-268.91
	Others	-0.006283	0.001181	-5.32
Illiterates	**Education Level**			
	Upto Primary	0.426817	0.000767	556.19
	Secondary	0.699209	0.000900	776.7
	Higher Secondary or Certificate/Diploma	0.911627	0.001906	478.41
	Graduation/ Post Graduation	1.187044	0.002350	505.21
Self-employed in Non-agriculture	**Household Type**			
	Agricultural Labour	0.023743	0.001288	18.44
	Other Labour	-0.132107	0.001663	-79.43
	Self- employed in Agriculture	0.329851	0.001446	228.09
	Others	0.016545	0.001845	8.97
	Non-farm Income	0.008703	0.001131	7.69
	Constant	-1.621947	0.002487	-652.05
	Waldchi2(16)	2763918		
	Prob>chi2	0.000000		
	Log-likelihood	-28071722		
	Pseudo R2	0.061400		

Source: Calculated from NSSO 59th Round, Situation Assessment Survey of Farmers, 2003.

Now, the interpretation of the results is as follows: First, the positive sign signifies the proportional relationship whereas, negative sign shows the inverse relationship between

[12] The value of coefficient associated with reference category is given by the value of the constant term.

log-odds and explanatory variables. Second all explanatory variables are statistically highly significant at 1 per cent level of significance.

Further, the positive coefficient of the variable age of the head of the household supports the hypothesis that there is a direct relationship between probability of getting loans from formal credit market and age of the decision maker. It supports the argument put forward by Kumar et. al. (2007) that age of the decision maker, who is generally head of the household, influences the choice of credit outlets as that acts as a proxy of the experience in farming activities. They further argue that with age people mature and so avoid going for borrowing from non-institutional sources. Experience may be here in the sense of new modern techniques of farming, like use of high yielding seeds, proper usage of fertilizer required depending on the soil type, utilisation of pesticides, investment in productive assets used in farming activity which increases the efficiency of the farmer and as a result the productivity. But, one point should be mentioned here is that it is the relatively second or third generations which are adopting or able to learn the modern techniques of farming.

Second, it was hypothesized that female headed households were to have less access to formal credit than male-headed households. Here, again the positive coefficient of the sex of the household head strongly supports the hypothesis. But, the important point to be noted is the gender bias existing in the society. It explains that still female has comparatively low participation in the decision making not only in social decision like, marriages but even in economic matters which influences the future economic status of the whole household.

Third, it was hypothesized that the bigger household size has positive impact on the choice of accessing formal credit source. It has been argued by many economists that in a bigger household can afford to spare a family member to pursue the loan disbursement procedures from the institutional sources which can be true to some extent. But, the negative sign of the coefficient which is also statistically significant does not support this hypothesis.

Fourth, the larger the farm size the greater will be the probability of the taking loans from formal credit market. It has been argued that larger farm size enhances the repayment capacity which facilitates credit disbursement from the institutional source. The other reason could be that the large farmers may have greater immovable assets which can be put as collateral against loans. Moreover, close association of large farmers with bank officials also raises their choice to get loans from formal credit source.

Fifth is social group. The results showed above reveals the vulnerability of the weaker section in getting credit from institutional sources. It has been observed that households belonging to scheduled tribes, scheduled castes and other backward classes had low preference for institutional source than the general caste households. But, it must be mentioned here that the low preference of the weaker sections may be due to their requirement of loans of small amount which can easily be borrowed from informal credit market rather than getting delayed loan after following so much procedural complications of formal credit system.

Sixth, the education level was hypothesized to influence the choice of the formal credit outlets positively, i.e., higher the level of education higher is the probability of accessing loans from the formal credit sources. It is interesting to note that the positive coefficient of every level of education supports the hypothesis. Further, the increasing value of the coefficient from 0.42 to 1.18 as the level of education has increased from primary to secondary to higher secondary and further to graduation or post graduation, enabled the farmer to get familiar with all the transactional procedures associated with taking loans from formal credit market. Education brings awareness and cautions the farmer about the usury nature of money lender. Again, the negative value of the constant term is the coefficient of illiterates which strongly reveals the vulnerability of illiterates.

Seventh, a mixed result for the variable household type exhibits the variation in the extent of influence on the decision of taking loans from the credit sources. The negative value of the constant term which signifies the probability of choosing formal credit source of self-employed in non-agriculture is indirectly related. This states that they have less

preference for accessing formal credit market. One more household type which also has negative coefficient is agricultural labour. Further, the negative value also shows their dependency on non-institutional sources to meet their credit requirements. The low preference of these two household types is because of their low size of credit requirements, or the nature of work and purpose for which credit is required. The only household types which have positive coefficient are 'others' and 'self-employed in agriculture'. The important point to be mentioned here is that the high magnitude of the coefficient of self-employed in agriculture explains the higher probability of taking loans from institutional sources for their agricultural activities. The high preference for institutional credit of self-employed in agriculture is due to the concessional interest rates at which loan is available coupled with their ability to mortgage some assets as collateral.

And lastly, the positive coefficient of non-farm income reveals an important finding that as farmers are bringing diversification in their economic activities their chances to borrow from formal credit market increases. This explains another important point that the existence of other sources of income increases the timely repayment and consequently reduces the risk of being default and increases the creditworthiness of the borrowers.

To make a comparison between the effects of variables on the probability of accessing formal credit market borrowing different amounts of loan an another logit estimation has been evaluated separately for amount greater than equal to Rs. 1000, Rs. 2500, Rs. 5000 and Rs. 10000 taking same socio-economic characteristics as taken in the earlier case. In every case the value for dependent variable has been considered as 1 if the farmer is taking loan from formal credit market of amount more than or equal to the amount mentioned above. On the other hand, all borrowers of even having access to formal credit market but less than the amount mentioned above apart from those who had taken loan from informal credit market has been considered 0 in every case separately.

The declining magnitude of the coefficient of the age group, sex shows that the influence of age, sex group has been weakening as the loan size has increased from Rs. 300 to Rs. 10000 or more. It shows the weakening of influence of these two personal demographic characteristics of a farmer household. The only exception in the pattern is visible between

Rs. 5000 and Rs. 10000 in which the coefficient has become stronger in the case of sex only but that again declined with a rapid pace. This explains the fact the male heads are still playing dominant role in decision making but the personal characteristics does not play any major role in the decision making.

Table 4.2: The Logit Analysis of the Socio-Economic Determinants of the Farmers Choice to Formal Credit Sources for Amount more than and equal to Rs. 10000.

Reference Category	Explanatory Variables	Coefficient	Std. Err.	z
1	2	3	4	5
	Age of the Head of the Household(yrs)	0.015048	0.0000296	509.05
	Sex of the Head of the Household, Male =1, otherwise =0	0.0914389	0.0016146	56.63
	Household Size	0.013071	0.0001479	88.39
	Operational Land Holding Size (ha)	0.1799207	0.0004155	432.98
ST	Social Group	0.0881102	0.001639	53.76
	SC	0.3260979	0.0013885	234.86
	OBC	0.6280765	0.0014275	439.98
	Others			
Illiterates	Education Level			
	Upto Primary	0.4167614	0.0009123	456.82
	Secondary	0.8799165	0.0009995	880.34
	Higher Secondary or Certificate/Diploma	0.8943142	0.0019539	457.71
	Graduation/ Post Graduation	1.193876	0.0022552	529.39
Self-employed in Non-agriculture	Household Type			
	Agricultural Labour	-0.3679751	0.0016063	-229.09
	Other Labour	-0.2941257	0.0021018	-139.94
	Self- employed in Agriculture	0.2419166	0.0017058	141.82
	Others	0.3367477	0.0020173	166.93
	Non-farm Income	-0.0204046	0.0014147	-14.42
	Constant	-3.003317	0.0029999	-1001.15
	Waldchi2(16)	3446258		
	Prob>chi2	0		
	Log pseudo likelihood	-22543123		
	Pseudo R2	0.0993		
	No. of Observations	43236698		

Source: Calculated from NSSO 59th Round, Situation Assessment Survey of Farmers, 2003.

On the other hand, the role of household size and land holding has increased compared as the loan size has increased. The coefficient of household size has become stronger than earlier and affecting the farmer decision in choosing formal credit market more as the loan size increases. It may be because of the information gathered by the other members

of the household about the procedures of how to take loan from formal institutions easily at low rate of interest. The other reason could be that the other members are educated who are helping in decision making. The influence of operational land holding has also become stronger as evident from the increase in the magnitude of its coefficient.

The significant change has occurred in the case of social groups. For loan amount less than Rs. 2500 the coefficients of all social groups but 'others' have negative sign reflects the biasness of the formal credit market to farmers belonging to disadvantaged class of the society for loan amount of small sizes. In other words, for farmers belonging to higher caste have accessibility to formal credit market even for small loan size. It also explains the truth that caste plays a dominant role in decision making and developing patronage. But as the loan size has increased to more than Rs. 2500 the preference of farmers of even disadvantage groups for taking loans is of formal credit market. The coefficient of all social groups has now become positive shows the direct relation with decision to choose formal credit market. The relative differences in the magnitude explains the fact that as the social status in the society determined with the social caste increases, the influence in decision making also increases. Further, the role of social group is becoming prominent as one move from ST to SC to OBC to others. The highly significant association of social group with decision process reveals the fact that there must have some kind of personal relationship with banks personnel which promotes the farmer to go for formal credit market.

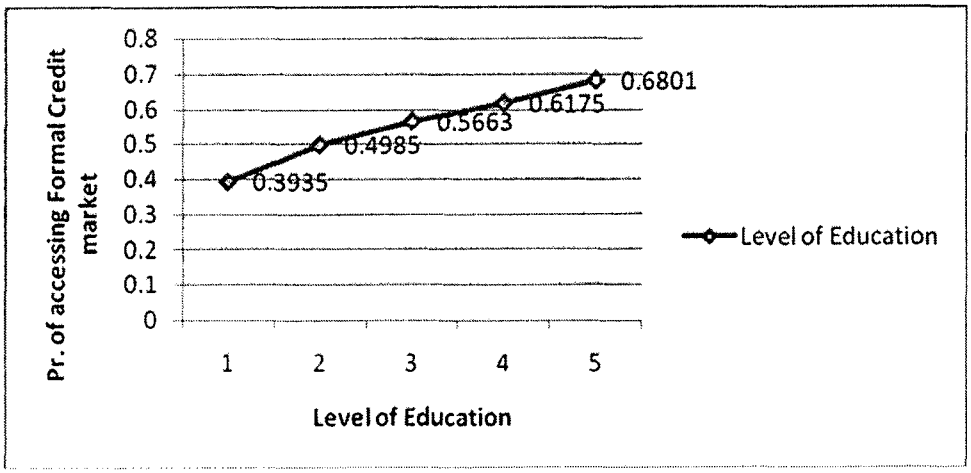
So far the role of education is concerned, its influence has increased at all levels as the loan size has increased. The coefficient of education up to primary level has somehow remained same but as education level has increased to secondary level, the value of coefficient has increased steadily shows the greater role that education plays in taking loans of larger size. It may be due to their familiarity with the procedures of taking loans from formal credit market which requires minimum secondary level of education. But the further increment in the level of education has low influence on the choice of farmers' decision to take loan from formal credit market. This shows that those who are highly

educated must have somehow saving capacity and the idea of getting higher returns by investing in productive activities so that it can be used for future purposes.

In the case of household types, the influence of first two categories, that is, agricultural labour and other labour has declined steadily as loan size has increased. This reflects their reluctance to borrow from formal credit market because of the smaller loan size they required to carry on their activities. As for the self-employed in agriculture is concerned, his influence on taking loans from formal credit market is limited to loan size less than Rs. 10000. On the other hand, the significant increment in the coefficient of others household type explains the fact that diversification in the economic activity demand investment of relatively large size and for that the first preference of the farmers would have been formal credit market and they prominently prefer formal credit market for loan size greater than RS. 5000.

And lastly, the value of the coefficient, non-farm income exhibits a cyclic pattern reflecting the inconsistent influence on farmer's decision making to access formal credit market for borrowing loans of larger sizes. It may be due to the limited risk taking capacity of a farmer and consequently their inability to repay the loans due to failure of crops. This also reflects another important point that with the default they will not be able to get the loan for the next time if required. The major change in the sign of non-farm income from positive to negative takes place in two cases; first as loan size has increased from Rs.1000 to Rs. 2500 and second in the case of loan size greater than Rs. 10000. Moreover, the influence of non-farm income on decision making may be because of the diversification being brought out in the agriculture activities of the farmer as well as to non-agriculture activities.

Figure 4.1: Influence of Education on the Probability of Accessing Formal Credit Market



4.4 INFLUENCE OF EDUCATION

It has been already established above that the probability of taking loans from institutional credit market and level of education of the head of the household is positively associated. Figure 4.1 clearly shows that as the level of education increases from illiterates to primary the probability increases from 39 per cent to 49.8 per cent. Again, increase in the level of education to secondary level increases the probability by 7 per cent to reach at a level of 56.6 per cent. It further increases to 61.7 per cent as one completes the secondary level of education and enters into higher secondary. The increment in the marginal probability of accessing institutional credit market is less than 6 per cent as education level reaches higher level. i.e., graduation or post graduation. It implies that there has been a significant increment in the probability only in the initial level of education. This significance may be due to the fact that level of education upto primary enables the farmers to understand the basic arithmetic. Further, it should be mentioned that this is the level of education which makes people only literates such as, they can write their name, and for farmers the most important thing to know is familiarity with numbers.

4.5 SUMMARY AND CONCLUSION

The above analysis examining the influence of socio-economic characteristics of farmers finds that there is a positive influence of personal traits of farmers such as age and sex of the head of the household on his decision to borrow loan from formal credit market. The household size also affects the decision as loan size increases. The size of the operational land holding has greater influence on the decision to access credit market. Further, the role of social group also plays the dominant role as loan amount increases. The occupation of the household also has positive impact on the decision process. The level of education of the head of the household influences his choice to select formal credit market by reducing the unawareness about the procedures to be follower to get loans from market. And lastly, the increasing influence of non-farm income signifies the economic diversification of farmers to reduce their risk of being defaulter.

CHAPTER 5

SUMMARY AND CONCLUSION

Economic development is a process that allocates resources and transfers all incomes to all sectors of the economy. It has been elaborated through establishing a linkage, although not direct to agriculture output, between credit and productivity. It has been felt that there has been a greater need of credit to finance the inputs required for agriculture production. Although, the importance of credit was felt relatively less for production purpose during the period of traditional agriculture defined as lower capital-labour ratio and low productivity but by the time, green revolution had brought a revolutionary change in the productivity and output to make India self-reliant through the application of technological transformation. The transition from tradition to modern agriculture has brought the role of credit in the fore front.

The prime reason for the need of agricultural credit was considered because of non-simultaneity of outlays and income receipts. Further, the adoption of new technology or diversification in agricultural production is required investment today with the payoffs coming in later. Moreover, the seasonality and uncertainty associated with agriculture due to monsoon failure or crop failure due to attack of pests and the uncertain demand conditions on the other hand needs credit to prevent the transmission of such fluctuations to consumption. Recognizing, the increasing demand for agriculture credit in large size for investment in agriculture pave the way for the establishment of banking institutions. And with the nationalization of banks in 1969 began a new chapter in the history of financial sector and especially for agriculture credit.

The analysis made using the data from RBI on various indicators of banking development in general has showed a structural deterioration in the banking system in 1990s. The pre-reform period after banks nationalization, was favorable for the rural and semi-urban areas but the economic reforms came as a catastrophe for them. The closer of bank branches in rural and semi-urban areas and the paradigm shift in the bank's policy to

focus on high street banking has undermined the growth of rural credit and especially of agriculture credit. Moreover, the closures of banks branches were made giving the reason of non-viability of banking in those areas but the findings do not support the reason given by banking system. In the post-reform period there has been a structural shift in the economy as a whole, becomes clear through sectoral analysis. Further, the studies show that the cost of reforms has been paid by the underdeveloped regions for the rapid growth of urban and metropolitan areas. Since the major share of population in rural and semi-urban areas are linked to agriculture as principal occupation, it suffered most due to the deterioration in credit disbursement. On the other hand, the diversification in economic activities and shift to non-farm activities especially in semi-urban areas has also contributed to the decelerating growth of agricultural credit. This has been clear from the credit advances to agriculture according to operational land holding size classification. But the second phase of economic reforms came as a silver line for the agriculture sector. It has brought the attention of the government and banking system towards the deteriorating condition of agriculture credit and enforced to realize the problem facing Indian agriculture by reducing its share in agriculture GDP. And finally it has reversed the traditional trend of falling share of agriculture credit. Notwithstanding, all other reasons, the change in political regime has also influenced it greatly. Given the macro level performance of agriculture credit the next chapter has looked at the indebtedness of farmers in rural India during 2002-03.

The chapter began with the examination of relative concentration of rural households and farmer households across different regions and states which shows a great variation depending on the area available in general and especially the availability of cultivable land. The availability of irrigation system has also attracted the farmers to concentrate in a particular region more. Further, the adoption of modern techniques in certain states has made the agriculture sustainable in those states. Although, it was the southern region where the rural households were heavily concentrated but, in the case of farmer households it was central region.

The various facets of indebtedness which are responsible for the prevalence of indebtedness have showed that among farmer households in rural India the incidence of indebtedness was 48 per cent. Among regions it was highest in the southern region. Further, Uttar Pradesh was on the top in terms of share of rural households, farmer households, and indebted farmer households at all-India level among the states. Moreover, the indebtedness among different social groups shows a wide variation across the states and within states among social groups. On the other hand, the incidence of indebtedness among the farmers based on their principal source of income shows that 57 per cent cultivators were indebted followed by others(35.7%), other agricultural activity(4%) and farmers doing other than cultivation (3%). Further, the indebtedness across farm sizes shows that with the increase in farm size indebtedness has increased from 43.9 per cent among landless to 64.6 per cent among large. The regional level figure exhibits variation in indebtedness among different sizes. Further, it has been found that land titles do have an effect on the indebtedness of farmer households across different farm sizes. It was found highest among pure tenants followed by owner-cum-tenants and then pure owners. The regional distribution is relatively more diversified so far as land holdings are concerned across all farm size. It reflects the fact that owning land is a prior condition for being relatively less indebted. And it demands another reforms in land policy. There is also a need to augment investment in irrigation facility to reduce the uncertainty associated with agriculture production that will certainly help in reducing the indebtedness of farmers. There is also a need to improve the repaying capacity among the farmers in spite of repaying ethics. And the willful default should be curbed stringently. Because that makes other landless and marginal's to suffer and pay the cost for which they are not responsible.

The cross classification of indebtedness among different social groups across different farm sizes has showed that the indebtedness was high among large farm size across all social groups. And as land size decreases the indebtedness has decreased among all social groups. With level of education indebtedness is decreasing across all social groups signifying the role that education plays in inducing the thrift of saving into the farmer's behavior. The incidence across different farm sizes has also decreased as education level

has increased. This suggests that education makes farmers enable to increase their income level by adopting modern techniques of farming and as a result that reduces indebtedness. The figures regarding farm size and loan size exhibits a direct relationship. The large farm size were taking loans of large sizes more whereas small farm sizes were taking loans of small size in greater quantity. It demands a next round of land consolidation that will help in adopting modern farm techniques which are not viable for small lands to implement. It will increase the yield and income level of the farmers. The land consolidation can be done through cooperative farming recognizing the joint responsibility of every farmer.

Looking at the accessibility of farmer households to institutional credit market reveals the fact that still more than half of the indebted farmer households were dependent on informal market for meeting their credit requirements. This reflects the prevalence of money-lenders and other agents to cater the demand for credit. There has also been found a great variation in the accessibility to formal credit market across states. The extent of reliance on informal credit market comes out to be more among different social groups. Further, the access to institutional credit market among different farm sizes has showed a direct relationship with the farm size. The land titles also have an effect on the access to formal credit market.

The cross classification among social groups and farm sizes shows the same relation between farm size and accessibility to institutional credit market more clearly. Moreover, with the rising level of education increases the accessibility to formal credit market by reducing the level of transaction costs associated with information and procedures to be followed to get loans from formal credit market. The same is true for different farm sizes also. Increasing level of education further increase the chances of large farmers to get access to formal credit market and it also opens the way for landless and marginal ones. Therefore, the agriculture extension should be extended to remote rural areas to aware farmers with the know-how techniques of using modern inputs and investment in that. Further, how they can easily get the loans from formal credit market to invest in farming should also be facilitated by banking system.

The loan outstanding of institutional type was around 58.9 per cent to total loan outstanding. This makes sense when looked along with the share of indebted farmers and among them the share of those taking loans from institutional sources. Further, among different social groups the share in outstanding loans from different sources does not show the same pattern across states except that the larger share was given to others. So far the farmers of different farm sizes is concerned landless had received 23.86 per cent of loan outstanding of formal kind. And as the farm size increased the share in loan outstanding has also increased. Moreover, as farm size has increased the share in outstanding loan of large loan size has also increased showing the fact the larger loan has been dispensed to large farmers in spite of their low percentage in total farmers. It demands the attention of the banking sector to augment the loan of small sizes to smoothen the consumption otherwise they will be trapped into the vicious circle of poverty by adopting a new system which can reduce the transaction costs of the banks.

The extent of indebtedness measured through the average amount of debt shows that the average amount of debt was RS. 12585. It was more in agriculturally developed states and less in underdeveloped regions. This reveals the fact that with agricultural development the amount of debt has direct relation. Further, the average amount of loan according to sources presents a startling result for north-eastern region where the large amount was borrowed from informal sources. Among social groups, others and OBC have succeeded in getting large amount. On the same line, among different farm sizes large farmers had received larger amount from institutional sources and it decreased with decreasing in farm sizes. The landless and marginal farmers were meeting their credit requirement by taking larger amount from informal market. The greater dependence of landless and marginal farmers on informal agents is really a matter of concern. And institutionalizing those informal agents is not a solution because it will augment the mushrooming of such agents.

The distribution of farmer households borrowing for different purposes reflects the tendency that the major share of the farmer had been borrowing loans for productive purpose such as capital and current expenditure in farm business. A considerable share of

borrowers was also borrowing for other non-farm business reflects the increasing significance of diversification in economic activities to support the livelihood. Nonetheless, the loans borrowed for non-productive purpose was reduced with increasing level of education. Moreover, the borrowing from institutional sources for farming activities reduces the dependence on informal sources and this was especially true for large loan size required for capital expenditure in farming. It means that education develops a sense of responsibility towards using the loans for productive purposes and thus increases the repaying capacity among the farmers.

Lastly, the analysis examining the influence of socio-economic characteristics of farmers finds that there is a positive influence of personal traits of farmers such as age and sex of the head of the household on his decision to borrow loan from formal credit market. The age acts as a proxy for the experience of the farmers which helps the farmer and the banks to lend money to them. The positive coefficient of male signifies the dominance of male in decision making. The household size also affects the decision as loan size increases. The size of the operational land holding has greater influence on the decision to access credit market. And as size of the operational holding increases loan size has also increases. Further, the role of social group also plays the dominant role as loan amount increases. It reflects the dominance of caste system in India. The occupation of the household also has positive impact on the decision process. The increasing chances of getting loans from formal credit market of self-employed in agriculture augmenting the entrepreneurial ship among farmers. The level of education of the head of the household influences his choice to select formal credit market by reducing the unawareness about the procedures to be followed to get loans from market. And lastly, the increasing influence of non-farm income signifies the economic diversification of farmers to reduce their risk of being defaulter. Therefore, the attention should be given in promoting the non-farm economic activities in supplementing the incomes of the farmers and increasing the savings behavior that will reduce the indebtedness of the farmers and the investment at the macro level.

Appendix 2.1: C-D Ratio based on Outstanding: Rural

(Deposits/Credit in Rs. Crore & C-D ratios are in percent)

Region/State	2008			2001			1991			1981			1972		
	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Northern	**64767**	**37898**	**58.5**	**30008**	**11748**	**39.1**	**6957**	**3343**	**48.1**	**1141**	**543**	**47.6**	**126.68**	**28.54**	**22.5**
Haryana	8913	5941	66.7	3933	1648	41.9	992	667	67.2	153	123	80.4	11.77	5.83	49.5
Himachal Pradesh	10320	4051	39.3	4664	1110	23.8	975	366	37.5	135	46	34.1	20.66	1.87	9.1
J & K	7222	3363	46.6	3942	650	16.5	590	193	32.7	81	28	34.6	5.78	0.32	5.5
Punjab	20615	11126	54.0	10385	5289	50.9	2850	1254	44.0	577	201	34.8	65.82	11.06	16.8
Rajasthan	12098	10141	83.8	5716	2719	47.6	1184	781	66.0	161	130	80.7	18.97	7.86	41.4
Chandigarh	1351	403	29.8	119	39	32.8	33	11	33.3	3	2	66.7	3.68	1.6	43.5
Delhi	4249	2873	67.6	1249	291	23.3	331	72	21.8	31	13	41.9	126.68	28.54	22.5
North-Eastern	**8435**	**4627**	**54.9**	**3588**	**1197**	**33.4**	**873**	**553**	**63.3**	**110**	**42**	**38.2**	**9.34**	**2.38**	**25.5**
Arunachal Pradesh	772	185	24.0	312	59	18.9	144	41	28.5	11	1	9.1	0.95	0.04	4.2
Assam	5256	3169	60.3	2323	800	34.4	520	339	65.2	73	29	39.7	7.02	2.11	30.1
Manipur	152	188	123.7	57	46	80.7	20	20	100.0	3	2	66.7	0.14	0.05	35.7
Meghalaya	933	364	39.0	356	82	23.0	58	29	50.0	6	2	33.3	0.60	0.13	21.7
Mizoram	156	129	82.7	55	34	61.8	21	10	47.6	1	0	0.0	...	..	...
Nagaland	154	124	80.5	67	22	32.8	39	25	64.1	6	1	16.7	0.13	0	0.0
Tripura	1013	467	46.1	417	155	37.2	71	90	126.8	10	7	70.0	0.50	0.05	10.0
Eastern	**62904**	**26515**	**42.2**	**29260**	**7566**	**25.9**	**5698**	**2895**	**50.8**	**697**	**345**	**49.5**	**56.44**	**22.93**	**40.6**
Bihar	17888	6194	34.6	8991	2022	22.5	2809	1337	47.6	297	163	54.9	22.67	17.39	76.7
Jharkhand	9313	2774	29.8	4606	915	19.9	..	..	..	..	..	..	..	..	..
Orissa	11866	7809	65.8	5074	2160	42.6	761	627	82.4	94	91	96.8	5.79	0.98	16.9
Sikkim	571	377	66.0	167	33	19.8	25	5	20.0	..	..	..	..	..	..
West Bengal	23006	9279	40.3	10330	2415	23.4	2090	922	44.1	305	90	29.5	27.93	4.56	16.3
Central	**69026**	**35475**	**51.4**	**33217**	**9730**	**29.3**	**7354**	**3809**	**51.8**	**994**	**504**	**50.7**	**79.14**	**29.49**	**37.3**
Chhattisgarh	5187	2179	42.0	1982	537	27.1	..	..	..	..	..	..	..	..	..
Madhya Pradesh	11412	8411	73.7	5426	2374	43.8	1667	1147	68.8	210	136	**64.8**	14.73	5.95	40.4
Uttar Pradesh	45356	22352	49.3	23056	6263	27.2	5687	2662	46.8	784	368	**46.9**	64.41	23.54	36.5
Uttaranchal	7070	2533	35.8	2753	555	20.2	..	..	..	..	..	..	..	..	..
Western	**37774**	**22720**	**60.1**	**17658**	**8545**	**48.4**	**4189**	**2578**	**61.5**	**840**	**445**	**53.0**	**128.93**	**43.29**	**33.6**
Goa*	4022	699	17.4	2185	275	12.6	462	89	19.3	116	33	28.5	19.54	3.85	19.7
Gujarat	17287	8883	51.4	8560	3256	38.0	1973	1183	60.0	418	202	48.3	78.15	17.95	23.0
Maharashtra	16383	13134	80.2	6835	4997	73.1	1737	1298	74.7	304	209	68.8	31.09	21.38	68.8
Southern	**60518**	**55872**	**92.3**	**25695**	**17233**	**67.1**	**5639**	**5421**	**96.1**	**1171324**	**973**	**0.1**	**139.16**	**130.64**	**93.9**
Andhra Pradesh	18343	20577	112.2	8039	6220	77.4	1919	1825	95.1	324	322	99.4	21.66	30.67	141.6
Karnataka	18200	15557	85.5	7498	5136	68.5	1681	1478	87.9	337	250	74.2	55.25	54.24	98.2
Kerala	4588	3405	74.2	2299	1265	55.0	617	402	65.2	249	157	63.1	36.38	22.02	60.5
Tamil Nadu	18975	16147	85.1	7651	4560	59.6	1662	1687	101.5	253	237	93.7	25.25	22.19	87.9
All India	**303423**	**183107**	**60.3**	**139427**	**56017**	**40.2**	**31010**	**18599**	**60.0**	**4953**	**2852**	**57.6**	**539.69**	**257.27**	**47.7**

Notes: * - For 1972 & 1981, Goa includes Daman and Diu.

Source: RBI, Banking Statistics: Basic Statistical Returns, various issues

Appendix 2.2: C-D Ratio based on Outstanding: Semi-urban

(Deposits/Credit in Rs. Crore & C-D ratios are in percent)

Region/State	2008			2001			1991			1981			1972		
	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Northern	**67402**	**35530**	**52.7**	**32841**	**10139**	**30.9**	**6988**	**3044**	**43.6**	**1518**	**800**	**52.7**	**310.65**	**115.7**	**37.3**
Haryana	10663	6714	63.0	6517	2500	38.4	1332	670	50.3	371	254	68.5	81.79	46.84	57.3
Himachal Pradesh	3879	1951	50.3	2683	549	20.5	449	184	41.0	90	32	35.6	19.69	4.08	20.7
J & K	5462	2339	42.8	1130	320	28.3	224	72	32.1	38	19	50.0	6.27	0.9	14.4
Punjab	28356	14165	50.0	14203	4202	29.6	3259	1326	40.7	738	321	43.5	157.76	42.7	27.1
Rajasthan	17576	10152	57.8	7549	2475	32.8	1616	776	48.0	281	174	61.9	45.14	21.22	47.0
North-Eastern	**16092**	**6434**	**40.0**	**5258**	**1102**	**21.0**	**1191**	**490**	**41.1**	**280**	**96**	**34.3**	**66**	**20.44**	**31.0**
Arunachal Pradesh	1804	632	35.0	299	47	15.7	2	0.4	20.0	..	..	..	..	..	..
Assam	9758	3956	40.5	3432	778	22.7	801	340	42.4	177	70	39.5	40.03	14.31	35.7
Manipur	300	195	65.0	69	38	55.1	16	14	87.5	1	0	0.0	..	..	..
Meghalaya	586	226	38.6	269	34	12.6	61	13	21.3	48	7	14.6	15.54	4.87	31.3
Mizoram	195	248	127.2	48	20	41.7	82	18	22.0	9	1	11.1	0.44	0	0.0
Nagaland	2391	740	30.9	823	102	12.4	175	69	39.4	17	5	29.4	2.23	0.47	21.1
Tripura	1059	437	41.3	319	83	26.0	54	34	63.0	29	13	44.8	7.49	0.79	10.5
Eastern	**62366**	**20422**	**32.7**	**25765**	**5421**	**21.0**	**6297**	**2191**	**34.8**	**1472**	**473**	**32.1**	**359.24**	**83.36**	**23.2**
Bihar	17258	4679	27.1	7705	1506	19.5	2850	993	34.8	700	253	36.1	200.68	50.5	25.2
Jharkhand	12106	3380	27.9	4723	774	16.4	..	..	..	..	..	..	..	..	..
Orissa	14643	6452	44.1	4306	1523	35.4	734	442	60.2	141	79	56.0	21.85	10.03	45.9
Sikkim	1535	609	39.7	449	63	14.0	84	30	35.7	5	0	0.0	..	..	..
West Bengal	15949	5037	31.6	8289	1505	18.2	2585	706	27.3	619	139	22.5	135.55	22.56	16.6
Andaman & Nicobar	877	265	30.2	293	50	17.1	44	20	45.5	7	1	14.3	1.16	0.27	23.3
Central	**64738**	**31308**	**48.4**	**30365**	**9188**	**30.3**	**7179**	**3404**	**47.4**	**1367**	**636**	**46.5**	**275.69**	**89.58**	**32.5**
Chhattisgarh	5884	2495	42.4	1729	560	32.4	..	..	..	..	..	..	..	..	..
Madhya Pradesh	17653	9929	56.2	7755	2701	34.8	2120	1163	54.9	353	195	55.2	66.13	25.58	38.7
Uttar Pradesh	33091	15090	45.6	17537	4891	27.9	5059	2241	44.3	1014	441	43.5	209.56	64	30.5
Uttaranchal	8110	3793	46.8	3343	1036	31.0	..	..	..	..	..	..	..	..	..
Western	**67207**	**33037**	**49.2**	**27019**	**9209**	**34.1**	**6624**	**3212**	**48.5**	**1837**	**877**	**47.7**	**429.09**	**183.9**	**42.9**
Goa	14518	4765	32.8	5104	1389	27.2	1032	342	33.1	220	104	47.3	235.02	37.59	16.0
Gujarat	23986	11423	47.6	11414	3506	30.7	3173	1655	52.2	921	410	44.5	141.38	82.89	58.6
Maharashtra	27062	16543	61.1	9951	4238	42.6	2361	1201	50.9	696	363	52.2	52.69	63.41	120.3
Southern	**152475**	**102299**	**67.1**	**65486**	**28798**	**44.0**	**13161**	**7966**	**60.5**	**2480**	**1560**	**62.9**	**428.37**	**290.2**	**67.8**
Andhra Pradesh	31008	23334	75.3	12392	6341	51.2	3194	2109	66.0	588	396	67.3	85.53	63.88	74.7
Karnataka	20620	15028	72.9	9480	5088	53.7	1998	1376	68.9	453	299	66.0	98.67	62.28	63.1
Kerala	61840	32938	53.3	29650	10312	34.8	4929	2283	46.3	791	413	52.2	112.15	57.51	51.3
Tamil Nadu	37850	30654	81.0	13620	6962	51.1	2995	2180	72.8	641	449	70.0	123.73	100.2	81.0
All India	**430280**	**229031**	**53.2**	**186733**	**63857**	**34.2**	**41439**	**20307**	**49.0**	**8955**	**4441**	**49.6**	..	..	..

Notes: * - For 1972 & 1981, Goa includes Daman and Diu.

Source: RBI, Banking Statistics: Basic Statistical Returns, various issues

Appendix 2.3: C-D Ratio based on Outstanding: Urban

(Deposits/Credit in Rs. Crore & C-D ratios are in percent)

Region/State	2008			2001			1991			1981			1972		
	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Northern	**142569**	**94743**	**66.5**	**158615**	**117892**	**74.3**	**29506**	**16961**	**57.5**	**5653**	**4421**	**78.2**	**1093**	**596**	**54.5**
Haryana	47950	27831	58.0	9354	4101	43.8	1676	1072	64.0	162	103	63.6	25	8	31.5
Himachal Pradesh	5002	2326	46.5	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
J & K	12443	8457	68.0	5034	2905	57.7	1081	775	71.7	258	89	34.5	44	12	27.4
Punjab	31688	17812	56.2	19362	8699	44.9	3891	1930	49.6	747	360	48.2	166	76	45.4
Rajasthan	23594	16333	69.2	14090	7985	56.7	2774	1600	57.7	438	307	70.1	101	51	50.5
North-Eastern	**23950**	**8668**	**36.2**	**6621**	**2020**	**30.5**	**1364**	**565**	**41.4**	**136**	**87**	**64.0**	**21**	**15**	**71.4**
Arunachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0
Assam	16037	6025	37.6	4109	1615	39.3	878	414	47.2	123	83	67.5	19	14	73.7
Manipur	1333	482	36.2	297	81	27.3	71	44	62.0	13	4	30.8	2	1	55.6
Meghalaya	2993	908	30.3	1022	161	15.8	260	42	16.2	..	..	..	..	..	0.0
Mizoram	1024	487	47.6	286	46	16.1	..	..	..	..	..	..	..	..	0.0
Nagaland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0
Tripura	2564	767	29.9	806	117	14.5	154	65	42.2	..	..	..	..	..	0.0
Eastern	**107898**	**41185**	**38.2**	**71181**	**33547**	**47.1**	**19191**	**10472**	**54.6**	**4253**	**2685**	**63.1**	**1183**	**916**	**77.5**
Bihar	15268	3952	25.9	9810	2123	21.6	3750	1273	33.9	653	269	41.2	147	42	28.5
Jharkhand	21872	9146	41.8	6001	2666	44.4	0	0	0.0	0	0	0.0	0	0	0.0
Orissa	27368	16058	58.7	5731	2581	45.0	1276	847	66.4	214	116	54.2	36	18	50.6
Sikkim	..	..	..	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
West Bengal	43390	12029	27.7	49639	26177	52.7	14165	8352	59.0	3387	2299	67.9	1000	857	85.7
Central	**131805**	**50333**	**38.2**	**67481**	**24828**	**36.8**	**13738**	**6999**	**50.9**	**2637**	**1282**	**48.6**	**604**	**271**	**44.9**
Chhattisgarh	19920	10770	54.1	3746	1869	49.9	0	0	0.0	0	0	0.0	0	0	0.0
Madhya Pradesh	24448	10636	43.5	16053	9053	56.4	3971	2706	68.1	667	383	57.4	141	84	59.6
Uttar Pradesh	65912	25644	38.9	44463	13357	30.0	9767	4294	44.0	1970	900	45.7	463	187	40.4
Uttaranchal	21526	3282	15.2	3219	549	17.1	0	0	0.0	0	0	0.0	0	0	0.0
Western	**73450**	**32008**	**43.6**	**191507**	**159346**	**83.2**	**40871**	**29185**	**71.4**	**7648**	**6043**	**79.0**	**2105**	**1799**	**85.5**
Gujarat	33955	12014	35.4	34461	20148	58.5	6643	3970	59.8	1391	911	65.5	347	272	78.4
Maharashtra	39494	19993	50.6	157046	139197	88.6	34228	25215	73.7	6257	5132	82.0	1758	1527	86.9
Southern Region	**178026**	**157208**	**88.3**	**129240**	**98929**	**76.5**	**23451**	**21115**	**90.0**	**4470**	**3997**	**89.4**	**945**	**976**	**103.3**
Andhra Pradesh	44210	35340	79.9	33978	21868	64.4	5950	4896	82.3	1080	728	67.4	204	166	81.5
Karnataka	39100	27412	70.1	38614	22760	58.9	6098	4877	80.0	1198	943	78.7	249	240	96.4
Kerala	43491	33346	76.7	13289	7900	59.4	2240	1915	85.5	475	511	107.6	99	95	96.0
Tamil Nadu	47817	59305	124.0	42217	45996	109.0	8944	9317	104.2	1673	1789	106.9	394	375	95.1
Group of UTs	**25301**	**23787**	**94.0**	**111917**	**94607**	**84.5**	**20302**	**11694**	**57.6**	**4094**	**3588**	**87.6**	**54**	**74**	**138.0**
All India	**657699**	**384145**	**58.4**	**624545**	**436562**	**69.9**	**128119**	**85297**	**66.6**	**24798**	**18515**	**74.7**	**9715**	**7855**	**80.8**

Notes: * - For 1972 & 1981, Goa includes Daman and Diu.

Source: RBI, Banking Statistics: Basic Statistical Returns, various issues

Appendix 2.4: C-D Ratio based on Outstanding:
Metropolitan

(Deposits/Credit in Rs. Crore & C-D ratios are in percent)

Region/State	2008			2001			1991			1981			1972		
	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio	Deposits	Credit	C-D Ratio
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Northern	**468475**	**335184**	**71.5**	**221464**	**139777**		**43450**	**23349**	**53.7**	**8313**	**5764**	**69.3**	**1092.9**	**596**	**54.5**
Haryana	6946	4265	61.4	19804	8249	41.7	4001	2409	60.2	686	480	70.0	25.42	8	31.5
Himachal Pradesh	-	-	-	7347	1659	22.6	1425	550	38.6	226	78	34.5	0	0	0.0
J & K	-	-	-	10105	3874	38.3	1896	1039	54.8	376	136	36.2	43.76	12	27.4
Punjab	19451	24155	124.2	43950	18190	41.4	10000	4510	45.1	2062	882	42.8	166.36	75.6	45.4
Rajasthan	19520	23317	119.5	27355	13179	48.2	5574	3157	56.6	879	611	69.5	101	51	50.5
Chandigarh	-	-	-	7521	7277	96.8	1475	1223	82.9	290	566	195.2	53.63	74	138.0
Delhi	422558	283446	67.1	105382	87349	82.9	19079	10460	54.8	3794	3011	79.4			0.0
North-Eastern	-	-	-	**15367**	**4318**	**28.1**	**3248**	**1608**	**49.5**	**526**	**225**	**42.8**	**21**	**15**	**71.4**
Arunachal Pradesh	-	-	-	611	105	17.2	146	41	28.1	11	1	9.1	0	0	0.0
Assam	-	-	-	9864	3193	32.4	2200	1093	49.7	372	182	48.9	19	14	73.7
Manipur	-	-	-	423	165	39.0	108	78	72.2	17	6	35.3	1.8	1	55.6
Meghalaya	-	-	-	1647	276	16.8	378	84	22.2	54	9	16.7	0	0	0.0
Mizoram	-	-	-	390	100	25.6	103	28	27.2	11	1	9.1	0	0	0.0
Nagaland	-	-	-	890	124	13.9	214	94	43.9	22	6	27.3	0	0	0.0
Tripura	-	-	-	1542	355	23.0	278	190	68.3	39	20	51.3	0	0	0.0
Eastern	**126001**	**96986**	**77.0**	**126205**	**46535**	**36.9**	**31186**	**15558**	**49.9**	**6422**	**3503**	**54.5**	**1182.5**	**916**	**77.5**
Bihar	17511	4332	24.7	26506	5650	21.3	9410	3602	38.3	1650	685	41.5	147.42	42	28.5
Jharkhand	-	-	-	15330	4355	28.4	..	..	..	..	..	..	0	0	0.0
Orissa	-	-	-	15111	6265	41.5	2770	1917	69.2	448	286	63.8	35.56	18	50.6
Sikkim	-	-	-	616	96	15.6	110	36	32.7	5	0	0.0	0	0	0.0
West Bengal	108490	92654	85.4	68257	30097	44.1	18840	9980	53.0	4310	2529	58.7	999.5	857	85.7
Central	**98288**	**50677**	**51.6**	**131063**	**43746**	**33.4**	**28271**	**14212**	**50.3**	**4998**	**2422**	**48.5**	**604**	**271**	**44.9**
Chhattisgarh	-	-	-	7458	2966	39.8	..	..	..	..	..	..	0	0	0.0
Madhya Pradesh	27869	19969	71.7	29233	14129	48.3	7758	5016	64.7	1229	714	58.1	141	84	59.6
Uttar Pradesh	70419	30708	43.6	85057	24511	28.8	20513	9197	44.8	3769	1708	45.3	463	187	40.4
Uttaranchal	-	-	-	9315	2140	23.0	..	..	..	..	..	..	0	0	0.0
Western	**855093**	**828206**	**96.9**	**236184**	**177100**	**75.0**	**51684**	**34974**	**67.7**	**10325**	**7365**	**71.3**	**2105**	**1799**	**85.5**
Goa	-	-	-	7289	1664	22.8	1494	431	28.8	336	137	40.8	0	0	0.0
Gujarat	75364	67874	90.1	54436	26910	49.4	11789	6807	57.7	2731	1523	55.8	347	272	78.4
Maharashtra	779729	760332	97.5	173831	148433	85.4	38326	27714	72.3	7257	5703	78.6	1758	1527	86.9
Southern	**310688**	**309671**	**99.7**	**220421**	**144960**	**65.8**	**42550**	**34502**	**81.1**	**8122**	**6530**	**80.4**	**945**	**976**	**103.3**
Andhra Pradesh	85087	82301	96.7	54410	34429	63.3	11063	8829	79.8	1992	1445	72.5	203.6	166	81.5
Karnataka	131689	105790	80.3	55592	32984	59.3	9778	7731	79.1	1988	1492	75.1	249	240	96.4
Kerala	-	-	-	45238	19477	43.1	7786	4600	59.1	1515	1081	71.4	99	95	96.0
Tamil Nadu	93912	121580	129.5	63488	57518	90.6	13601	13184	96.9	2566	2476	96.5	394	374.5	95.1
All India	**2E+06**	**1620724**	**87.2**	**950705**	**556436**	**58.5**	**200568**	**124203**	**61.9**	**38705**	**25809**	**66.7**	**9715.4**	**7854.5**	**80.8**

Notes: * - For 1972 & 1981, Goa includes Daman and Diu.
Source: RBI, Banking Statistics: Basic Statistical Returns, various issues

Appendix 3.1: Distribution of Share of Total and Indebted Farmer Households in(per cent) at All-India and State level by Social Category-wise

Region/State	Total Farmer Households					Total Indebted Farmer Households				
	ST	SC	OBCs	Others	All Category	ST	SC	OBCs	Others	All Category
1	2	3	4	5	6	7	8	9	10	11
Northern	**12.3**	**19.2**	**33.2**	**35.3**	**100**	**10.7**	**20.3**	**33.9**	**35.1**	**100**
Haryana	0.6	21.3	30.4	47.7	100	0.5	21.8	32.6	45.1	100
Himachal	10.5	21.8	15.8	51.9	100	6.7	27.8	17.7	47.9	100
J & K	1.9	13.0	16.3	68.8	100	0.0	18.9	4.6	76.5	100
Punjab	0.4	31.5	16.2	51.8	100	0.2	26.1	15.8	57.9	100
Rajasthan	22.9	14.7	46.1	16.3	100	20.7	16.5	47.0	15.7	100
North-Eastern	**29.9**	**8.7**	**21.3**	**40.2**	**100**	**22.1**	**9.6**	**21.0**	**47.3**	**100**
Arunachal	85.9	0.0	0.4	13.7	100	48.6	0.0	0.0	51.4	100
Assam	14.1	10.4	24.7	50.9	100	7.1	10.0	21.3	61.6	100
Manipur	49.2	0.1	36.1	14.6	100	22.9	0.0	57.4	19.7	100
Meghalaya	93.1	0.1	2.5	4.3	100	92.6	0.0	2.5	4.9	100
Mizoram	99.0	0.4	0.6	0.0	100	100.0	0.0	0.0	0.0	100
Nagaland	94.7	0.0	4.6	0.6	100	97.1	2.7	0.3	0.0	100
Tripura	38.7	18.1	15.1	28.1	100	41.4	17.0	14.9	26.7	100
Eastern	**15.9**	**18.8**	**35.9**	**29.3**	**100**	**10.5**	**21.4**	**33.6**	**34.6**	**100**
Bihar	2.5	14.5	61.3	21.7	100	2.9	17.0	59.7	20.4	100
Jharkhand	39.7	10.5	41.5	8.4	100	23.9	15.6	48.0	12.5	100
Orissa	34.9	13.9	37.6	13.6	100	23.3	14.2	44.1	18.5	100
Sikkim	29.3	5.7	33.2	31.9	100	26.6	4.4	34.5	34.6	100
W B	8.2	29.7	6.7	55.3	100	5.7	29.6	7.3	57.3	100
Central	**10.5**	**21.4**	**48.9**	**19.2**	**100**	**8.7**	**22.9**	**52.5**	**15.9**	**100**
Chhattisgarh	42.2	12.6	41.5	3.7	100	30.8	16.7	49.2	3.3	100
M P	21.1	15.4	44.1	19.4	100	16.1	18.8	47.3	17.8	100
U P	1.8	24.9	54.1	19.2	100	1.8	25.7	55.7	16.8	100
Uttaranchal	3.5	24.2	6.6	65.6	100	0.0	36.3	19.0	44.7	100
Western	**19.2**	**9.1**	**33.5**	**38.2**	**100**	**14.1**	**7.9**	**35.0**	**43.0**	**100**
Gujarat	28.0	7.4	35.1	29.5	100	22.8	6.6	36.2	34.4	100
Maharashtra	14.1	10.1	32.5	43.2	100	9.3	8.6	34.4	47.7	100
Southern	**8.2**	**15.4**	**51.6**	**24.8**	**100**	**7.8**	**15.3**	**53.2**	**23.7**	**100**
Andhra	11.3	17.4	47.0	24.2	100	10.6	16.8	47.8	24.7	100
Karnataka	10.6	12.8	38.4	38.2	100	9.8	10.8	43.0	36.4	100
Kerala	2.1	4.5	49.9	43.6	100	1.6	4.5	49.6	44.3	100
Tamil Nadu	4.3	21.1	73.3	1.3	100	4.2	21.9	72.8	1.1	100
Group of UTs	**18.8**	**4.5**	**25.0**	**51.8**	**100**	**21.7**	**7.8**	**52.1**	**18.4**	**100**
All-India	**13.4**	**17.5**	**41.5**	**27.7**	**100**	**10.0**	**18.1**	**43.8**	**28.1**	**100**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Appendix 3.2: Distribution of Share of Total and Indebted Farmer Households in(per cent) at All-India and State Level By Principal Source of Income

Region/State	Total Farmer Households					Indebted Farmer Households				
	cultivation	farming other than cultivation	other agricultural activity	others	All Groups	cultivation	farming other than cultivation	other agricultural activity	others	All Groups
1	2	3	4	5	6	7	8	9	10	11
Northern	**51.11**	**4.03**	**3.19**	**41.67**	**100**	**55.41**	**3.53**	**2.95**	**38.10**	**100**
Haryana	52.94	5.02	2.44	39.60	100	59.77	3.78	2.06	34.38	100
Himachal	42.49	1.54	4.67	51.30	100	41.11	1.90	3.54	53.45	100
J & K	50.98	1.60	0.94	46.48	100	39.07	3.15	0.00	57.78	100
Punjab	45.62	2.63	4.87	46.88	100	52.62	2.01	3.99	41.38	100
Rajasthan	53.84	5.01	3.03	38.12	100	58.33	4.32	3.08	34.27	100
North-eastern	**68.07**	**1.53**	**1.74**	**28.66**	**100**	**62.89**	**2.12**	**0.61**	**34.37**	**100**
Arunachal	86.77	2.67	2.77	7.80	100	75.84	0.00	1.65	22.50	100
Assam	66.57	1.28	0.81	31.34	100	60.90	1.57	0.02	37.51	100
Manipur	67.23	4.00	2.75	26.02	100	51.43	8.19	2.65	37.73	100
Meghalaya	71.68	0.39	8.88	19.04	100	77.81	2.46	5.84	13.90	100
Mizoram	84.25	2.14	5.33	8.29	100	76.33	7.90	0.00	15.77	100
Nagaland	68.92	1.02	0.58	29.48	100	69.42	0.70	0.00	29.89	100
Tripura	65.54	2.55	1.66	30.24	100	69.99	1.09	1.74	27.18	100
Eastern	**56.58**	**2.04**	**4.56**	**36.82**	**100**	**53.16**	**1.76**	**4.67**	**40.41**	**100**
Bihar	59.22	2.12	2.95	35.71	100	51.45	1.84	3.57	43.14	100
Jharkhand	62.59	2.77	3.67	30.96	100	49.20	1.35	3.60	45.85	100
Orissa	44.46	1.21	6.07	48.25	100	51.99	1.10	4.79	42.12	100
Sikkim	61.61	2.14	0.46	35.79	100	50.84	2.78	0.00	46.38	100
West Bengal	58.82	2.16	5.67	33.35	100	55.68	2.17	5.55	36.60	100
Central	**63.31**	**2.33**	**2.75**	**31.61**	**100**	**64.92**	**2.41**	**3.01**	**29.66**	**100**
Chhattisgarh	55.11	4.17	4.19	36.52	100	59.60	3.88	2.91	33.61	100
M P	58.75	1.39	4.65	35.20	100	63.56	1.43	5.74	29.27	100
U P	66.28	2.41	1.90	29.41	100	66.37	2.64	1.80	29.19	100
Uttaranchal	63.84	1.75	1.21	33.21	100	67.76	0.89	0.00	31.34	100
Western	**59.26**	**2.33**	**3.60**	**34.80**	**100**	**62.64**	**2.03**	**3.12**	**32.22**	**100**
Gujarat	61.72	3.23	4.81	30.24	100	62.85	2.58	4.42	30.15	100
Maharashtra	57.85	1.82	2.90	37.43	100	62.53	1.72	2.41	33.34	100
Southern	**48.71**	**5.48**	**6.22**	**39.59**	**100**	**49.95**	**5.51**	**5.80**	**38.75**	**100**
Andhra	53.73	4.30	6.21	35.75	100	54.47	4.30	5.77	35.46	100
Karnataka	58.23	2.89	6.37	32.51	100	60.19	2.81	6.50	30.50	100
Kerala	16.76	11.72	9.78	61.75	100	14.47	14.17	10.11	61.25	100
Tamil Nadu	49.05	6.48	4.07	40.41	100	50.67	5.68	3.13	40.51	100
Group of UTs	**32.75**	**6.07**	**5.25**	**55.93**	**100**	**42.87**	**7.40**	**11.07**	**38.66**	**100**
All-India	**57.25**	**3.02**	**3.92**	**35.81**	**100**	**57.00**	**3.22**	**4.07**	**35.72**	**100**

Source: calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Appendix 3.3: Distribution of Total and Indebted Farmer Households in (per cent) According to Operation Land Holding Size

Region/State	Share of Total Farmer Households in (per cent)						Share of Indebted Farmer Households in (per cent)					
	Landless	Marginal	Small	Medium	Large	Total	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
Northern	**0.41**	**56.02**	**17.32**	**14.12**	**12.13**	**100**	**0.24**	**49.91**	**18.63**	**16.95**	**14.27**	**100**
Haryana	0.61	60.79	14.74	14.99	8.87	100	0.42	51.81	18.28	19.71	9.77	100
Himachal	0.05	76.91	15.55	6.33	1.17	100	0.00	76.19	15.43	6.50	1.88	100
J & K	0.00	76.75	14.79	6.71	1.75	100	0.00	72.30	14.28	10.39	3.02	100
Punjab	0.27	61.74	13.66	13.41	10.93	100	0.13	53.14	15.82	16.95	13.96	100
Rajasthan	0.51	45.04	20.29	16.69	17.47	100	0.27	42.52	20.79	17.78	18.63	100
North-Eastern	**0.12**	**67.55**	**21.97**	**9.15**	**1.20**	**100**	**0.00**	**73.79**	**19.33**	**6.51**	**0.37**	**100**
Arunachal	3.16	33.80	29.95	24.15	8.94	100	0.17	18.45	44.90	36.47	0.00	100
Assam	0.01	67.46	22.56	9.25	0.72	100	0.00	70.47	20.89	8.11	0.53	100
Manipur	0.02	77.37	21.18	0.95	0.48	100	0.00	79.24	19.45	1.12	0.19	100
Meghalaya	0.00	59.41	22.05	14.53	4.01	100	0.00	73.20	15.60	11.21	0.00	100
Mizoram	0.00	56.13	26.51	15.56	1.79	100	0.00	54.26	31.48	14.25	0.00	100
Nagaland	0.18	57.89	34.68	7.25	0.00	100	0.00	59.50	37.14	3.36	0.00	100
Tripura	0.03	93.34	6.17	0.37	0.09	100	0.00	94.67	5.33	0.00	0.00	100
Eastern	**0.22**	**80.44**	**13.45**	**4.66**	**1.22**	**100**	**0.23**	**82.40**	**12.42**	**3.86**	**1.10**	**100**
Bihar	0.27	79.17	13.62	5.29	1.65	100	0.24	85.28	10.19	2.96	1.34	100
Jharkhand	0.28	78.23	15.35	4.51	1.63	100	0.52	79.04	15.54	2.78	2.12	100
Orissa	0.18	73.77	18.17	6.39	1.47	100	0.14	70.01	20.81	7.28	1.77	100
Sikkim	0.00	76.78	16.20	6.69	0.33	100	0.00	80.37	13.77	5.79	0.07	100
West Bengal	0.18	86.75	9.60	3.02	0.46	100	0.22	88.28	8.48	2.64	0.37	100
Central	**0.44**	**63.43**	**19.89**	**11.12**	**5.12**	**100**	**0.54**	**56.79**	**21.74**	**13.24**	**7.69**	**100**
Chhattisgarh	0.15	50.37	26.46	16.97	6.06	100	0.14	44.01	30.90	17.07	7.88	100
M P	0.21	37.82	27.93	21.18	12.87	100	0.28	31.58	27.74	24.15	16.25	100
U P	0.56	73.68	16.52	6.86	2.38	100	0.72	70.27	17.51	7.69	3.81	100
Uttaranchal	0.62	88.06	7.47	3.71	0.14	100	0.00	72.90	21.23	5.87	0.00	100
Western	**0.49**	**46.98**	**23.27**	**17.84**	**11.42**	**100**	**0.40**	**38.17**	**24.04**	**21.96**	**15.43**	**100**
Gujarat	0.93	54.89	20.23	13.35	10.59	100	0.90	44.76	21.73	18.27	14.33	100
Maharashtra	0.24	42.43	25.02	20.41	11.90	100	0.12	34.58	25.30	23.96	16.03	100
Southern	**0.15**	**64.13**	**17.54**	**12.13**	**6.05**	**100**	**0.10**	**62.46**	**18.80**	**12.48**	**6.16**	**100**
Andhra	0.13	57.71	20.29	14.61	7.26	100	0.11	55.68	21.66	15.19	7.36	100
Karnataka	0.04	52.76	21.24	15.99	9.96	100	0.03	50.52	22.38	16.02	11.04	100
Kerala	0.00	87.91	8.29	3.02	0.77	100	0.00	86.83	9.17	3.33	0.67	100
Tamil Nadu	0.35	72.50	14.67	9.41	3.07	100	0.18	72.44	15.53	9.27	2.59	100
Group of UTs	**0.28**	**82.03**	**9.36**	**5.11**	**3.22**	**100**	**0.78**	**74.28**	**9.93**	**7.94**	**7.08**	**100**
All-India	**0.32**	**64.95**	**18.09**	**10.84**	**5.80**	**100**	**0.29**	**60.30**	**18.97**	**12.70**	**7.73**	**100**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Appendix 3.4: Incidence of Indebtedness of Farmer Households with type of holding: Pure Owner

Region/State	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
Northern	**56.64**	**46.92**	**55.05**	**60.38**	**57.49**	**51.39**
Haryana	59.73	47.68	59.37	69.57	54.67	53.22
Himachal	0.00	32.72	35.15	31.86	63.14	33.34
J & K	0.00	29.55	31.40	49.38	54.96	31.60
Punjab	43.99	58.71	74.97	82.04	73.64	65.58
Rajasthan	57.71	50.25	53.99	53.76	54.96	52.39
North-Eastern	**73.43**	**21.92**	**16.94**	**11.73**	**6.25**	**19.91**
Arunachal	61.67	0.68	7.98	3.46	0.00	4.95
Assam	91.84	19.52	16.39	13.39	15.68	18.37
Manipur	0.00	26.13	19.55	23.87	0.00	24.83
Meghalaya	0.00	5.00	2.75	3.28	0.00	4.08
Mizoram	0.00	22.67	26.94	21.15	0.00	23.14
Nagaland	100.00	36.50	40.16	16.98	0.00	36.48
Tripura	0.00	49.95	40.40	0.00	0.00	49.12
Eastern	**52.47**	**41.31**	**33.83**	**30.43**	**36.03**	**39.94**
Bihar	14.52	35.75	21.64	15.33	23.77	32.82
Jharkhand	0.00	21.16	21.51	12.95	27.35	20.93
Orissa	76.72	47.42	48.19	51.87	67.66	48.25
Sikkim	0.00	32.56	25.07	35.78	4.97	31.47
West Bengal	65.06	50.86	45.16	41.18	41.40	50.10
Central	**48.72**	**38.18**	**45.29**	**47.55**	**60.52**	**41.57**
Chhattisgarh	0.00	38.69	45.26	32.71	52.71	40.21
M P	57.10	42.10	51.01	57.21	63.87	50.31
U P	48.07	39.29	42.05	42.86	57.16	40.35
Uttaranchal	0.00	6.14	23.44	3.01	0.00	7.30
Western	**37.26**	**44.15**	**56.71**	**66.57**	**72.75**	**54.15**
Gujarat	40.81	43.26	57.33	70.01	68.96	52.29
Maharashtra	30.42	44.80	56.42	65.25	74.65	55.22
Southern	**57.56**	**71.46**	**76.47**	**74.17**	**72.81**	**72.65**
Andhra	72.35	80.35	86.40	84.12	81.21	82.01
Karnataka	31.42	58.93	65.41	62.33	68.13	61.69
Kerala	0.00	63.71	69.55	73.12	53.20	64.41
Tamil Nadu	49.65	74.61	75.35	74.12	64.16	74.20
Group of UTs	**87.37**	**28.56**	**31.66**	**34.32**	**73.32**	**30.86**
All-India	**49.96**	**45.79**	**50.87**	**55.51**	**63.16**	**48.61**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey,2003.

Appendix 3.5: Incidence of Indebtedness for Farmer Households with type of holding: Pure Tenant

Region/State	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
Northern	**61.04**	**60.95**	**78.63**	**86.11**	**85.27**	**71.48**
Haryana	82.09	63.93	77.33	81.72	70.42	71.85
Himachal	79.91	45.56	83.24	100.00	0.00	47.60
J & K	0.00	69.85	0.00	0.00	0.00	69.39
Punjab	53.65	69.73	86.83	95.72	96.97	80.22
Rajasthan	34.07	57.56	72.37	81.37	85.16	69.38
North-Eastern	**4.80**	**23.62**	**36.73**	**59.09**	**0.00**	**24.65**
Arunachal	0.00	4.90	39.70	86.62	0.00	23.76
Assam	4.86	20.12	41.34	54.78	0.00	22.03
Manipur	100.00	44.74	46.42	15.44	0.00	44.20
Meghalaya	0.00	4.20	1.42	0.00	0.00	3.80
Mizoram	0.00	90.41	0.00	0.00	0.00	90.41
Nagaland	0.00	25.79	0.00	0.00	0.00	25.79
Tripura	100.00	46.90	53.64	0.00	0.00	47.04
Eastern	**39.96**	**54.42**	**47.76**	**29.87**	**78.94**	**52.53**
Bihar	28.52	46.46	40.77	13.85	100.00	45.14
Jharkhand	35.55	16.86	4.78	0.00	0.00	29.55
Orissa	68.67	59.10	63.80	16.53	100.00	59.41
Sikkim	0.00	39.84	35.11	18.18	100.00	38.99
West Bengal	57.56	62.11	36.33	75.00	55.62	61.31
Central	**28.78**	**50.12**	**58.94**	**66.39**	**53.40**	**50.60**
Chhattisgarh	100.00	56.61	71.03	82.02	15.41	60.92
M P	82.52	52.41	54.61	60.05	37.64	53.14
U P	26.80	49.68	58.12	65.06	77.88	49.55
Uttaranchal	0.00	22.99	21.97	0.00	0.00	22.58
Western	**63.81**	**47.40**	**71.61**	**82.31**	**57.72**	**56.85**
Gujarat	46.04	42.15	69.14	77.22	88.20	53.12
Maharashtra	83.10	49.18	72.50	84.68	49.79	58.30
Southern	**77.64**	**81.76**	**82.82**	**91.73**	**84.24**	**82.74**
Andhra	87.22	85.68	84.33	98.83	83.57	87.00
Karnataka	68.06	55.92	79.04	67.54	82.20	65.46
Kerala	84.63	71.95	100.00	6.69	100.00	74.05
Tamil Nadu	70.14	86.13	78.58	92.85	100.00	85.19
Group of UTs	**0.00**	**28.69**	**15.89**	**99.15**	**0.00**	**31.34**
All-India	**42.26**	**55.99**	**64.98**	**78.73**	**74.75**	**57.57**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

Appendix 3.6: Incidence of Indebtedness for Farmer Households with type of holding: Owner-cum-Tenant

Region/State	Landless	Marginal	Small	Medium	Large	Total
1	2	3	4	5	6	7
Northern	**0.00**	**54.55**	**67.39**	**80.47**	**85.93**	**71.96**
Haryana	0.00	64.56	63.34	76.22	76.61	71.08
Himachal	0.00	42.91	49.00	74.12	100.00	46.78
J & K	0.00	96.08	7.71	0.00	0.00	56.01
Punjab	0.00	58.16	93.30	89.36	91.51	82.72
Rajasthan	0.00	47.12	57.77	77.15	87.63	69.80
North-Eastern	**0.00**	**26.38**	**20.27**	**47.57**	**0.00**	**25.36**
Arunachal	0.00	0.00	0.00	41.59	0.00	9.22
Assam	0.00	21.14	19.43	51.94	0.00	22.67
Manipur	0.00	48.20	37.95	44.58	0.00	44.37
Meghalaya	0.00	4.37	3.50	0.00	0.00	4.01
Mizoram	0.00	93.27	82.04	0.00	0.00	85.98
Nagaland	0.00	75.27	0.00	0.00	0.00	18.62
Tripura	0.00	47.92	49.00	0.00	0.00	48.02
Eastern	**0.00**	**54.84**	**50.33**	**58.57**	**50.65**	**54.27**
Bihar	0.00	45.78	40.73	45.14	87.50	45.38
Jharkhand	0.00	19.62	8.05	0.00	0.00	16.05
Orissa	0.00	58.19	67.87	73.81	16.08	60.46
Sikkim	0.00	33.69	7.82	21.04	0.00	31.39
West Bengal	0.00	64.20	39.02	68.13	64.50	62.42
Central	**0.00**	**46.37**	**56.77**	**66.18**	**69.42**	**52.02**
Chhattisgarh	0.00	47.79	74.84	75.31	42.92	62.04
M P	0.00	44.46	55.57	62.35	51.87	52.19
U P	0.00	47.15	54.50	64.65	82.10	51.40
Uttaranchal	0.00	9.40	60.20	82.83	0.00	22.58
Western	**0.00**	**38.87**	**58.81**	**83.46**	**70.62**	**58.04**
Gujarat	0.00	45.16	35.52	100.00	66.15	59.15
Maharashtra	0.00	36.35	62.47	78.82	71.94	57.69
Southern	**0.00**	**80.86**	**88.74**	**82.55**	**90.62**	**83.39**
Andhra	0.00	83.76	88.67	89.79	97.27	87.36
Karnataka	0.00	66.59	48.85	64.47	77.10	67.20
Kerala	0.00	70.23	96.68	75.71	100.00	74.11
Tamil Nadu	0.00	84.63	95.47	73.26	99.09	85.31
Group of UTs	**0.00**	**23.82**	**35.00**	**58.72**	**60.87**	**27.58**
All-India	**0.00**	**54.43**	**58.95**	**74.01**	**79.34**	**58.98**

Source: Calculated from Unit Level Data of NSSO 59th Round, Situation Assessment Survey, 2003.

BIBLOGRAPHY

Abate, Adinew; Reddy, Keshava; T.R, Mahesh, N, Achoth Lalith (2001); "Impact of Financial Sector Reforms on Agricultural Credit in Karnataka", *Indian Journal of Regional Science,* Vol. xxxiii, No. 2, pp. 103-112.

Awasthi, Arvind (2007); "Protection and Investment Credit of Scheduled Commercial Banks in India: Need for a Systematic Approach", *Indian Journal of Agriculture Economics*, Vol. 62, No. 3, July-Sept, pp. 314-320.

Bahduri, A. (1983); *"The Economic Structure of Backward Agriculture",* Academic Press, London.

Bhaduri, A. (1977); "On the Formation of Usurious Interest Rate in Backward Agriculture", *Cambridge Journal of Economics*, Vol. 1, No. 3.

Bhaduri, A. (1986); "A Study in Agricultural Backwardness Under Semi-Feudalism", *Economic Journal*, Vol. 83, No. 1.

Bhaduri, A. (1986); "Economic Power, Organisational Form and the Commercialisation of Backward Agriculture", Paper presented at *International Workshop on Rural Transformation in Asia*, New Delhi, 2-5 October.

Bhaduri, A. (1986); "Forced Commerce and Agrarian Growth", *World Development*, Vol. 14, No. 2.

Bharadwaj, K., (1986); "Towards a Macro Economic Framework for a Developing Country: The Indian case", *The Manchester School of Economics and Social Studies*, Vol. 48, No. 3.

Binswanger, Hans. P. and Khandker, Shahidur R. (1995); "The Impact of Rural Economy of India", *The Journal of Development Studies*, Vol. 32, No. 2, pp. 234-262.

Boyce, James (1994); "*Agrarian Impasse in Bengal*", Sage Publication, pp. 257-279.

Chatterjee, Biswajit and Kundu, Amit (1998); "Consumption Efficiency Hypothesis, Credit-Labour Inter-linkage and Moral Hazard: Issues in the Economics of Wage Policy", *The Indian Journal of Labour Economics*, Vol. 41, No. 4, pp. 835-843.

Chavan, Pallavi (2002); *"Some Features of Rural Credit in India with Special Reference to Tamil Nadu: A Study of the Period after Bank Nationalisation"*, M. Phil. Thesis, IGIDR, Mumbai.

Dadhich, C.L.,(1971); "Wilfull Default Of Cooperative Credit In Rajasthan- Some Issues", *Indian Journal of Agricultural Economics*, Vol. 26, No. 4.

Dandekar, M.V. and Wadia, F.K, (1989); "Development of Institutional Finance for Agriculture in India", *Journal of Indian School of Political Economy*, Vol. 1, No. 2, April-June, pp. 167-211

Dasgupta, Rajaram (2002); "Priority Sector Lending Yesterday, Today and Tomorrow", *EPW*, Oct 12, pp. 4239-4245,

Devi, Reena (2008); "Institutional Credit Market Reforms in Agriculture", *Third Concept*, Vol. 22, No. 254, April, pp. 43-48.

EPW Research Foundation (2001); "Structural Deterioration of Banking Development", November 24

Gadgil, M.V (1992); "Future of Institutional Agricultural Credit in India: Likely Impact of Narasimham and Khusro Committee Reports", *Indian Journal of Agriculture Economics*, Vol. 47, No. 2, April-June, pp. 255-390.

Gadgil, M.V (1994); "Formal Agricultural Credit System in India: Shape of Things to Come", *Indian Journal of Agriculture Economics*, Vol. 49, No. 3, July-Sept, pp. 446-522.

Gadgil, M.V. (1986); "Agricultural Credit in India", *Indian journal of Agricultural Economics*, Vol. 41, No. 03, pp. 238-309

Gujarati, Damodar N, Sangeetha (2007); "Basic Econometrics", 4th ed., *Tata McGraw-Hill Publishing Company Limited*, pp. 609.

Jeromi, P.D (2007); "Impact of Agricultural Trade Liberalization: Farmers' Indebtedness and Suicides in Kerala", *Indian Journal of Agricultural Economics*, Vol. 62, No. 2, pp. 159-174

Johnson, Bruce, Mellor, John F (2006); "The Role of Agriculture in Economic Development", *The American Economic Review*, pp. 566-591.

Kanda, Mohan (1997); "Agricultural Credit-Institutional Arrangements, Performance and Policy Issues", *Journal of Rural Development*, Vol. 16(1), pp. 17-38.

Kapoor, Sanjeev (2007); "Innovating Savings Product for Rural People-Lessons from Market Research", *Indian Journal of Agriculture Economics*, Vol. 62, No. 3, July-Sept, pp. 321-327.

Karmakar, K.G (1998); "Capital Formation in Agriculture and Role of Institutional Credit", *Journal of Rural Development*, Vol. 17(1), pp. 37-52.

Kumar, Anjani, Singh, Dhiraj K and Kumar, Prabhat (2007); "Performance of Rural Credit and Factors Afffecting the Choice of Credit Sources", *Indian Journal of Agriculture Economics, V*ol. 62, No. 3, July-Sept, pp. 297-312.

Kumar, Ranjana, (2005); "Constraints Facing Indian Agriculture: Need for Policy Intervention", *Indian Journal of Agricultural Economics*, Vol. 47, No. 1,Jan-March, pp. 49-57.

Kumari, R.Vijaya (2005); "An economic Analysis of Rural Indebtedness in Northern Telangana Zone of Andhra Pradesh", *Indian Journal of Agricultural Economics*, Vol. 60,

Vol. 3, July-Sept, pp. 302-308.

Lekshmi, S., Rugmini, P. and Thomas, Jesy (1998); "Characteristic of Defaulters in Agricultural Credit Use: A Micro Level analysis with reference to Kerala", *Indian Journal of Agricultural Economics"*Vol.53, No. 4, Oct-Dec, pp. 640-647.

Lele, U.J., (1981); "Cooperative and Rural Poor: A Comparative Perspective", *World Development*, Vol. 19, No. 1.

Lipton, Michael (1976); "Agricultural Finance and Rural Credit in Poor Countries", *World Development*, Vol. 4, No. 7.

Mahadev, S (2007); "No New Deal for Farm Revival", *EPW*, April 7, pp. 1277-1280.

Mohanty, Suchitra and Haque, T. (2003); "Regional Disparities in Flow of Institutional Credit in India", *Journal of Rural development*, Vol. 22, pp. 79-90, NIRD, Hyderabad

Mrutunjaya, (1999); "Agricultural Credit System-in Retrospect and Prospect", *IASSI Quarterly*, Vol. 17, No. 4, pp. 51-59.

Namboodiri, N.V. (2005); "Agricultural Credit and Indebtedness", *Indian Journal of Agricultural Economics*, Vol. 60, No. 3, July-Sept, pp. 544-560.

Narayanmoorthy, A. and Kalamkar, S.S. (2005); "Indebtedness of Farmer Households across States: Recent Trends, Status and Determinants", *Indian Journal of Agricultural Economics, V*ol. 60, No. 3, July-Sept, pp. 289-299.

Pandit, Arun; Pandey, N.K. Lal Barsati; Chandra, K.P. and Rana, Rajesh K. (2007); "Financing Agriculture: A Study of Bihar and West Bengal Potato Cultivation", *Indian Journal of Agriculture Economics, V*ol. 62, No. 3, July-Sept, pp. 340-349.

Ramachandran, V K (1980); "A Note on the Sources of Official Data on Landholdings in Tamil Nadu", Data Series No. 1, Madras Institute of Development Studies.

Ramachandran, V K; Swaminathan, Madhura (eds) (2004); *"Financial Liberalisation and Rural Credit in India"*, Tulika Books, New Delhi.

Ramakumar R (2000); "Magnitude and terms of Agricultural Tenancy in India: A Statewise Analysis of Changes in 1980s", *Indian Journal of Agriculture Economics*, Vol. 55.

Ramakumar, R. and Chavan, Pallavi (2007); "Revival of Agricultural Credit in the 2000s: An explanation", *EPW, Vol.* 42, No. 52, pp. 57-63.

Rao, C.H.H. (2003); "Reform Agenda for Agriculture", *EPW*, Vol. 38, No. 1, January 4, pp. 615-620.

Rao, C.H.H. (1970); "Farm Size and Credit Policy", *EPW*, Vol. 5, No. 52.

Rao, C.H.H. (1975); *"Technological Changes and Distribution of Gains in Indian Agriculture"*, Macmillan, New Delhi.

Rao, J.M. (1980); "Interest Rate in Backward Agriculture", *Cambridge Journal of Economics*, Vol. 4, No. 2.

Rawal, Vikas (2008); "Ownership Holdings of land in Rural India: Putting the Record Straight", *EPW*, March 8, pp. 43-47.

Ray, Debraj (2008); *"Development Economics"*, Oxford University Press.

Sahoo, Maheswar and Routray, Jayant Kumar (2006); "Implication of Land Titles on Agricultural Credit: A case study in Northeast Thailand", *Indian Journal of Regional Science*, Vol.28, No. 01, pp. 69-79.

Sahu, Gagan Bihari (2007); "Supply Analysis of Institutional Credit for Major States in India", *The Indian Journal of Agriculture Economics,* Vol. 4, Oct-Dec, pp. 664-678.

Sahu, Gagan Bihari and Rasjsekhar, D. (2005); "Banking Sector Reform and Credit Flow

to Indian Agriculture", *EPW*, Dec 31, pp. 5550-5559.

Sarap, Kailas (1987); "Transaction in Rural Credit Markets in Western Orissa, India", *The Journal of Peasant Studies", Vol.*15, No. 1, Oct 1987, pp. 83-104.

Satish, P. (2005); "Agriculture Credit: Are there Two Distinct Classes of Borrowers?" *Indian Journal of Agricultural Economics*, Vol. 60, No. 3, July-Sept.

Satish, P. (2007); "Agricultural Credit in the Post-Reform Era: A target of Systematic policy Coarctation", EPW, Vol. 42, June 30, pp. 2567-2575.

Satyasai, K.J.S. and Viswanathan, K.U. (1998); "Restructuring the Co-operative System through Integration of Short Term and Long term Structures", *Indian Journal of Agriculture Economics*, Vol. 53, No. 3, July-Sept.

Shah, Deepak, (2007); "Adequacy of Institutional Credit through Co-operatives in Maharashtra: A Region wise Analysis", *Indian Journal of Agriculture Economics, Vol.* 62, No. 3, July-Sept, pp. 328-338.

Shah, Mihir; Rao, Rangu and Vijayashankar, P.S (2007); "Rural Credit in 20th Century India: An Overview of History and Perspectives", *EPW*, Vol. 42, No. 15, April 14, pp. 1351-1364.

Sharma, H.R. (2007); "Land Distribution and Tenancy among Different Social Groups", *EPW,* Oct-13, pp. 4183-4185.

Sharma, Naresh; Dreze, Jean (1998); Tenancy in Peter Lanjouw and Nicholas (eds), "*Economic Development in Palanpur over Five Decades*", OUP, New Delhi.

Shetty, S.L. (1978); "Performance of Commercial Banks since Nationalization of Major Banks: Promises and Realities", *EPW*, Vol. 13, No. 31, 32, 33.

Shetty, S.L. (1997); "Financial Sector Reforms in India: An Evaluation", *EPW*, Vol. 12, No. 31, 32, 33

Shetty, S.L. (2002); "Structural Deterioration in the Distribution of Bank Credit in the 1990s: A Critical Review", *Institute of Applied Manpower Research*, New Delhi

Shetty, S.L. (2004); "Distributional Issues in Bank Credit, Multi-pronged Strategy for Correcting Past Neglect", *EPW*, July 17, pp. 3265-3269.

Sidhu, R.S. and Gill, S.S. (2006); "Agriculture Indebtedness in India: Some Issues", *Indian Journal of Agricultural Economics, V*ol. 61, No. 1, Jan-March, pp. 11-35.

Singh, R.K.P. and Nasir, S. (2003); "Agricultural Credit Flow in Bihar: An Economic analysis", *Indian Journal of Agriculture Economic*s, Vol. 58, No. 1, Jan- March, pp. 139-145.

Singh, Sukhpal; Kaur, Manjeet and Kingra, H.S, (2008); "Indebtedness among Farmers in Punjab", *EPW*, June 28.

Singh, Surjit and Sagar, Vidya (2004); "*The State of Indian Farmer: A Millennium Study*", Vol. 27, Academic Foundation, New Delhi.

Sudan, M. L. (1986); "Delivery system for Agriculture Credit, Farm Inputs and Services for Small and Marginal Farmers", *Indian journal of public Administration*, Vol. 32, No. 04, pp. 980-991.

Thorat, S. (1991); "Regional Dimension of Rural Credit in India", *Indian Geographical Journal,* Vol. 66, No. 2, pp. 89-97.

Thorat, Y.S.P, (2006); "Rural Credit in India: Issues and Concerns", *Indian Journal of Agricultural Economics*, Vol. 61, No. 1, Jan-March, pp. 1-10.