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### Credit Markets for Small Farms: Role for Institutional Innovations

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#### Abstract

Indian agriculture is characterized by the predominance of smallholders. This paper seeks to examine the access of small holders to agriculture credit in the context of financial sector reforms in India in the nineties. It explores the role of institutional and non institutional agencies in extending agriculture credit to the smallholder and the ground realities as revealed by recent data sets. The nineties also saw the unfolding of the largest microfinance programme in the world in India. While this was very successful in bringing micro enterprises under the credit purview, it was unable to cater to the need for agriculture credit. This paper examines the reasons for this and suggests that newer kinds of institutional innovations in the Pilot stage like, Joint Liability Groups, VDC- Farmers Club Model, SHG-Contract Farming Linkage model which seek to overcome the difficulties faced by smallholders in accessing agriculture credit are effective. They need to be upscaled and mainstreamed in order to bring about vibrancy in the rural credit market in India.

**Keywords:** Agriculture credit; Farm Size

**JEL codes:** Q1, Q15

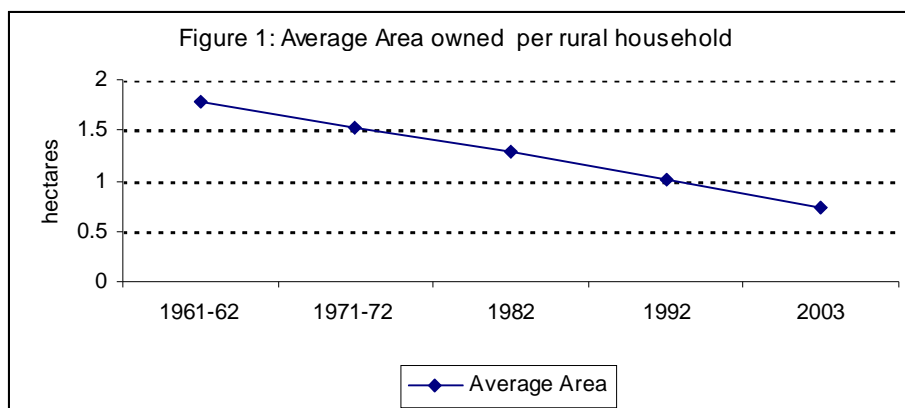
## **1 INTRODUCTION**

Indian agriculture is structurally small farm and smallholder based. Though the net cropped area in the country has remained at 135-140 million hectares since 1970-71, foodgrain production increased by 112 percent between 1970-71 and 2007-08, indicating the key role played by smallholders in attaining food self sufficiency. However, in terms of availability of credit facilities, smallholders have borne the major brunt of the banking sector reforms in the 1990s. Credit flow to smallholders has reduced along with a sharp decline in the absolute number of agricultural loan accounts.

This paper discusses the trends since the post-1991 policies in the credit markets for small farms and the implications of this policy stance for production share and productivity of small and marginal farmers. The 1990s also witnessed the rise of microfinance as an alternative to the weakened rural credit markets. In India the Self Help Group (SHG)-Bank linkage programme linking banking sector credit to informal groups grew manifold to emerge as the largest microfinance programme in the world. However existing forms of microfinance and microenterprise financing might be unsuitable to fully serve the credit needs of agriculture. Additionally, tenant farmers and oral lessees without land to serve as collateral find it difficult to access credit from mainstream banks. In order to address this, innovations in microfinance technologies like the Joint Liability Group, the Kerala model of horticulture development which identify collateral substitutes present interesting alternatives. The paper discusses the extent to which these innovations provide an alternate credit framework for smallholders.

## **2 LANDHOLDING PATTERN IN INDIA**

Rural India is characterized by the predominance of households who own less than 2 hectares of land (small farmers). In 2003, marginal holdings (less than or equal to 1 ha) and the landless comprising 80 percent of rural households owned percent of total area. The average area owned per household in rural areas has declined from 1.78 hectares in 1961-62 to 0.73 hectares in 2003 reflecting the increasing pressure of rural population on the limited land base (Figure 1).



## 2.1 Increasing Marginalisation

*Operational holdings* – land owned, leased in or otherwise possessed – distinct from *household ownership holding* -restricted to the area of land owned – assume importance from the standpoint of agriculture operations. The number of operational holdings doubled from 51 million to 101 million between 1961-62 and 2003 reflecting the pressure of rising population and the decline in cultivated area. Area operated, 133 million hectares in 1960-61 reduced to 107 million hectares (2003). Similarly, average area operated per holding declined from 2.63 hectares in 1960-61 to 1.34 hectares in 1991-92 and was 1.07 hectares in 2003 (NSSO, 2006).

Table 1: Distribution of Operational Holdings and Operated Area

Category	Percentage of Operational Holdings			Percentage of Operated Area		
	1970-71	1991-92	2003	1970-71	1991-92	2003
Marginal	45.8	62.8	71	9.2	15.6	22.6
Small	22.4	17.8	16.6	14.8	18.7	20.9
Semi-Medium	17.7	12	9.2	22.6	24.1	22.5
Medium	11.1	6.1	4.3	30.5	26.4	22.2
Large	3.1	1.3	0.8	23	15.2	11.8
All Sizes	100	100	100	100	100	100

Marginal = < 1 hectare (ha). Small = 1-2 ha. Semi medium = 2-4 ha. Medium = 4-10 ha. Large = Above 10 ha  
Source: NSSO. *Some Aspects of Operational Land Holdings in India, 2002-03*, Report No 492, Government of India, (2006)

As seen in Table 1, operational holding pattern in India has become skewed over the years. The share of marginal holdings in total operational holdings increased. The proportion of small holdings has declined in terms of operational holdings but their share in operated area has increased. The share of medium and large farmers has declined both in terms of operational holdings and area operated over three decades. However, the semi-medium category has increased their share in the operational holdings though their share in the operated area has remained constant over three decades.

## 2.2 Contribution of Smallholders to Agricultural Production

Smallholders have increased their share in both foodgrain and non-foodgrain production in India over the years. Singh, Kumar, and Woodhead (FAO, 2002) found that holdings smaller than 2.00 hectares accounted for 41 percent of total foodgrain production in 1990-91 as against 34 percent in 1980-81. Smallholders were also the major producers of vegetables and fruits contributing 51 percent of the production in 1991. Though Singh *et al.* assume equal yields across farm sizes, they found evidence of an inverse relationship between productivity and farm size. Incorporating this implies that the estimates for the proportionate contributions from the smaller holdings would further increase.

A back of the envelope calculation suggests that by 2001 smallholders were contributing around 47 percent of the cereal production and 33 percent of the pulse production in the country. Smallholders also possess the highest share of livestock in India (cattle, buffalo, goats and pigs). The Livestock Holding Survey (NSSO, 2002-03) showed that smallholders account for 70 percent of the in-milk bovine stock in 2002-03. Their share in total poultry stood at 63 percent in 2002-03. Thus, the welfare of the smallholders has powerful implications for overall agricultural production and therefore for food security.

## 3 Agriculture Credit – Share of Smallholders

Table 2: Distribution of Holdings & Agriculture Credit Flow

Category	Share in operational holdings			Share in area operated			Share in agri.credit disbursed			Share in no. of agri. accounts		
	1981-82	1991-92	2003	1981-82	1991-92	2003	1981-82	1991-92	2002-03	1981-82	1991-92	2002-03
Marginal	56	62.8	71	11.5	15.6	22.6	27.77	28.79	22.12	50.59	45.42	38.9
Small	19.3	17.8	16.6	16.6	18.7	20.9	20.66	24.87	25.52	24.61	31.43	30.17
Large	24.7	19.4	14.3	71.9	65.7	56.5	51.57	46.34	52.36	24.8	23.15	30.93
Total	100	100	101.9	100	100	100	100	100	100	100	100	100

Note: (i) Agriculture credit pertains to Scheduled Commercial Banks

(ii) Source for operational holdings/operated area as cited in Table 1.

Over the last two decades, while the share of marginal farmers in operated area and operational holdings has increased, their share in total agriculture credit has declined (Table 2). Similarly, the share of marginal farmers in the total number of accounts declined to 38.9 percent in 2002-03. A decline in the number of accounts of marginal holdings combined with an increase in the number of marginal holdings shows the ‘non-inclusive’ nature of commercial banking vis- a-vis smallholders.

Small farmers have increased their share in the area operated between 1991-92 and 2002-03 but their share in agriculture credit remained almost stagnant. With regard to land holding size 2 hectares and above, though the area operated has declined, the share in both agriculture credit flow and the number of accounts has increased during the nineties.

With increasing commercialization and diversification of Indian agriculture, it is incorrect to argue that the credit requirements of smallholders may have reduced. These trends reflect the growing apathy that commercial banks show towards lending to smallholders. This aspect of credit exclusion is discussed in detail in Section 5.

#### **4 IS AGRICULTURAL GROWTH IMPORTANT FOR POVERTY REDUCTION?**

Three-quarters of India’s poor live in rural areas and are dependent on agriculture for their livelihood. The latest official statistics on poverty indicate that the pace of reduction in absolute numbers has been slow though incidence of rural poverty declined from 37.3 to 28.3 percent between 1993-94 and 2004-05.

##### **4.1 Poverty and Land Size:**

According to Ravallion and Datt (1996), 84.5 percent of the substantial poverty reduction in India during 1951 to 1991 was due to agricultural growth. While change in yields of crops impacts poverty, wage rates are also important to poverty reduction and higher farm productivity is closely associated with higher wage rates. Similarly, food prices are important and higher farm productivity reduces food prices. Thus, farm production is crucial to reduce poverty. These findings have important implications for poverty reduction.

**Figure 2**

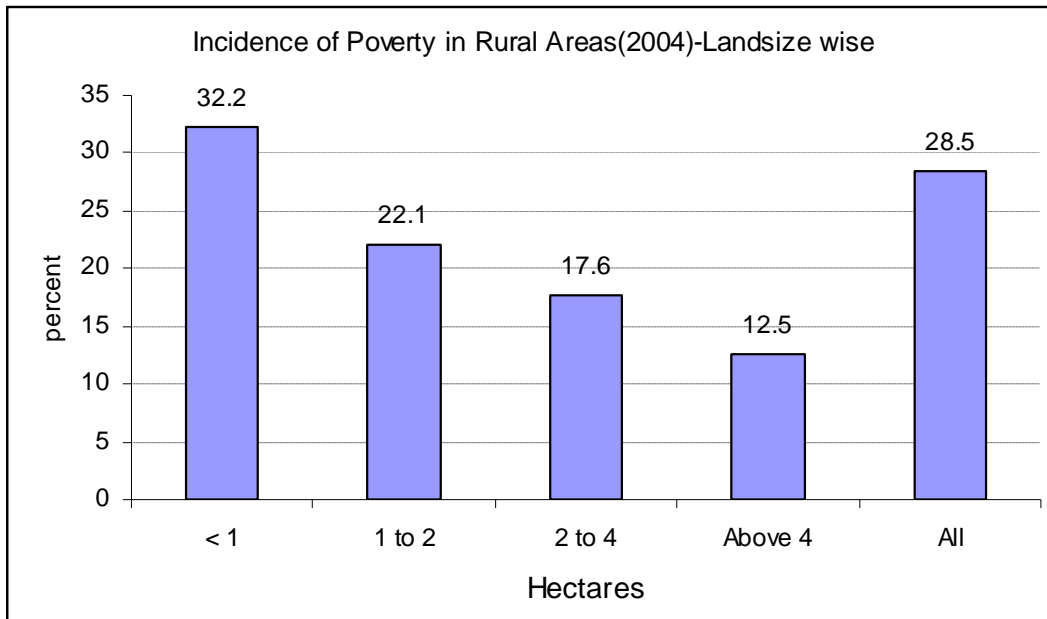


Figure 2 shows that the percentage of poor declines as land size increases. Poverty trends, especially with respect to land size, indicate ability to access agriculture credit from formal sources as land in rural areas acts as a collateral. Does the size of land one have determine access to agriculture credit from formal agencies? These trends shall be discussed in the next section.

## **5. ACCESS TO CREDIT IN RURAL INDIA - INSTITUTIONAL VERSUS NON-INSTITUTIONAL**

Institutional agencies accounted for 7.2 percent of the total cultivator debt in 1951 and increased their share substantially in subsequent decades to 66.3 percent (1991). However, the share of the institutional credit agencies in the outstanding amount of cash dues of rural households declined to 57 percent in 2002 (NSSO, All India Debt and Investment Survey, 2003). This reversal and decline in the share of credit agencies in the nineties can be attributed to the decline in the share of commercial banks. The survey also revealed that the ground lost by commercial banks has been largely gained by moneylenders; a disturbing trend which threatens to over-run the good work done by the State over various decades to reduce the influence of the non-institutional agencies. Non-institutional credit grew at a compound annual growth of 19.4 percent during the period 1991-2002 as compared to the 15.4 percent growth recorded by institutional agencies during this period.

## 5.1 Access to Credit- Farmer Households

The NSSO's first independent household survey to ascertain the status of farming and farmers in India in 2003 estimated that around 43.42 million (48.6 percent) of total farmer households in India were indebted (Table 3). The remaining- 45.91 million (51.4 percent) – were not indebted and might have been financially excluded.

Table 3: Access to Institutional Credit by Farmer Households- Regional Distribution

Regions	Total farmer households (00)	Accessing credit (%)	Farmer households accessing credit from institutional sources (00)	Col (4) as % of Col (2)
1	2	3	4	5
Northern	109460	51.4	27423	25.05
North East	34874	19.7	1448	4.15
Eastern	211140	39.9	39467	18.69
Central	271341	41.7	60814	22.41
Western	103662	53.8	45586	43.98
Southern	161578	72.7	69072	42.75
Union Territories	732	50.8	156	21.31
All India	893504	48.6	246654	27.61

Source: Adapted from Situation Assessment Survey of Farmers: Indebtedness of Farmer Households, National Sample Survey 59th Round (January-December 2003), Report No. 498(59/33/1).

Table 3 indicates that in India only 27.61 percent of the total farmer households in the country access credit from institutional sources with wide regional variations. In the northeastern region, only 4.15 percent of farmer households access credit from institutional sources. The Western and Southern regions fare better but even here, less than 50 percent of farmer households access credit from institutional sources. Excluding the western and the southern regions, reveals that less than one-fifth of total farmer households or 18.32 percent access credit from institutional agencies.

## 5.2 Distribution of Debt - Land size wise

Table 4 shows that incidence of indebtedness and the share of institutional finance in the outstanding debt for all-India increased with size of land holding. The incidence of indebtedness increased from 46 percent for smallholders to 66 percent for large farmers and the share of institutional agencies in the debt increased from 51 to 68 percent.

Table 4: Incidence, Amount and Source of Indebtedness by Size Class of Holding: 2003

Size Class of Land Possessed (Hectares)	Total Households (%)	Total Indebted Households (%)	Incidence of Indebtedness (%)	Amount Outstanding per Farmer Household (Rupees)	Loans from	
					Institutional Agencies (%)	Non Institutional Agencies (%)
< 0.01	1.4	1.3	45.3	6121	22.6	77.4
0.01 – 0.40	32.8	30.0	44.4	6545	43.3	56.7
0.41 – 1.00	31.7	29.8	45.6	8623	52.8	47.2
1.01 – 2.00	18.0	18.9	51.0	13762	57.6	42.3
<b>Up to 2.00</b>	<b>83.9</b>	<b>79.9</b>	<b>46.3</b>	<b>8870</b>	<b>51.3</b>	<b>49.7</b>
2.01 – 4.00	10.5	12.5	58.2	23456	65.1	35.0
4.01 – 10.00	4.8	6.4	65.1	42532	68.8	31.1
10.00 +	0.9	1.2	66.4	76232	67.6	32.4
All Sizes	100.0	100.0	48.6	12595	57.7	42.4

Source: NSSO, Situation Assessment Survey of Farmers, 2005.

Compared to large farmers, smallholders depend more on non-institutional agencies to meet their credit requirements. To illustrate, for large farmers, one-third of their outstanding debt was from non-institutional sources whereas for the smallholder around 50 percent of their debt was financed by non-institutional agencies at the all India level (Table 4). Thus, access to formal credit is not favourable to the smallholder.

Village-based surveys in 1993-94 in Tamil Nadu on a sample of 115 households also revealed that 85 percent of households with more than 5 acres get state-regulated loans as compared to a mere 6 percent of those with under 0.1 acre and 3 percent of landless households. Other studies also indicate *a threshold of 5 acres that enable access to formal sector credit* (B.Harriss-White and Colatei.D, 2007).

Landless households and those with marginal holdings (58 percent), obtain less than 10 percent of the credit disbursed by formal institutions. More than 50 percent of the formal credit is taken by 7 percent of households holding above 5 acres of land. The possession of a micro-holding (0.1 to 1 acre) enables households to double the size of their loans over those of the landless with equivalent incomes.

### 5.2.1 Land as collateral in rural areas- Issues

For a borrower, collateral is a means to gain access to finance, whereas for a lender, collateral is a screening mechanism to share risk and compensate for default. Land affects both the supply of, and the demand for, credit. The collateral role of land may determine the supply of credit to its owner. In an agrarian economy land is found to be the most widespread form of collateral. In the case of smallholders, land becomes a problematic collateral because- (i) they own little of it; and (ii) they are risk-averse to mortgage land as they depend on it for their livelihood. So the smallholders offer other non-land forms of collateral like commitments of future labour, crops, utensils, gold, third-party guarantees or reputation underwritten by kinship. As institutional credit institutions



discriminate against these other forms of collateral, access to credit for smallholders is reduced.

Harriss-White.B.and Colatei.D (2007) observed that in the case of formal institutions, land and gold were the two most important collaterals for cooperative and commercial banks. The mechanism was different in the case of informal sources with 25 percent of the loans being unsecured by any kind of collateral, while crops (14 percent), labour (12 percent), bonds and jewellery (20 percent) were more generally accepted security for the other 75 percent. Strikingly, in less than 1 percent of the cases, land itself is used as a collateral. Thus, though land is rarely used as a collateral, it is a screening device for lenders and is used “as a second-order collateral of last resort, activated only in cases of long default, when the first-order collateral has been relinquished by the borrower”. Though one has to be cautious in generalizing the Tamil Nadu case for the whole of India, it nevertheless is a fair depiction of what happens in other parts of the country.

One possible solution to this is to ensure that landless and smallholders are able to purchase land as it would lead to broadening their collateral base and thereby enable access to formal sector credit. This would also lead to redistribution of a productive asset in the absence of pro-poor land reforms. A scheme to finance small and marginal farmers to purchase land for agricultural purposes by formal credit agencies is under implementation since August 2001. However, the experience in this regard has not been very encouraging as the high cost of land becomes a prohibitive factor for agencies to finance the target group. Further, the returns from the use of the purchased land do not cover the cost of land making the credit agency apprehensive and the scheme a virtual non-starter.

### 5.3 Institutional Credit to Agriculture - Post Liberalisation Period

Year	Cooperatives	RRBs	Commercial Banks	Total
1991-92	5797	596	4806	11199
2001-02	23604	4854	33587	62045
2003-04	26959	7581	52441	86981
2005-06	39404	15223	125859	180486
2006-07	42480	20435	140382	203297
2007-08	43684	24814	156850	225348
<b>Compound Annual Growth Rates</b>				
1991-92 to 2001-02	13.6	21	19.3	16.8
2002-03 to 2007-08	13	32.5	31.6	26.5

Source: RBI and NABARD

In 1991, cooperatives accounted for more than 50 percent in the total institutional credit flow to agriculture. Since then their share has declined rapidly, especially after 2003-04 with commercial banks emerging as the major providers of agriculture credit, accounting for 70 percent in 2007-08 and RRBs providing 11 percent of the total credit flow (Table

5). This decline in the share of the cooperatives is an area of grave concern as they have the largest outreach in rural areas (Annexure I) and have been found to be ‘friendlier’ in catering to the credit needs of smallholders and the landless.

### 5.3.1 Doubling of Agriculture Credit in 3 years

In 2004, the new government announced the doubling of agriculture credit with respect to the base period of 2003-04 within a period of three years through the “ Doubling of Agriculture Credit” Programme. The expectation was that this would increase institutional credit flow to the agriculture sector, address inequities between regions, inter-agency shares would become less skewed, improve distribution of credit among various categories of farmers and include new farmers in institutional credit flow (NABARD, 2009). The following sections discuss the results, evidence and impact of the programme.

### 5.3.2 Regional Distribution

At the all India level, credit institutions more than doubled the flow of agriculture credit from the base year (2003-04) disbursement of Rs 869.80 bln to Rs. 2032.96 bln in 2006-07; exceeding the target (Rs. 1750 bln in 2006-07) by 16 percent. However, in relative terms there was hardly any change in terms of the inter- regional distribution of agriculture credit during this period (Table 6).

Region	Share in Agriculture Credit in 2003-04	Share in Agriculture Credit in 2006-07	Share in Gross Cropped Area(GCA)	Share in Gross Irrigated Area (GIA)	Share of SF/MF in operated area in their respective region
1	2	3	4	5	6
Northern North	28.74	28.24	20.11	26.32	15.87
eastern	0.40	0.37	2.83	0.68	36.28
Eastern	6.65	6.85	14.66	15.25	64.79
Central	16.45	13.93	27.26	31.66	43.29
Western	13.33	14.92	16.47	9.74	34.40
Southern	34.43	35.70	18.68	16.36	45.28

Note: Col(6) is based on Agriculture Census, 2001. GCA & GIA pertains to 2005-06.  
Source: NABARD, RBI and Centre For Monitoring Indian Economy(CMIE)

The Southern and Western regions together accounted for just over 50 percent of the credit flow in 2006-07 though they account for 35 percent of the GCA and 26 percent of GIA. The Central region which accounts for more than a quarter of GCA lost out in terms of its share in agriculture credit during the period. The Eastern region, comparable to the Western region in terms of share in the GCA and with a higher share in the GIA

had less than half the credit flow with hardly any improvement during the doubling period (Table 6).

The inequities become worse if we correlate the share of marginal and small holdings in the respective regions with the share of agriculture credit flow in the region. To illustrate, marginal and small holdings account for over 65 percent of the operated area in the eastern region but agriculture credit flow does not incorporate this in the disbursement pattern. The figures for the North Eastern region suggest the rise of an alarming situation where the credit flow pattern has no relation with the share of marginal and small holdings in the operated area, share in the gross cropped and irrigated area in the region (Table 6). It is evident that the doubling programme was unable to moderate these inequities in the credit flow across regions.

### **5.3.3 Changing Share of Agencies- Implications for small and marginal farmers**

The implementation of the scheme has resulted in a change in the share of various agencies in the agriculture credit flow between 2003-04 and 2006-07. The shares of commercial banks increased by 10 to 16 percentage points in all the States while those of RRBs increased marginally in Madhya Pradesh, Tamil Nadu and Maharashtra. In Uttar Pradesh and Rajasthan, the RRBs' share declined drastically. The shares of Co-operatives declined in all States except Rajasthan. Thus, during the doubling period the share of commercial banks increased substantially in the total agriculture credit flow in comparison to other agencies. This has implications for small and marginal farmers as commercial banks showed a distinct preference in lending to large farmers, which further accentuated during the doubling period (see Table 7).

Table 7: Land size wise distribution of credit advanced by Schedule Commercial Banks - All India

Year	Share in Amount disbursed			Share in No. of accounts		
	MF	SF	LF	MF	SF	LF
1985-86	27.52	26.24	46.24	46.75	29.55	23.7
1990-91	30.16	24.32	45.52	48.07	29.89	22.04
2001-02	26.7	26.81	46.49	38.43	27.73	33.84
2003-04	24.94	23.02	52.04	42.83	31.1	26.07
2005-06	25.06	26.25	48.69	40.54	29.73	29.73
2006-07	21.24	19.72	59.04	37.88	25.46	36.66

MF =Marginal Farmers, SF= Small Farmers, LF =Large Farmers ( Above 2 hectares)

Source: Handbook of Statistics on the Indian Economy, RBI.

The share of marginal and small farmers both in terms of the number of accounts and the amount disbursed in the total have declined over the last two decades. In 2006-07, large farmers almost accounted for 60 percent of the total amount disbursed by commercial banks. Such a trend in the backdrop of the fact that commercial banks account for more than 70 percent of the total institutional agriculture credit flow (at the all India level) implies a credit squeeze for the small and marginal farmers. Thus, it is not surprising that the non-institutional share in rural credit market has increased in this decade compared to

the previous decade. Moreover, the per account credit disbursed across land holding size is increasingly getting skewed and widening in favour of large farmers.

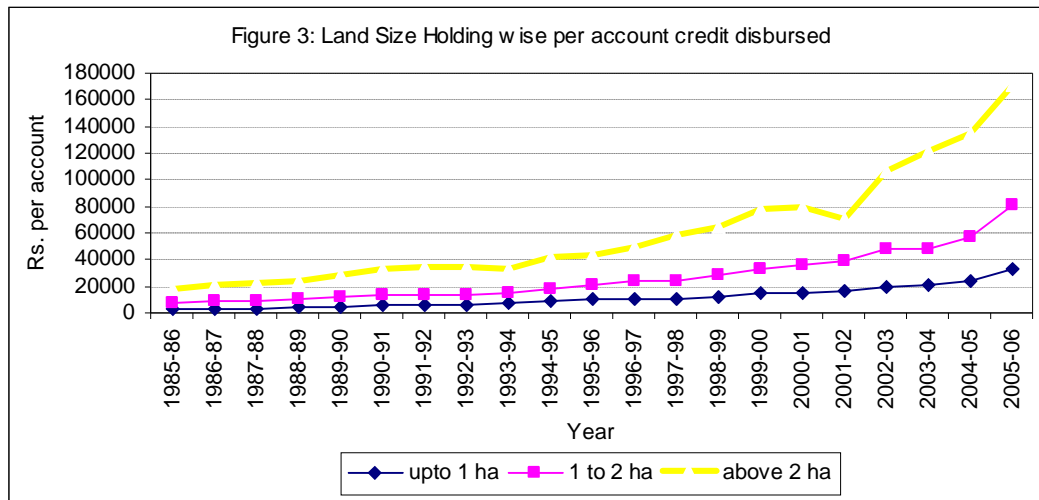


Figure 3 shows that since 2001-02 the gap between the large farmers and the other two categories in terms of per account disbursement started widening at a rapid pace. Further, the doubling period saw almost a vertical rise in the curve relating to large farmers indicating the widening gap- in the year 2005-06, the large farmer per account credit disbursement stood at Rs. 89051 and the same for small and marginal farmers was Rs. 48000, and Rs.33619 respectively (Figure 3). There is hardly any evidence in terms of any real sector needs justifying this sudden increase in the per account disbursement. Perhaps, the only plausible explanation lies in the commercial banks urge to achieve the credit targets by sanctioning and extending more credit per account in the large farmer account heads.

## 6. MICROFINANCE AND AGRICULTURE

The post- liberalization period saw a paradigm shift in the banking sector which coincided with the growth of a silent microfinance revolution in rural India. The genesis of this was a NABARD initiated pilot, the SHG-Bank linkage project in 1991, which focused on Self Help Groups(SHGs) as a channel for delivery of micro finance. This grew manifold to emerge as the largest microfinance programme in the world in which cumulative credit of Rs 180.4 billion (\$4.5 billion) had been disbursed to 2924973 SHGs which were credit linked to nearly 45000 branches of 50 public and private sector commercial banks, 96 Regional Rural Banks and 352 cooperative banks by March 2007. With an average group membership of 13-15, at least 41 million families had access to formal savings and credit facilities through SHGs. More than 4500 NGOs are involved in forming, nurturing and guiding SHGs alongwith a large number government development agencies and grassroots level volunteers (NABARD, 2007).

## **6.1 Microfinance and Credit needs of Agriculture Sector**

The microfinance revolution has confined itself essentially to rural micro enterprises as it catered to the requirements of the non-farm sector and satisfied immediate consumption needs. Non-farm business activities generate regular income and permit repayment in frequent and small installments. Farm sector activities, on the other hand, have relatively longer and less stable production cycles, the nature of income accruals from agriculture is significantly influenced by risks associated with natural factors such as rainfall and droughts, so few microfinance institutions lend exclusively for agricultural activities. Additionally, the features of the SHG model like loans in proportion to savings, weekly/monthly repayments, shorter loan terms, higher than market interest rates and insistence on regular group meetings make it unattractive to farmers' needs. So, microfinance though suitable for microenterprise financing cannot serve the credit needs of agriculture in its existing forms.

### ***6.1.1 Interest rates and loan tenures in agricultural finance***

Interest rates in microfinance are generally higher than interest rates for other credit products in the banking sector due to the cost of both operations and resources for microfinance institutions and service providers. However, the higher interest rates are not an issue in consumption finance as they usually substitute for credit at usurious interest rates from moneylenders. Neither does this matter for microenterprises, as credit requirements are low and the velocity of operations is high within a short time frame and the sheer volumes. But agriculture (excluding allied activities like dairy, poultry, sheep and goat rearing) is a seasonal operation with inflow of funds only when the produce is harvested and marketed and hence cannot service high rates of interest.

Further, long-term capital investments in agriculture have long gestation periods and in many instances, do not have any direct income generation. The investment may only be reflected in improved returns from existing farms. For refinancing long-term investment finance, NABARD has adopted a project approach wherein the interest rates on credit have to be factored in at a level which ensures the viability of the project. Higher interest rates would render the project unviable and exclude it from financing. Though higher interest rates in microfinance are sometimes justified by the need to meet institutional loan administration costs, the borrower should not be expected to subsidise the inefficiency of the credit dispensing institution by paying higher interest rates.

As far as gestation and repayment periods are concerned: production credit in agriculture requires a minimum gestation of 6 months, that for investment credit ranges between 3 to 9 years and beyond, higher than most microfinance loans. It is doubtful if existing microfinance methodologies can sustain such long repayment periods. Hence interest rate and gestation period make microfinance an unsuitable technology for dispensing credit to mainstream agriculture.

## **6.2 Credit flow to agriculture under microfinance programmes**

A valid criticism in India and elsewhere has been that microenterprise and consumption financing have been the focus of microfinance efforts with financing agriculture taking a back seat. In 2006-07, total credit flow under all models of microfinance was estimated to be Rs 75 billion (\$ 1.87 billion), of which only 8 percent went to direct agriculture including crop loans and 14 percent to animal husbandry. The balance 78 percent went towards consumption, microenterprises and trade credit with almost no credit flow for mainstream agricultural investment activities like Farm Mechanisation, Minor Irrigation or Land Development. Thus microfinance per se, has been unable to cater to agricultural finance needs in India.

## **6.3 Innovations in Microfinance for Agriculture**

This has thrown up a variety of innovations expanding the basic microfinance principles to include not just credit and other financial services but also knowledge and skills about improved technologies to use these services. Increasingly, it is being realized that in agriculture, complementarity in inputs (as opposed to substitutability) is essential for its success. Three such innovative practices-Joint Liability Groups, Village Development Councils-Farmers' Clubs and SHG-Contract farming linkage model are discussed here:

### ***6.3.1 Joint Liability Groups***

Tenant farmers and oral lessees without land in their name to serve as collateral find it extremely difficult to access mainstream agricultural financial institutions. To cater to this category of farmers, NABARD formulated a pilot project for financing Joint Liability Groups (JLGs) in 2005-06 broadly based on the experience of BAAC in Thailand, which sought to streamline credit flow to mid-segment clients. The model aimed at identifying collateral substitutes like peer pressure/ social collateral even for lendings of a higher order. JLGs were:

- Informal groups comprising 4-10 individuals coming together to avail bank loan either singly or through the group against mutual guarantee.
- Could be formed by small/marginal farmers, sharecroppers residing in the same village /area who know and trust each other.
- Is primarily intended to be a credit group, but group savings may be an optional activity.
- The quantum of credit need not be linked to savings and no collateral need be insisted upon by banks against their loans to JLGs
- Banks may initially form JLGs using their own staff or engage business facilitators like NGOs and other individual rural volunteers to assist them.

### **6.3.2 Extending Credit under JLGs - Progress**

The experiment showed that two different approaches were adopted by States one through SHGs and the other individually in extending credit to the targeted sections.

**Maharashtra and Tamil Nadu:** Tenant farmers were extended credit through the SHG route. In Maharashtra, 3621 SHGs of tenant farmers were formed and financed by cooperatives, 474 SHGs were financed by RRBs due to the efforts of NGOs who identified the tenant farmers. Agriculture credit was not extended to share croppers and oral lessees due to lack of records on land use. In Tamil Nadu, 59433 SHGs of tenant farmers were extended credit to the tune of Rs.1.36 bln.

**Rajasthan:** In 2004-05, 1774 tenant farmers, 288 oral lessees, 939 sharecroppers were advanced Rs.0.04 bln, Rs 0.01 bln and Rs 0.01 bln respectively.

**Madhya Pradesh:** A total of 191 tenant farmers were advanced credit by commercial banks. No agricultural credit was extended to oral lessees and sharecroppers by formal banking institutions due to lack of land records.

**Uttar Pradesh:** The number of sharecroppers supported was 20,000 and 7900 oral lessees were advanced Rs 0.76 bln and Rs 0.17 bln respectively.

### **6.3.4 JLGs in Andhra Pradesh**

In Andhra Pradesh, JLGs function under the banner of Rythu Mithra (Farmers' Friend) Groups (RMGs) consisting of 15 like minded small/marginal and tenant farmers, acting as an interface between the agriculture extension system and farmers. Since 2003, the Agriculture Department has been promoting RMGs to serve as a conduit for technology transfer, facilitate access to market information and carry out activities like soil testing, training, assess input requirements etc. 203,000 RMGs were formed in 2003 to extend credit to farmers unable to access credit for various reasons.

The salient features are: monthly/fortnightly meetings at specific times, savings of Rs.50 per member, bank accounts in the name of RMGs, democratic internal lending of savings and book keeping for group accounts. After six months of active existence, RMG submits a micro credit plan to the bank and is credit linked in the ratio of savings to loan, 1:20. The credit may be for investment, production or consumption purposes. The rate of interest on internal lending varied between 12 and 36 percent. The pilot was mainstreamed and extended to all districts in 2005-06 based on the positive feedback received. RMG's enabled the inclusion of tenant farmers, sharecroppers and oral lessees who were left out of the formal banking system earlier and 14.3 percent of the total farmers assisted were tenant farmers.

A study undertaken to evaluate the efficacy of RMGs in credit delivery showed that though their functioning was satisfactory, areas of concern were capacity building of the groups, as many members were unclear about the concept, though they were aware of the advantages. Small holders and tenant farmers deprived of formal credit earlier due to lack of records and forced to borrow from moneylenders at exorbitant rates could get bank credit at cheaper rates. Bankers welcomed the programme as they could finance greater

numbers of smallholders in a group mode thereby expanding outreach without adding accounts and reducing transaction cost.

Two banks were studied in greater detail, the Deccan Grameena Bank (DGB) and Sapthagiri Grameena Bank (SGB). DGB had implemented the RMG scheme through its 17 branches in Nizamabad district of Andhra Pradesh and had opened savings account for 1500 RMGs, but only 165 RMGs i.e. 11 percent credit linked to the tune of Rs.18 million. The outstanding loans under the RMGs as on 31 March 2008 were Rs.7.97 million (118 accounts)

Out of the total 4965 RMGs with Sapthagiri Grameena Bank (31 March 2008), only 6.22 percent were credit linked with Rs 52.05 million in total loans. The repayment was 92 percent with no non-performing assets. The reasons cited by bankers for the low percentage of credit linking RMGs were lack of homogeneity among members, little awareness about the concept among branches and RMGs, unwillingness of the members to offer mutual guarantee if individual loans could be availed instead.

#### **6.4 Joint Liability Groups (JLGs) in Kerala**

This section discusses the recent experiences of banks in Kerala which financed through JLGs – some with first time clients and others with existing clients organised as JLGs.

The Irinjalakuda Cooperative Agriculture Development Bank in Trichur district expanded its client base to include tenant/landless farmers, oral lessees in order to reach a new client segment and hike business volume. While the earlier system had lent only to farmers with own land holding with mortgaged land as security, the JLG approach allowed banks to offer group loans through a cash credit facility usually set for 3 years, requiring only one set of documentation from the client, saving expenses and efforts for both (Jeyaseelan, Mahadevan and Zak, 2008).

State Bank of Travancore in Alapuzha district designed a range of products to cater to the special needs of their activity based JLGs like sheep rearing, paddy cultivation, vegetable cultivation, coir product making, fisheries and tailoring enabling the bank to offer different repayment options to match with the cash flow of the activity chosen.

JLG financing offered tenant farmers and sharecroppers loans from formal financial institutions and the opportunity to jointly take up an economic activity with substantial capital outlay. JLGs also serve as a potential tool for livelihood support and provide the required backward and forward linkages including skill upgradation through their Federation JLGs or through promoting institutions like NGOs or farmers club. After availing loans through JLGs, many farmers stopped distress sale of their produce, were able to negotiate a higher price with traders as a group. In some villages JLGs have inculcated a strong repayment culture amongst bank borrowers.

Wherever JLGs had the support of promoting institutions like NGOs, farmers club, village councils, their performance was better than those without such support. When



carved out of their SHGs, they were cohesive, stable and bankers seem to prefer lending to women JLGs.

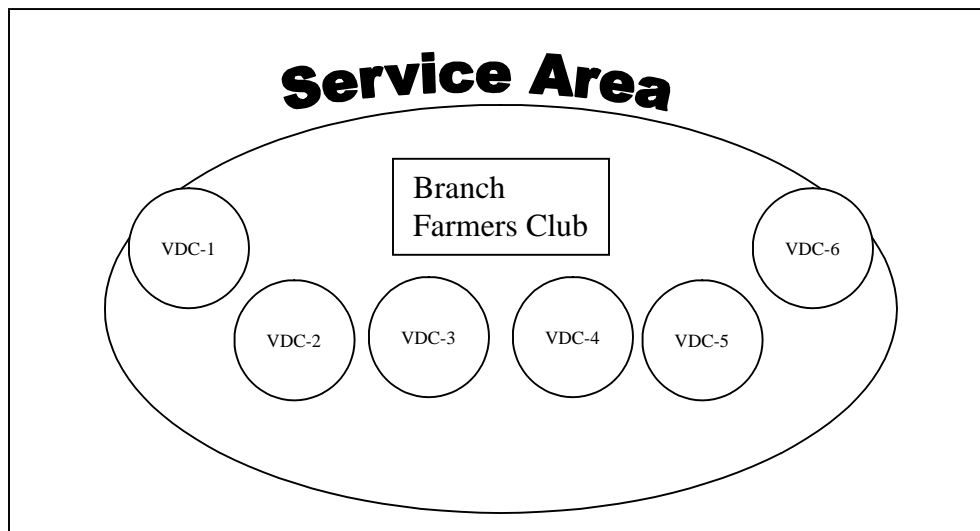
As the JLG mechanism is an individual loan with a group approach (joint liability) it offers a collateral substitute. It should also be promoted as an individual loan. The loan size/ limit should be treated flexibly to avoid under financing and over financing. For collateral based traditional loans under JLGs, the collateral free limit should be raised from the present level of Rs.2, 00,000. Risk based pricing models should be adopted for JLG financing as first time and repeat loan borrowers pose different types of risk. The product features have to be fine-tuned based on current experiences. NABARD needs to upscale and mainstream this very effective instrument for agriculture microfinance.

### 6.5 Village Development Council-Farmers' Club Model

Aligarh Gramin Bank -the Regional Rural Bank in Aligarh district of Uttar Pradesh in Northern India- launched a basic SHG model in 1994-95. It was soon realised that in this irrigated, agricultural belt, farmers required more than just financial services. They required advice, guidance regarding farming practices, technology, prices etc.

The Gramin Bank then decided to rework the NABARD conceived Farmers' Club to set up Village Development Committees (VDC) with 1 member for every 25 households in the village, giving representation to different communities. Care was taken to ensure that they were non-defaulters and service minded individuals. Besides functioning as a farmers' club for the village, the VDC emerged as a platform to bring extension services to the village and a clearinghouse for data on prices and markets. All the VDCs in the service area of a branch were federated into a Branch Farmers' Club (FC) as shown below.

**Figure 4: VDC-Farmers' Club**



This was an improvement on the earlier Farmers' Clubs, most of which depended on the interest of bank staff, working in fits and starts and becoming dormant once the staff left

on transfer. There was no institutional back up to sustain the set up. However in this model, the Branch FC was based on a number of VDCs that ensured the sustainability and effective functioning of the Club.

The VDCs served as a link between the villagers and the branch and helped the latter assess credit needs, identify borrowers, assist in recovery drives and monitor end use of credit. They were also able to coordinate with government initiated projects to form SHGs. Two VDCs tied up with Tata-Rallis to bring contract farming in Basmati Rice to their villages. Almost all VDCs successfully replicated programmes on fertiliser and water usage.

The VDCs positively impacted the RRB's business, and due to their transparency and wider participation levels improved the issue of KCCs, growth of deposits/advances and improved recovery levels. However, the major success was the extension of credit to sharecroppers and tenant farmers.

This model evolved based on the needs emerging from below and was not superimposed and was successful in introducing diversified agriculture to the district. NABARD has suggested replicating this to the 26,000 Farmers Clubs many of which now follow the Aligarh model.

## **6.6 SHG-Contract Farming Linkage Model**

The Kerala Horticulture Development programme (KHDP) in the state of Kerala provides interesting insights in including smallholders while initiating the financing of contract farming arrangements. In this unique and innovative approach based on the SHG approach, production activity is organized through farmers mobilized in groups. These SHGs manage their own affairs and some members take the role of Master Farmers serving as the link for technology, market and information.

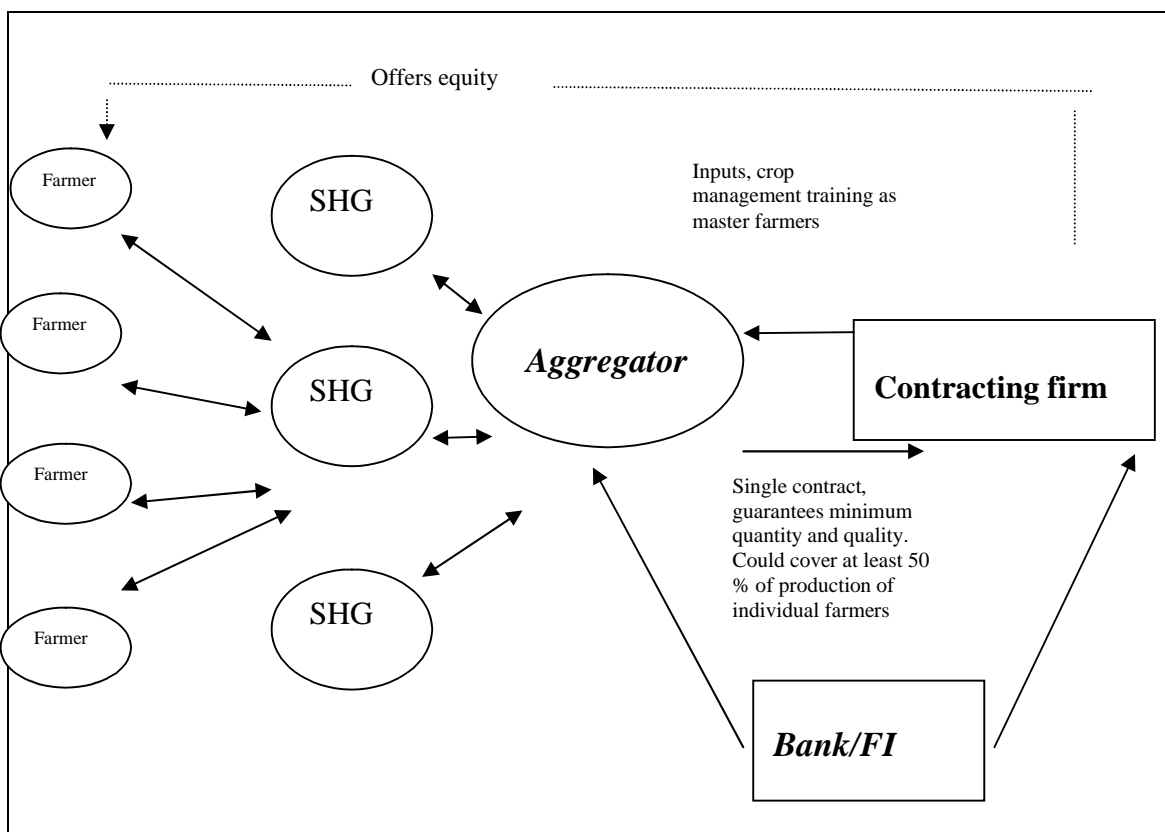
Master farmers trained under the programme through an institutionalised arrangement serve as role models and facilitate group marketing approach at designated field centres (which serve as bulking points for trader/marketer linkages). The outreach of farmers under the programme is high: 41,000 farmers formed into 1886 SHGs.

The value addition in this framework is that small farmers formed into activity SHGs connect themselves neutrally with an agribusiness unit or a contracting firm. Trained Master farmers could serve as field-level office-less extension agents and the intermediary could serve as an output aggregator/collector. This could serve as an informal institutional arrangement for production and marketing, enabling a better producer orientation to backward linkages. Master farmers besides helping the aggregation process can support the aggregator social intermediary smoothen the link with corporate entities - negotiating terms, quality, quantity, periods and other input services that the entity can provide. However, it would be ideal for the aggregator and master farmers to ensure that only 50-70 percent of the produce is tied up through these contracts leaving some option of sale through external markets. For any relationship to stand the test of time and remain sustainable, it would be ideal to issue equity shares of

the agro-processing firm to the stakeholder farmers. This would strengthen the linkages and ensure continuity of the relationship.

In this approach of contract farming, high value crop production takes place in a decentralised way while marketing is centralised. This system generates a potent incentive in the form of higher returns, field level value addition and larger economic margins for the producers. The intermediary (Figure 5) also signs a single contract on behalf of all the smallholders. The individual SHG maintains a logbook, so proper monitoring, risk minimization and a proper incentive mechanism in the long run can be built in. Any risk not shared by the contracting firm could be shared by the farmers via pooling. The contracting firm also reduces its transaction costs in this arrangement.

**Figure 5**



By encouraging farmers to diversify crops and linking them to markets, the programme increases opportunities for smallholders to benefit from market participation. Contracting as of now is a very unbalanced relationship with farmers lacking the market power to leverage and negotiate better deals. So fair contract systems can be achieved if farmer power is aggregated to mutually benefit and enable longer, equitable relationships. This arrangement could emerge as a means to better public service delivery, including microfinance, to the agricultural sector.

## **7. CONCLUSIONS AND THE WAY FORWARD**

This discussion shows that the contribution of small farms to agricultural growth and India's food security is unmatched by any other class of farms. Despite this, small farms have not received the support of institutional mechanisms especially credit supply since the financial sector reforms began in the 1990s. Microfinance seen as the solution for all credit deprived sections of the economy also has been unable to meet the requirements of agriculture because of its inherent weaknesses.

Public policy in countries like India should emphasise on strengthening and expanding the institutional credit delivery mechanisms for agriculture. This involves revitalising and expanding the cooperative credit structure and the rural banking network and the adoption of policies to ensure the flow of credit to agriculture.

However importance should be given to encourage and mainstream innovations. The models of Joint Liability Groups, Village Development Councils, Farmers Clubs and Self-Help Group-Contract Farming Linkage Model indicate that through suitable innovations, effective institutional structures can be built to take care of credit and other financial services for agriculture, especially small farms. The basic feature of these models is that they are all operating on a pilot basis in certain parts of the country. But the results from all the pilots are satisfactory and the next stage is for an apex institution like NABARD to plan for upscaling and operationalising the models throughout the country and mainstream them as had been done in case of the SHG-Bank linkage programme. In this we perceive a way forward to meet the credit needs of small farms in future in India.

Note: The notation used for Rupee, the Indian currency (INR) is Rs. The exchange rate varied between Rs 42 to Rs 48 per 1 US Dollar between 2005 and 2008.

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## Annexure I

