

**Repositioning RRBs as the main arm of the agricultural credit  
delivery mechanism in India**

**P. Satish**

Chief General Manager, National Bank for Agriculture and Rural Development  
(NABARD), Maharashtra Regional Office, Pune

*E-mail: satishp99@usa.net*

*(The views expressed are those of the author and not of the institution in which he is  
employed)*

### **Abstract**

The agricultural credit delivery system in India is multi-agency in approach. With the availability of a large number of more than 150 000 rural retail banking outlets of commercial banks, cooperative banks and regional rural banks, the formal banking system has basically an enormous potential to provide financial services almost in nearly all rural areas in the country. But several studies have brought out disturbing trends with regard to the flow of credit to agriculture from institutional sources. Though the share of commercial banks in agricultural credit is increasing, data gaps indicate to its insufficiency, as also to its direction away from small farmers. Cooperatives that have become moribund in most parts of the country are on the threshold of reforms. However there doubts as to the sustainability of reforms on a long term, as these institutions are a part of the political economy process rather than a professional banking set up. This leaves us with only one institutional alternative-Regional Rural Banks (RRBs) This agency was not allowed to blossom to its full potential and even its existing presence is not being fully leveraged. A dedicated and robust agricultural credit system can emerge in India only if RRBs are repositioned to play the leading role as purveyors of agricultural credit.

**JEL Classification:** G 21; Q 14

**Key words:** agriculture; credit; banks; cooperatives; rural banks

## **1. Introduction**

The delivery system for agricultural credit in India is characterised by the multi-agency approach. Basically, the set up consists of commercial banks, cooperative banks and regional rural banks. With the availability of a large number of more than 150 000 rural retail banking outlets, the formal banking system has basically an enormous potential to provide financial services almost in nearly all rural areas in the country. But NSSO's Situation Assessment Survey of Farmers (SAS) has brought out some disturbing trends with regard to the flow of credit to agriculture from institutional sources. The survey reveals that the share of institutional credit agencies in the outstanding amount of cash dues of rural households declined by 7 percentage points between 1991 and 2002 and was 57 percent in 2002. This was in sharp contrast to earlier periods wherein there were gradual increases in each decennium. This share increased from 29 percent in 1971 to 61 percent in 1981. Though the pace of increase decelerated, still there was a 3-percentage point increase to 64 percent in 1991. Along with the decline in the share of institutional sources of credit, the share of moneylenders in the cash dues of cultivators increased from 17.5 percent in 1991 to 25.7 percent in 2002. (NSSO, 2005)

## **2. Commercial banks in agricultural credit**

Outside the cooperative credit system the major institutional presence is that of the commercial banks. They have a network of 35,000 rural and semi-urban branches. As may be observed from Table 1, their share in agricultural credit flow has grown steadily since 1970-71, and it has overtaken that of cooperatives in the year 1996-97 and has not looked back since.

**Table 1**

**Agency wise share of credit flow to agriculture**

(in percentages)

Year	Cooperatives	RRBs	Commercial Banks	Others	Total
1970-71	93.22	0	6.78	-	100
1980-81	58.90	4.44	36.66	-	100
1983-84	56.03	5.02	35.95	3.53	100
1990-91	49.03	3.41	47.56	-	100
1993-94	61.34	5.92	32.74	-	100
1996-97	45.22	6.38	49.71	-	100
2000-01	39.28	8.00	52.72	-	100
2001-02	37.91	7.82	54.13	0.12	100
2003-04	30.89	8.72	60.29	-	100
2005-06	21.83	8.43	69.52	0.21	100
2007-08	18.96	9.93	71.11	-	100
2008-09	12.82	9.29	77.89	-	100

Source: NABARD

When we relate the flow of agricultural credit to certain real sector indicators such as GDP originating or private capital formation financed by agriculture credit, the supply of credit appears phenomenally high, but this buoyant supply situation does not match with the general disenchantment revealed in field surveys on institutional finance. In particular, the share of commercial banks in agricultural credit flow is at a variance from field level empirical studies on rural credit in several states. A study on Punjab estimates the short-term credit disbursed by cooperatives to be Rs.1059.86 crores and that by commercial banks to be Rs.146.89 crores for the year 1996-97 (Shergill, 1998) As per SLBC data the disbursements by cooperatives in 1996-97 was Rs.1086.44 crores that is more or less similar to the amount estimated by Shergill but the commercial bank figure is Rs.422.51 crores, that is, 2.88 times the figure estimated in the study. This indicates that there seem to be serious flaws in the reporting of the crop loan data by commercial

banks. This discrepancy is reinforced in another field study (Satish, 2006). Apparently a variety of loans disbursed by commercial banks are being booked as crop loans. Though this credit may be being used by farmers themselves, they are not exactly being used for crop production purposes. There were also reports that totality of all drawals in KCC accounts are being counted as flow of credit rather than the limit. The increasing share of the commercial banks in crop loans especially since 1998-99 has thus been more of a statistical/reporting phenomenon rather than actual growth of their share in the crop production credit that is actually being used by farmers at the ground level and aggregations from field studies indicate that there is an overreporting of agricultural credit flow data by commercial banks.

One may have to take note of the fact that the data published by RBI based on the returns of banks on agricultural credit may appear to overestimate the size of bank credit outstanding against agriculture and allied activities as compared with that revealed by Basic Statistical Returns of Scheduled Commercial Banks (BSR). The latter is a more scientifically designed annual survey conducted by the RBI, the data for which are collected from the branch offices of scheduled commercial banks individually and hence, their quality is unlikely to be influenced by the regional offices and head offices of banks. Otherwise, there does not appear to be any valid reason for the persistent overestimation of agricultural credit totals by the returns as compared with those tabulated by the BSR system. It is also interesting that the difference so reported has risen from about Rs 6,662 crore in March 2002 to Rs 15,386 crore in March 2005 (Table 2). Besides, a relatively high proportion of the difference is to be found under direct finance for agriculture as distinguished from indirect finance.

There is yet another reason to believe that the difference could be still wider because the returns cover agricultural advances under the “priority sector” which by definition should normally exclude many big-size advances given against agricultural operations (such as loans beyond Rs 10 lakh against pledge/hypothecation of agricultural produce, and loans for input distribution for allied activities beyond Rs 40 lakh shown as indirect finance), whereas the BSR data include all agricultural advances.

**Table 2**  
**Data Reported on Agricultural Advances of Public Sector Banks: A Comparison of Control Return and BSR Data**

A. Agricultural Advances Reported As Per Priority Sector Data for Public Sector Banks (Control Returns)								
(As on last reporting Friday)								
	No. of Accounts (in lakh)				Amount Outstanding (Rs. Crore)			
	Mar-02	Mar-03	Mar-04	Mar-05	Mar-02	Mar-03	Mar-04	Mar-05
<b>Agriculture</b>	158	168	190	208	58142	70501	84435	112475
Direct	153	165	188	191	44019	51484	62170	82613
Indirect	5	3	2	17	14123	19017	22265	29862
B. Advances to Agriculture by Public Sector Banks (BSR Data)								
(As on 31st March)								
	No. of Accounts (in lakh)				Amount Outstanding (Rs. Crore)			
	Mar-02	Mar-03	Mar-04	Mar-05	Mar-02	Mar-03	Mar-04	Mar-05
<b>Agriculture</b>	137	140	140	177	51480	59992	76445	97089
Direct	133	136	137	174	36794	45,000	53215	71334
Indirect	4	4	3	3	14686	14,992	23230	25755

Note: Both the sets of data do not cover Regional Rural Banks (RRBs)

Source: (i) For A, *Report on Trend and Progress of Banking in India*, 2004-05, p.236.

(ii) For B, RBI, *Banking Statistics: Basic Statistical Returns of Scheduled Commercial Banks in India, March 2005* (Vol. 34) and earlier issues

Another feature was that credit to agriculture as a proportion of total bank credit of commercial banks gradually decreased from 15 percent in 1990-91 to 9.9 percent in 1999-2000 and further to 9.6 percent during 2000-01. However from 2002-03 onwards there had been a gradual improvement in this share. But this growth was not sufficient as the scheduled commercial banks are yet to reach their targeted 18 percent of adjusted net bank credit to agriculture. The insufficiency of this share is corroborated by the NSSO data above indicating the increased share of non-institutional sources of credit.

In the context of the absolute reductions in the number of loan accounts as well as decline in the agriculture sector's share in total bank credit, it has to be stated that the annual percentage increases in bank credit rendered by scheduled commercial banks in recent years have been quite sizeable, ranging from 19 per cent to 29 per cent in each of the past four years. There are a few reasons for these apparent accelerated increases in agricultural loans. First, a substantial part of it has been in the form of indirect advances, that is, not to individual farmers but to institutions and organisations serving the interest of farmers and the rural population directly or indirectly; growth in them has appeared in

an erratic fashion. Second, increases in direct advances have occurred in the most recent period after the government introduced the policy of doubling farm credit in a period of three years (2004-05 to 2006-07). Finally, within farm credit, a growing proportion has been in favour of large-size loans, which is evident from the fact that while the number of loan accounts under direct finance has risen by meagre percentages, the loan amounts have risen quite significantly (Table 3). And this is directly evident from the data presented in Table 4 - a summary picture of size-wise distribution of direct agricultural finance over years. In March 1997, only 16.7 per cent of agriculture loans (or Rs 4,556 crore) were of above Rs 2 lakh but by March 2005, this proportion had doubled to 33.3 per cent (or Rs 31,550 crore), that is, within a period of 8 years. As against Rs 1,131 crore in March 1997, there were Rs 7,104 crore worth of loans for Rupee 1 crore and above in March 2005. The proportion of small loans of Rs 25,000 or less has dwindled from 54 per cent to 23 per cent in the total farm loan. As NSSO field data reveal, the small and marginal farmers have suffered rather badly in the absence of institutional credit availability.

**Table 3**  
**Direct and Indirect Finance For Agriculture and Allied Activities by**  
**Scheduled Commercial Banks**

*(Amount in rupees lakh)*

Year	Number of Accounts					
	Agriculture	Per cent	Direct	Per cent	Indirect	Per cent
	Total 1=(2+3)	Increase	Finance 2	Increase	Finance 3	Increase
Mar-97	22524364		22224763		299601	
Mar-98	21720055	-3.6	21407723	-3.7	312332	4.2
Mar-99	19788385	-8.9	19520405	-8.8	267980	-14.2
Mar-00	20532891	3.8	20214350	3.6	318541	18.9
Mar-01	19843289	-3.4	19564089	-3.2	279200	-12.4
Mar-02	20351184	2.6	19740112	0.9	611072	118.9
Mar-03	20840434	2.4	20195464	2.3	644970	5.5
Mar-04	21304168	2.2	20719954	2.6	584214	-9.4
Mar-05	26656308	25.1	26010380	25.5	645928	10.6
Amount Outstanding						
Mar-97	3163415		2721736		441680	
Mar-98	3526252	11.5	3050890	12.1	475362	7.6
Mar-99	4088926	16.0	3394114	11.2	694812	46.2
Mar-00	4563827	11.6	3856079	13.6	707748	1.9
Mar-01	5173035	13.3	4342026	12.6	831008	17.4
Mar-02	6400855	23.7	4743042	9.2	1657813	99.5
Mar-03	7593522	18.6	5905756	24.5	1687766	1.8
Mar-04	9624504	26.7	7009873	18.7	2614631	54.9
Mar-05	12438487	29.2	9463537	35.0	2974950	13.8

Source: RBI, *Banking Statistics: Basic Statistical Returns of Scheduled Commercial Banks in India, March 2005* (Vol. 34) and earlier issues



**Table 4**  
**Size-Wise Distribution of Direct Agricultural Finance (Scheduled Commercial Banks)**

(Amount in rupees crore)

A. Details								
Size Group	March 2005		March 2002		March 1997		March 1992	
	Amount Out-standing	Per cent to Total	Amount Out-standing	Per cent to Total	Amount Out-standing	Per cent to Total	Amount Out-standing	Per cent to Total
Rs 25,000 & Less	21649	22.9	16245	34.3	14663	53.9	10941	61.3
Rs 25,000 & upto Rs 2 lakh	41436	43.8	20271	42.7	7997	29.4	5057	28.4
Rs 2 lakh & upto Rs 10 lakh	20224	21.4	7340	15.5	2144	7.9	637	3.6
Rs 10 lakh & upto Rs 1 Crore	4222	4.5	1580	3.3	1281	4.7	455	2.6
Rs 1 Crore & upto Rs 4 Crore	2232	2.4	886	1.9	694	2.6	302	1.7
Rs 4 Crore & upto Rs 10 Crore	1637	1.7	542	1.1	249	0.9	94	0.5
Above Rs 10 Crore	3235	3.4	567	1.2	188	0.7	350	2.0
<b>Total</b>	<b>94635</b>	<b>100.0</b>	<b>47430</b>	<b>100.0</b>	<b>27217</b>	<b>100.0</b>	<b>17836</b>	<b>100.0</b>

  

B. Summary (As percentage of Total Bank Credit)				
Year/Range	Rs 25,000 & Less	Above Rs 25,000 & upto Rs 2 lakh	Rs. 2 lakh and less	Above Rs. 2 lakh
(1)	(2)	(3)	4=(2+3)	(5)
March 2005	22.9	43.8	66.7	33.3
March 2002	34.3	42.7	77.0	23.0
March 1997	53.9	29.4	83.3	16.7
March 1992	61.3	28.4	89.7	10.3

Source: As in Table 3

A study in which a detailed comparison of the characteristics was made, distinguishes a typical cooperative bank borrower from a typical commercial bank borrower on the basis of a range of economic and financial characteristics. His ownership of all productive assets, land, machinery, vehicles etc. is less. He is slower to adopt technology and possesses lesser levels of other assets including consumer goods, financial assets and animals. He is less likely to hire a permanent farm servant. A typical cooperative bank borrower's family is more likely to depend on other sources of income including non-farm and off-farm employment of family members which again could be a proxy for lesser on-farm returns (Satish, 2005)

This clearly brings out the fact that in agricultural credit there are two classes of borrowers. One class which has lesser land holdings, lesser capital equipment and is at

the lower end of economic prosperity. This class mainly comprises of the small and marginal farmers. The other class which emerges is basically the capitalist farmer who takes up farming on a commercial basis. This class is more sophisticated having larger land holdings and higher amounts of capital equipment. Drawing upon these observations one can infer that commercial banks should be the preferred institutions for the first category of borrowers while the cooperatives with their less formal and more user friendly systems can serve the second type of clientele. The small and marginal farmer is tending to be the client of the cooperative banking system whereas the commercial farmer is preferring the commercial bank.

For these two types of clientele the approach and system for credit delivery has to be different. In the case of first type of clientele, viability of the project, infrastructure required and marketing arrangements need to be evaluated and risk analysis has to be made to finance the project. In case of second type of clientele, a holistic approach needs to be taken to deliver credit to the small and marginal farmers who are resource poor and who feel comfortable in an informal type of environment (Samal, 2002)

### **2.1 Anecdotal case studies from Maharashtra**

The following four anecdotal case studies from four regions of Maharashtra indicate to the fact that commercial banks are reluctant partners in agricultural credit. Their presence in rural banking will drive further numbers of small and marginal farmers to the non-institutional sources of credit.

Ratnagiri District: With the technical advice from Krishi Vignyan Kendra, Lanja, three farmers groups venture into innovate areas of farming. One group leases land and grows high yielding banana variety with tissue culture planting material, with good output. The second group takes up a mix of water melon and vegetable crops. The third group takes up a variety of vegetable cultivation. Lanja has two branches of major commercial banks. The groups approached both the branches for credit. With much reluctance one branch gave a loan to the first group-that too late after the crop season. The other two were not

that fortunate. They faced repeated negative signals and had to avail credit from the local money lender.

Sangli District: A small local commercial bank based in Sangli was merged with a major private sector commercial bank some years back. As such this new generation private bank has 30 branches in the district. The data from the Lead Bank of the district indicates that the performance of this bank in the district annual credit plan for agriculture is zero percent for crop loans and 3.5 percent for agricultural term loans. And again there was zero performance under all government sponsored schemes like SGSY etc.

Beed District: Farmers Club programme initiated by NABARD envisages these clubs to act as a bridge between the bank branch and the farmers so that the branch can externalise many of its tasks to them. These clubs also act as agents for technology transfer. A dynamic manager of a bank which has a major presence in the district formed 7 farmers clubs with the help of NABARD's District Development Manager and a locally active NGO. For three years these clubs functioned well and helped in increasing business as well as recoveries for the branch. Then the branch manager was transferred, his successor was totally disinterested in this concept and did not give his attention to the clubs. Within a period of two years all the clubs became defunct.

Nagpur District: A local NGO formed and nurtured 80 SHGs with funding support from NABARD. These groups were linked to the branches of four major commercial bank branches. After a period of one year to 18 months these branches provided them with credit. This was used and repaid by all the groups. Thirty five of the groups approached the branches for repeat finance of larger amount. All the four branches dilly-dallied for a long time and finally said no. An Andhra based MFI which just started operating in the region found that these groups which had used bank credit and repaid were potentially good borrowers. It cashed upon this opportunity and extended them credit. With this approach of looking out for SHGs which had been refused repeat loans by banks this MFI built up a loan portfolio of nearly Rs 45 crore in the region-a lost opportunity for commercial banks.

Agricultural credit requires manpower which is knowledgeable in agriculture and rural economy and understands the needs of farmers, especially small and marginal farmers. Commercial banks post their managers in rural branches for a period of three years, which is usually treated as compulsion and completed. In this three year period an individual taking some interest would contribute to better credit flow in his/her service area. But in most cases the period is completed with much disinterest and reluctance. There is no compulsion to perform, as the focus is on not adding to NPAs but not on increasing the advances portfolio, especially to small and marginal farmers. The big farmer is always sought out and provided credit.

### **3. Cooperative Credit System in India**

The cooperative banking sector in India was established by British colonial government in 1904 along the lines of the rural cooperative banking sector in Germany. It is broadly divided into the short term cooperative credit system providing short term and medium term loans and the long term system providing long term loans, initially for debt redemption and subsequently for the support of investments in agriculture. In most states, the short term CCS has three tiers with the Primary Agricultural Cooperative Credit Society (PACS) as the base unit at the grassroot level spread all over the country in which over two million farmers and rural artisans are members. About 70 percent of all rural households or nearly 500 million rural people are basically linked to the short term CCS. On an average about 1000 persons are members per primary society. The main function of the PACS which are primarily owned by the members, are the promotion of thrift and mutual help including the dispensation of credit and allied services. On an average, there is one PACS established for 7 villages. Also due to the small minimum capital participation of Rs.10, the membership is accessible to all persons who live within the range of the PACS and are active in the economy. The level of share holding by a member is tied to the level of borrowing. Generally 5-10 percent of the loan must be paid as capital. In case of repeater loans, the capital participation can go up to 40 percent of the borrowed funds. About 55 percent of all members in the short term cooperative credit structure are currently active in borrowings.

As at the end of March 2005, there are 1,08,779 PACS in the country. The middle tier consists of 367 District Cooperative Central Banks (DCCBs) which act as federations to PACS operating in a district and with wholesale and retail financial functions. The 31 State Cooperative Banks (SCBs) are the apex banks of the CCS in each State who carry out wholesale as well as retail functions. The DCCBs and SCBs together have a network of 13,230 branches. The long-term CCS comprises of 727 Primary Cooperative Agricultural and Rural Development Banks (PCARDBs) with 1081 branches at district and block levels and a total membership about 13 million people. There are 20 State Cooperative Agricultural and Rural Development Banks (SCARDBs) with 877 branches as apex banks at the state level.

Until the end of the 1960s, the Cooperative Banks were the only formal institutions available in India. The CCS plays an important role in accelerating economic growth in rural areas and promotes efforts to reduce poverty. The Cooperative Banking System in which a total of about 355,000 staff are employed mobilises about 31 percent of rural savings and accounts for 67 percent of the agricultural loans and 29 percent of investment credit with a share of 69 percent of the branches/ retail outlets of financial institutions in rural areas. It is the most important financial service provider to the rural community, in particular to small farmers. The CCS with its wide spread retail outlets down to village level and even remote areas, is of high relevance for maintaining and furthering the outreach of financial services to the rural population and would be crucial for deepening rural microfinance services.

### **3.1 Inefficiencies in Cooperative Credit System**

The cooperative banking sector has manifold structural and efficiency problems, often contributing to unsatisfactory financial services and performance. The multi-tier cooperative system has close administration and functional linkages to the state governments. These are categorised by excessive bureaucratic and governmental control and needless political interference with the governance, management and operations. The state governments with their cooperative ministries and the Registrars of Cooperative

Societies (RCS) are constitutionally responsible for cooperative policies, legislation, registration, supervision and auditing of cooperative financial institutions in the individual states. During the 1960s, following the recommendations of All India Rural Credit Survey Report of 1954, many states introduced the concept of state partnership in their state cooperative laws. The resulting laws were encumbered by the political ideology of a planned economy, according to which the state must play an active role in the development of all institutions including cooperatives. The state cooperative acts confer extensive regulatory powers to state governments in matters such as appointment of chief executive officers, supervision, suspension of elected board of directors, amalgamation or division of cooperative banks, amendments of bye-laws, vetoing of bank decisions and issuing of directives. The state cooperative administration is in charge of registration, licensing, statutory inspection and audit of the cooperative banks in accordance with the policy of state partnership. The state participates financially in the ownership of individual cooperative institutions and government ownership can be observed at all levels of the CCS down to the individual primary institutions. Out of the total value of the share capital of the short term CCS, 12.6 percent was owned by state government before the onset of reform process, i.e. in 2004-05.

Government interventions have reduced the autonomy and the democratic functioning of the cooperatives. Elections to the boards of cooperatives are not conducted regularly, due to which a substantial number of institutions in each tier are deprived of guidance and control of democratically elected board. More than 40 percent of all boards were superseded at the start of reform process and the board's functions are taken over of by civil servants appointed by the State Government.

The chief executives of most of the apex banks in the short and long term CCS are usually from the administrative cadres of the state governments. This enhances the state government's influence in the system and hinders the recruitment of professional bankers which is needed in order to professionalise and improve the performance of the CCS.

Besides state cooperative departments, the department of supervision of NABARD is involved in the supervision of rural cooperative banks, as they are covered under the Banking Regulations Act 1949 (as applicable to Cooperative Societies). The resultant overlapping and at times contradictory controls leads to a great deal of confusion and ineffectiveness which often does not help to focus on banking principles, such as achieving financial health in the CCS. According to the existing regulations, only the apex cooperative institutions in the short term structure and DCCBs are considered as banks and therefore subject to NABARD's supervision. In spite of their financial activities including deposit mobilisation to some extent, PACS are not subject to NABARD's supervision. The entire long term cooperative credit system is neither considered as banks nor are they regulated. They are only supervised by NABARD on a voluntary basis.

Corrective action based on supervisory results seldom materialises because NABARD has no direct regulatory power and intervenes only through the state cooperative authorities. A revision of the control system for cooperative banks has been under discussion for some time. The first endeavour to the reform of rural cooperative financial institutions date backs to the 1980s. It was however, not till the end of 1990s that Government of India started to make, in close cooperation with RBI and NABARD, a more concerted effort to rehabilitate the sector. Several reform commissions analysed the weakness of the system and put forward detailed reform proposals, however the implementation of the reform processes has been slow.

### **3.2 Performance of cooperative credit institutions**

The performance of institutions in the CCS is variable. Many institutions are characterised by large variety of shortcomings impacting negatively on their performance including a one side orientation towards agriculture, instead of the rural economy as a whole, low volume and lack of diversification in business portfolio including the unsatisfactory attention to the mobilisation of small savings, inadequate systems and procedures including lack of MIS combined with an absence of systemic audit at all levels. These institutions were also characterised by lack of professional

management, unsatisfactory staff qualifications for an appropriate management of loan portfolio and general banking business and insufficient capacities for staff training. Though these institutions were supposed to be member driven, there was a low level of member involvement and member motivation.

With a critical financial situation due to the financial deficits and low levels of profitability, the viability and sustainability of many institutions in the CCS and thus the continuous provision of financial services to the rural population were endangered. Contributing factors were the limited economic base, low loan recovery rate, high level of non performing assets (NPAs) and low productivity. Additional pressure for performance improvements results from the increasing competition-especially in the larger centres of rural areas-from other rural finance service providers of the formal sector, offering their financial products with more attractive conditions. (e.g. lower interest rates for loans by 2-3 percent per annum. than multi tier cooperative system) The following information indicates the unsatisfactory performance and the critical financial situation of the CCS in year before the start of cooperative reforms.



**Table 5**  
**Health of Rural Cooperative Credit System**

(as on 31 March 2005)

<b>Institution</b>	<b>No of units</b>	<b>No of loss making units</b>	<b>Total accumulated losses (Rs crores)</b>
State Cooperative Banks	31*	6	268
Dist. Central Cooperative Banks	367*	79	4,794
Primary Agricultural Cooperative Credit Societies	1,08,779	40,388	6,862
State Cooperative Agriculture and Rural Development Banks	20	9	1,098
Primary Cooperative Agriculture and Rural Development Banks	727	472	2,475

Source: Cooperative Credit Structure: An Overview-2004-05, NABARD

\* 6 SCBs and 136 DCCBs are not complying with the minimum capital requirements as specified under Section 11 of Banking Regulation Act, 1949 (As Applicable to Cooperative Societies)

The loan recovery rate in comparison to the demand was on an average of all SCBs – 81 percent and 67 percent at the level of DCCBs and PACS. The rate was very low at the level of long-term structure which was 55 percent at the level of SCARDBs and 46 percent at PCARDBs level. Major reasons for impairment are state intrusion in the autonomy of the cooperatives, announcement of interest waiver and loan waiver by state governments without actually compensating them fully and in time, virtual control on the set of functions like elections, audit, interest rate and even investments to be made by cooperatives. The weak financial regulation of cooperative banks is also a reason as NABARD and RBI can implement regulatory prescriptions only through the state government machinery.

Despite such impairment, the wide outreach and deep penetration of CCS among the farming communities especially small and medium farmers make it imperative that the short term CCS remains an important delivery mechanism to fulfilling farmers' needs for credit and inputs. It is obvious, however, that unless legal, institutional and regulatory reforms are undertaken that restores cooperatives as autonomous and member-centric and member-driven institution with greater freedom to access and develop resources, cooperatives will not be able to grow and sustain in today's growing competitive rural finance sector.

### **3.3 Task force for revival of short term cooperative credit system (STCCS)**

It is in this background that a task force for revival of rural cooperative credit institutions was set up by the Government of India under the chairmanship of A. Vaidyanathan in August 2004 to formulate a practical and implementable plan of action to rejuvenate the cooperatives. The first reform process, which has seen implementation at the ground level is the report of this committee. The terms of reference of the task force on the revival of rural cooperative credit institutions were to suggest a special financial assistance to wipe out accumulated losses and strengthen the capital base of CCS, institutional restructuring to make way for democratic, autonomous and self-reliant institutions. The task force was also to suggest radical changes in legal and regulatory framework and qualitative improvement in personnel in all tiers and other interventions through capacity building.

The task force sought the recommendations of earlier committees, held wide ranging discussions and collected and analysed quantitative and qualitative data and information which had a bearing on governance, management and financial status of STCCS. Instead of merely suggesting a general reform agenda, the task force decided to suggest in detail, the course of action on various fronts from legal reform and institutional restructuring to human resources development and computerization, and worked out the responsibilities for action, the order and the phasing for these activities and the costs that would be associated with these tasks. It strongly recommended that any financial infusion should be contingent upon fulfilling the recommended legal and institutional reforms. (Government of India, 2005)

The Government of India accepted the recommendations of the task force in principle and a consultative process was initiated by the Prime Minister and Finance Minister with all the states to arrive at a platform on which implementation of the revival package could take place.

### **3.3.1 Objective of the revival package**

The revival package is aimed at reviving the STCCS and making it a well managed and vibrant medium to serve credit needs of rural India especially the small and marginal farmers. It seeks to introduce legal and institutional reforms necessary for the democratic, self reliant and efficient functioning, take measures to improve the quality of governance and management and provide financial assistance to bring the system to an acceptable level of financial health. All these three components are equally important and are to be treated and implemented as an integrated package. The revival package is a one time measure. Financial assistance will be conditional and released only on the implementation of the recommended legal and institutional reforms. States would have the option to participate or not participate in the package. Those choosing to participate will be entitled to financial assistance under the package if they agree through the mechanism of a formal Memorandum of Understanding or exchange of letters with the Central Government to implement in a phased manner within a period of 3 years the legal and institutional reforms envisaged. States not ready to make the choice immediately will be given 2 years to take a decision on this matter.

Financial assistance under the package includes technical assistance to cover computerisation, installation of standard accounting system and MIS, training and capacity building, in addition to covering accumulated losses in the STCCS. This, however, does not mean writing off of the loans which have been defaulted by the borrowers on the plea that those loans have been covered in the revival package. The cooperative will have to continue to make efforts to recover these loans and thereby improve their financial health further.

The capitalisation will cover all the societies in all the three tiers of CCS. It will be sequential in nature, and each higher tier will be capitalized only after the beneficial impact of the lower tier has been factored in. The liability for funding the financial package will be shared by the Central Government, state governments and the CCS based on origin of loss and existing commitments. The Central Government will provide its share as grants. The states are expected to meet their share from their budget or by open market borrowings. The release of financial assistance under the financial package will be back-ended and linked to achievement of predefined benchmarks in respect of legal, institutional and regulatory reforms and will therefore be phased over a period.

The legal, regulatory and institutional reforms as envisaged under the revival package would set the ground for efficient functioning of rural cooperatives. As financial infusion will take place only after pre-determined and monitorable benchmarks on legal, regulatory and institutional reforms are met, the cooperatives will start functioning on a sound financial and institutional platform and within the conducive regulatory framework.

The aggregate size of the revival package based on the available data worked out to Rs.9, 596 crores. To factor in for data inaccuracies at PACS level, a contingency of Rs 4,000 crores has been provided taking the total package to Rs 13,596 crores. The liability for funding the financial package will be shared by the Central Government, state governments and the CCS based on origin of loss and existing commitments. The Central Government will provide its share as grants. The release of financial assistance under the financial package will be back-ended and linked to achievement of predefined benchmarks in respect of legal, institutional and regulatory reforms and will therefore be phased over a period. As on date 25 states have signed the MoU with Government of India and NABARD and twelve states have amended their cooperative societies acts. Recapitalisation assistance of Rs 8,270 crores has been released to PACS in ten states.

### **3.4 Task Force on Long Term Cooperative Credit System**

After the acceptance of the recommendations of the Task Force on STCCS, the government appointed a task force with similar composition under the chairmanship of A. Vaidyanathan to formulate an action plan for the revitalization of the long-term cooperative credit structure with a similar mandate. While the short term cooperative credit structure is federal in nature throughout the country, the same is not true for the long-term cooperative credit structure (LTCCS). While it is federal in 10 states in which the primary cooperative agriculture and rural development banks (PCARDBs) that provide loans to farmers are federated into a state level state cooperative agricultural and rural development bank (SCARDB), it is unitary in another eight states with state level SCARDB having its own branches for providing loans. In another two states the structure is hybrid, with Andhra Pradesh having a combined structure.

Compared to STCCS which has over 100,000 retail outlets, the LTCCS has only 2,500 outlets. This system also provides only long-term loans. The low outreach and the limited range of products results in higher transaction costs for both the banks and the borrowers and reduce opportunities for borrower-bank contact and make availing of loans difficult. These features also reduce member participation in election and governance and make loan monitoring and recovery difficult.

The LT structure has a membership of about 16 million of which about 82 percent are borrowing members. Although the credit flow by the structure has increased from Rs 1,212 crore in 1992-93 to rs 3,414 crore in 2002-03, its overall credit flow for long-term loans agriculture has fallen from 24 percent to 13 percent. The structure practically functions on borrowed funds, that too mainly from NABARD. During the early eighties minor irrigation and land development constituted almost half of its portfolio. This has come down to only about 20 percent now. At the same time loans for farm mechanization and animal husbandry have increased from about 35 percent to over 60 percent.

The ground level recovery performance in the system in general in five out of the 10 states with federal structure showing recovery percentages less than 50 percent at primary

level while six out of 8 states with the unitary structure showed recovery of less than 50 percent. In the same vein seven of the 10 states under federal structure showed NPAs of over 20 percent while all the states under unitary structure showed much higher NPAs levels.

While seven SCARDBs under the federal structure had net positive margin, nine out of 12 states reported negative net margins at the primary level during the period 2001-02 to 2003-04. Only three states had a positive net margin in the unitary structure. Such negative margins and poor recoveries have resulted in severe losses in the system. As of March 2004 accumulated losses at the PCARDB level aggregated Rs 2,650 crores under federal and mixed structures and rs 217 crore under the unitary structure.

The management of structure is also seriously impaired. The entire system has a generally ageing staff profile, characterized by inadequate professional qualifications and low levels of training. In many of the states more than 50 percent of the staff are above the age of 50. The structure also shows poor levels of governance. An important reason for poor governance lies in the very character of the structure which is purely borrower oriented with no counterbalancing mechanism in the form of depositors. Physical distances, especially in the unitary structure also lead to poor member participation in governance. The fact that lower tiers of the federal structure have to depend on the apex body for resources also reduces their capacity to govern the upper tier. These deficiencies are aggravated by state intrusion in financial and administrative matters like supersession of the boards, directives on interest rates and loan policies, and posting of government staff in the banks.

#### **3.4.1 Recommendations of the Task Force**

The Vaidyanathan Committee for the Long-Term Cooperative Credit Structure (LTCCS) has submitted its report. The reforms envisaged in the revival package are similar to the STCCS package. The key recommendations of the Task Force on institutional restructuring include allowing PCARDBs to access types of deposits from members, to

provide all types of loans to its members and to allow them to borrow from any regulated financial institutions including federal units of the STCCS.

It also recommended that all state equity in LTCCS maybe retired and the conversion of branches of unitary SCARDB into autonomous PCARDBs and allowing PCARDBs to affiliate themselves with an upper tier of their choice. The task force was of the view that SCARDBs should join hands with the SCB in its state and set up support service unit on mutually acceptable terms to provide such services to lower tiers in both the structures.

As in case of STCCS the task stipulated that the system should have a minimum CRAR of 7 percent that has to be increased to 12 percent in 5 years. As no units under the LTCCS is a bank under the BR Act the use of the word 'bank' or its derivatives may be prohibited.

The task force had recommended a financial package similar to that of STCCS which covers the accumulated losses and technical assistance including installation of a computerized standardized accounting, internal control, monitoring and information system, and training and capacity building of the staff and elected representatives. The package would include any amount required for reaching a CRAR level of 7 percent. The financial package envisaged here is to the extent of Rs 4,839 crores. The report is yet to be accepted by central and state governments and the process of implementation is yet to start.

### **3.5 Recent performance of cooperatives**

The financial position of the cooperative credit system in the past two financial years does not indicate any great improvement in terms of their current profitability.

**Table 6**  
**Current profitability of cooperative credit system in India**

(Rs in crores)

	Total No.	In Profit		In Loss	
		No.	Amount	No.	Amount
<b>SCB</b>					
2006-07	31	27	592	4	44
2007-08	31	26	515	5	49
<b>DCCB</b>					
2006-07	370	271	733	98	765
2007-08	370	261	894	108	902
<b>SCARDB</b>					
2006-07	20	9	309	9	70
2007-08	20	9	147	9	48
<b>PCARDB</b>					
2006-07	696	371	438	375	507
2007-08	697	350	484	347	618

Note: Numbers may not add up due to incomplete data

Source: Annual Report of NABARD, 2008-09

### **3.6 Future portents for cooperative credit system in India**

The central government, state government, NABARD and RBI have invested huge amount of financial and human resources into the reform process of the STCCS. Similar investments may take place for the LTCCS also. With a strict oversight of the implementing agents, all the stages envisaged in the reform package i.e. legal reforms, reforming the accounting systems and MIS, training of human resources may be implemented and the financial package may wipe out the accumulated losses and the structures may reach the envisaged capital adequacy level. But it has to be realised that in India, cooperative democracy is closely enmeshed into political economy and finality of decision making on loan administration, staff recruitment and financial management is with the democratically elected boards rather than with professional management. The



future of the cooperative credit institutions would largely depend on the manner in which their democratically elected boards conduct their affairs. The future scenario would therefore be qualitatively not significantly different as compared to the pre-reform package scenario. Therefore in areas where the cooperative credit delivery may fail an alternate system has to be in place. There is no other system which is better suited as an alternative than the regional rural banks system.

#### **4. Regional Rural Banks**

Based on the Narasimham Committee recommendations, the first five RRBs were established on 02 October 1975 under a presidential ordinance. By December 1979, 60 RRBs were established with 2,420 branches having total deposits of Rs.123.22 crore and loan outstanding of Rs.161.41 crore. A Committee under the chairmanship of Prof. Dantwala examined the need for RRBs and their relevance in 1979, which endorsed the need for intensification of the process by covering more and more geographical areas under services of RRBs. Following the recommendations of the above Committee, the tempo in setting up of RRBs gained momentum and 85 RRBs were set up by the end of December 1980 with 3279 branches. By December 1987, 196 RRBs with 13353 branches came into being with deposits amounting to Rs.2305.82 crore in 224 lakh accounts and loans of Rs.2232.26 crore in 93 lakh accounts.

Although RRBs had a rapid expansion of branch network and increase in volume of business, these institutions went through a very difficult evolutionary process due to the following problems.

- Very limited area of operations
- High risk due to exposure only to the target group
- Public perception that RRBs are poor man's banks
- Mounting losses due to non-viable level of operations in branches located at resource-poor areas
- Switch over to narrow investment banking as a turn-over strategy
- Heavy reliance on sponsor banks for investment avenues with low returns
- Barring exceptions, step-motherly treatment from sponsor banks.
- Chairman of RRBs under the direction of Regional Managers appointed as Board of Directors by sponsor banks

- Burden of government subsidy schemes and inadequate knowledge of customers leading to low quality assets
- Unionised staff with low commitment to profit orientation and functional efficiency.
- Inadequate skills in treasury management for profit orientation
- Inadequate exposure and skills to innovate products limiting the lending portfolios
- Inadequate effort to achieve desired levels of excellence in staff competence for managing the affairs and business as an independent entity
- Serious undermining of the Board by compulsions to look upto sponsor banks, GoI, NABARD and RBI for most decisions.
- RRB hampered by an across the board ban on recruitment of staff.

All the above factors led to most of the RRBs eroding their capital and in many cases the depositors' funds as revealed from the following table:

**Table 7**

**Performance of RRBs under Key Parameters at the onset of reform process**

**(in Rs crores)**

Sr.No.	Key Indicators		10	Profitability	
1	Owned Funds	222.83	a)	Number of RRBs in Profits	23
2	Deposits	8864.33	b)	Amount of Profits	21.91
3	Borrowings	1989.68	c)	Number of RRBs in Losses	173
4	Investments	4772.36	d)	Amount of Losses	388.86
5	Loans and Advances Outstanding	5253.02	e)	Number of RRBs having accumulated losses	176
6	Loans Issued	1439.99	f)	Total accumulated losses	1318.16
7	Profit/Losses	-366.95	g)	Number of RRBs sustainable viable	20
8	NPA %	43.07	h)	Number of RRBs current viable	13
9	Recovery %	46.23			

**Turn Around Phase**

The Government of India embarked upon banking sector reforms in 1991. As a part of the reform process, measures for strengthening various credit delivery systems were initiated. For RRBs, which were financially in very bad shape, various options like formation of National Rural Bank of India, merger of RRBs with their sponsor banks, etc. were examined. Considering the important role played by RRBs in dispensation of credit in rural areas, especially to the weaker sections of society, the continuance of the RRBs

was found to be relevant. The Government of India, in consultation with RBI and NABARD decided to recapitalise the weak RRBs to improve their financial health. Following the above decision of GOI, Bhandari Committee and Basu Committee looked into the issues in depth and came out with rehabilitation packages consisting of both financial and non-financial components. Under the financial package, a sum of Rs.2188 crore was provided by the stakeholders of RRBs in the proportion of their equity holding during the period 1994-2000 for cleansing the balance sheet of 187 RRBs.

Under the non-financial package, the following steps were taken to make the RRBs financially viable on a sustainable basis:

- RRBs, which hitherto were financing only target groups, were allowed to finance non-target groups.
- RRBs were permitted to subscribe to the tier II bonds of sponsor banks or other institutions upto 10% of their owned funds.
- RRBs were permitted to open / maintain non-resident rupee accounts.
- RRBs were allowed to finance housing and education loan.
- Introduction of DAP/ MoU and monitoring of implementation.
- HR Development through massive training inputs by NABARD.
- Conduct of ODI as a tool for corporate turn around.
- Exposure visit to good institutions in the country and abroad.
- Rationalization of Investment Pattern.
- Innovative financing through SHGs – Acting as SHPIs.
- RRBs shifted from narrow banking to credit disbursements.
- Prominent role in the programme of doubling of agricultural credit.
- Major role for RRBs in the pilot projects for Financial Inclusion

The Organisational Development Initiative (ODI) which was undertaken in these institutions also assisted the turnaround process. This process improved the organizational climate and staff morale. It could stimulate creative problem solving attitude among RRB staff and explore new business opportunities (Basu and Das, 2000). The revitalisation package worked very positively in turning around most of the RRBs as will be revealed from the comparative position of key statistics as on 31 March 1995 and 31 March 2005. The position further improved during 2008-09 when 81 of the 86 banks turning profitable. RRBs, as a system have attained a landmark business level of Rs.180,157 crore and earned a net profit of Rs.1712 crore. The loan outstanding was

Rs.65,840 crore. There has been spectacular achievement in loan recovery performance, NPA management, and branch and staff productivity.

**Table 8**

**Comparative position of performance of RRBs**

	Particulars	1995	2005	2009
1	Number of RRBs	196	196	86
2	Number of Branches	14509	14484	15235
3	No. of Districts Covered	425	523	525
4	Staff (No.)	70848	68912	68629
5	Owned funds	268	6181	10318
6	Deposits	11141	62143	114317
7	Borrowings	2274	5524	12250
8	Investments	6128	36762	51159
9	Loans and Advances Outstanding	6291	32870	65841
10	RRBs having accu. losses (No.)	175	83	35
11	RRBs in profit (No.)	32	166	81
12	Current Profit	0.29	902	1712
13	RRBs in losses (No.)	164	30	5
14	Current Losses	423	154	34
15	Recovery (%)	51	78	78
16	NPA (%)	43	8.53	5.58

Source: Annual Reports of NABARD

### **Amalgamation of RRBs**

The Vyas Committee recommended the amalgamation of RRBs into State level institutions as it felt that the process of amalgamation would lead to significant reduction in cost of administration and economies of scale (RBI, 2004) With increasing competition in the rural financial markets, particularly from the private sector commercial banks and sponsor banks, the income of RRBs, which are essentially localised units, is likely to decline, threatening the sustainability of RRBs. By contrast, amalgamation would lead to enhanced coverage of geographical areas and the improved outreach of such amalgamated entities would enable them to ramp up growth by diversifying business portfolios. Amalgamation would further result in efficient and optimum utilisation of the financial and non-financial resources due to a combination of synergy and transaction costs sharing potentials. Amalgamation would lead to rationalisation of staff and their need based allocation and redeployment. Besides, the inter district transferability potential can improve the prevailing 'not so exemplary' work culture. Based on these recommendations, Govt. of India allowed RRBs sponsored by the same bank within the same State to be amalgamated in a phased exercise. The process of amalgamation is more or less complete, state-wise sponsor bank-wise. The total number of RRBs is now 86.

Further, State-wise consolidation of banks has the potential to unleash considerable synergies in terms of manpower redeployment and fund resources maneuverability, initiation to new product launches, especially those driven by technologies like internet banking, remittance transaction, debit/credit cards and anywhere banking services, transaction cost savings, etc. in the long term. The larger area of operations consequential to consolidation also provides considerable leverage in profit and viability prospects of RRBs due to their ability for cross-transfer of business risks across different regions of operational areas and sectors. Consolidation can lead to creation of a number of modest and medium sized banks, which will no longer remain tiny banks with little means. RBI's recent policy prescription for the financial sector reforms also laid considerable emphasis on banking consolidation and self-reliance.

### **Exit of Sponsor Banks**

The sponsor banks which hold 35 percent of the share capital control the management role fully including deputing the Chairmen, General Managers and other senior officers. This was the need of the hour in 1976 when RRBs had no staff and no management experience. This system needs a relook at this juncture. The Boards of the RRBs will have to take upon themselves much of the responsibilities, which are hitherto with the sponsor banks. The need for sponsor bank was essential at the time of setting up of RRBs and also to run the same till such time, the RRBs themselves were in a position to operate on stand-alone basis without operational support. Besides, RRBs being very small units, with limited area of operations, manpower, business levels as compared to commercial banks for conduct of business / undertaking any development, there was little economy of scale, necessitating the need for support / hand holding from sponsor banks. In sponsor the changed scenario after amalgamation, there is a need to review the relationship of bank vis-à-vis RRB. Sponsor banks are sometimes perceived as competing in the same business and product market space with RRBs.

The relationship between sponsor banks and RRBs needs to be changed. The main reason for the stunted growth of RRBs as a structure was the narrow vision of their sponsor banks that did not allow them to expand their operations. The time has come for the RRBs to come upon their own and play a greater role in agricultural credit under the overall guidance and advice of NABARD. To ensure this the umbilical cord to their sponsor banks has to be severed. In principle no business should be owned (or managed) by its competitor; if it happens so, the result is either cannibalisation or stunted growth. RRBs have to emerge as independent institutions and expand their operations and step-in into areas where other institutions are reluctant or unable to operate.

### **Expanding the role of RRBs**

RRBs were set up with the intention of taking banking services to the villages to cover such categories of rural masses, which hitherto were considered unbankable by other institutions specially the commercial banks. From Table 1 it may be seen that although there has been substantial growth in lending of RRBs, their share is not commensurate

with their vast network and manpower. With the existing network, RRBs have the potential to achieve a 25 percent share of the ground level credit to agriculture as against less than 10 percent as on 31 March 2009. In agricultural credit, the share of RRBs stand at 10 percent under crop loans while under medium/long term loans, the same is just 5 percent. However, there is a silver lining that the growth in lending in agriculture under the programme of doubling of credit, the average growth rate which was just 8 percent in 2000-01 increased substantially to 63.6 percent in 2004-05. The performance of RRBs has been highly satisfactory in so far as taking the banking services to the rural poor is concerned. RRBs have 121 lakh loan accounts out of about 1300 lakh rural households. The per account loan, as on 31 March 2005 was Rs. 21469 as against Rs. 97207 of the PSBs as on that date. This confirms that the RRBs, as mandated, have mostly covered the people of small means belonging to the target groups.

Thus RRBs have to take on an expanded role. In the next three years their branch presence needs to be doubled to nearly 30,000. This requires a vast increase in their staff strength. With the older staff superannuating in the next three years, there would be an accretion of younger and modern skilled human resources to these banks who can be moulded to deal with the changing needs of agricultural credit. Along with this a scheme of commercial banks voluntarily relinquishing their branches to RRBs may be introduced. With this programme we may expect the addition of another 8-10,000 branches to RRB system. With these additions we would be poised for a situation in which RRBs take a major stake in agricultural credit-a role in tune with their original mandate.

To enable RRBs to take on their new role as the main purveyors of agricultural credit they require a forward looking mentor and guide who is experienced in the area of agricultural credit. This role can be provided by none other than the apex bank for agricultural credit-NABARD. The present 50 percent shareholding of the Government of India may be transferred to NABARD, so that it can have a decisive say in the policies of these institutions, especially those policies related to agricultural credit.



## **Conclusion**

The discussion above indicates that though a multi agency approach exists for agricultural credit delivery system in India, two arms of this system have their systemic shortcomings. Commercial banks are reluctant partners for agricultural credit and cooperatives have their non-professional decision making which is corroding their existence. In this context, harnessing their inherent strengths, the RRBs can be made to play a pivotal role. The future of credit delivery system for agriculture has to be designed with the Regional Rural Banks as the fulcrum. They have to take on a greater role by expanding their existing network and manpower and emerge as the main credit delivery mechanism for agricultural credit. If they take on such a role, the deficiencies of the cooperative and commercial banking systems will not hamper the overall credit delivery to agriculture in India.

## **References**

- Basu, Kishanjit and Prasanta Das (2000): 'Evaluation Dilemmas in OD interventions: Mixed record involving Indian rural credit institutions', *Public Administration Quarterly*, Vol 23-4.
- Government of India (2005) 'Report of the Task Force on Revival of Rural Cooperative Credit Institutions' (Chairman: A. Vaidyanathan), Ministry of Finance, Government of India, New Delhi.
- NSSO (2005) 'Situation Assessment Survey of Farmers-Indebtedness of Farmer Households: NSS 59 th Round (January-December 2003), National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- RBI (2004 ): 'Report of the Advisory Committee on Flow of Credit to Agriculture and Related Activities from the Banking System' (Chairman: V S Vyas) Reserve Bank of India, Mumbai.
- Samal, B. (2002): 'Institutional Credit Flow to West Bengal Agriculture: Revisited', *Indian Journal of Agricultural Economics*. 57 (3), July-September: 546-559
- Satish, P (2005), 'Agricultural Credit: Are there two distinct classes of borrowers?' *Indian Journal of Agricultural Economics*, Vol 60, No 3, July-September.

Satish, P (2006), 'Institutional Credit, Indebtedness and Suicides in Punjab' Economic and Political Weekly, June 30.

Shergill. H.S. (1998): 'Rural Credit and Indebtedness in Punjab', Institute for Development Communication', Chandigarh