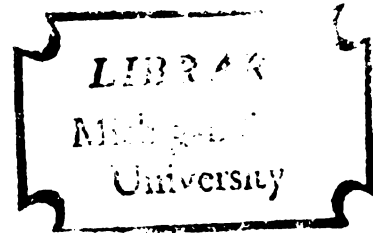


AN ANALYSIS OF COOPERATIVE
AGRICULTURAL CREDIT INSTITUTIONS
IN INDIA: A CASE STUDY OF
THE PRIMARY CREDIT SOCIETIES
IN RAJASTHAN

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
CHAIN SINGH BARLA
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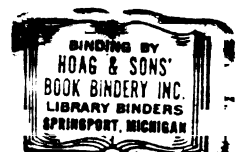
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ABSTRACT

AN ANALYSIS OF COOPERATIVE AGRICULTURAL CREDIT INSTITUTIONS IN INDIA: A CASE STUDY OF THE PRIMARY CREDIT SOCIETIES IN RAJASTHAN

By

Chain Singh Barla

This study had four objectives: First, to explain the concept of adequacy of agricultural credit; second, to review and evaluate the recent progress and financial health of cooperative agricultural credit institutions serving Indian agriculture; third, to examine the adequacy of credit for different categories of farmers, stratified according to size of holdings; and finally, to suggest certain modification in the existing cooperative agricultural credit policy in India.

In addition to the amount of loan, three other criteria were developed to measure the adequacy of credit in a farm situation: rate of interest, terms and conditions of loans and timing of loan disbursement and recovery. All policies relating to the supply of agricultural credit need to consider these criteria.

Since 1951 government has spent over Rs. 2,000 million for the development of cooperative agricultural credit institutions in India. In addition, generous loans have been provided by the Reserve Bank of India to cooperative credit

institutions. As a result, the supply of short term and medium term cooperative credit increased from Rs. 220 million in 1951-52 to Rs. 5,780 million in 1970-71. By the end of the Fourth Five-Year Plan (1973-74) and the Fifth Five-Year Plan (1978-79) cooperative agricultural institutions are expected to raise the levels of their credit to Rs. 7,500 million and Rs. 12,500 million, respectively.

However, no serious thoughts have been given during the past two decades to improving the terms and conditions of cooperative short and medium term credit and to improving the efficiency of cooperative personnel. Due to a mounting number and amount of overdue loans, cooperative agricultural credit institutions are generally facing a financial crisis throughout the country. The situation seems more critical in a few states such as Rajasthan, Assam, West Bengal and Bihar.

An intensive analysis of the financial health and operational behavior of the primary credit societies showed that most societies in Rajasthan are in a deplorable financial condition. Overdue loans of these agencies have absorbed not only their share of capital but have also eroded a sizeable part of the capital borrowed from the district central cooperative banks.

In order to measure the adequacy of cooperative agricultural credit at the farm level, a random sample survey of 161 farm households was conducted in the district of Jhalawar in

Rajasthan. It was empirically shown that the marginal value product (MVP) of purchased inputs was very much higher than that of the farm grown inputs. Conversely, the MVP of labor was close to zero or negative.

Cross section analysis revealed that unless technological improvements are introduced, an increased supply of credit may imply a wasteful use of capital on small farms (having less than 2.5 hectares). On the other hand, under the existing state of technology, availability of more credit will help medium farmers (having 2.51 to 6.00 hectares) optimize the use of capital. Thus, technology is a constraint on small farms, whereas credit is relatively more, critical on medium size farms.

In view of the inter-regional and inter-farm variations in climate, soil and other factors prevailing in India, a case for regional credit policy was developed in this study. If cooperatives are preferred to other agencies for supplying additional credit to farmers, they need to provide credit at the terms and conditions which are suitable to farmers as well as to their own health. The present magnitude of overdue cooperative loans has plunged cooperatives into a financial crisis. Setting targets for the supply of agricultural credit through cooperatives requires simultaneous steps to reduce the incidence of overdues. Suitable measures are also required to strengthen the capital base of cooperative agricultural credit institutions and to improve the efficiency of cooperative personnel.

AN ANALYSIS OF COOPERATIVE AGRICULTURAL CREDIT
INSTITUTIONS IN INDIA: A CASE STUDY OF THE
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By

Chain Singh Barla

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CHAPTER I

INTRODUCTION

During the past two decades Indian agriculture has experienced considerable change. The cropped area and availability of irrigation have both registered a 20 percent increase in this period. Programs for soil conservation and land improvement are underway. New agricultural legislation in different states appears to have provided ownership rights and improved security of tenure for large numbers of farm households.

The most significant change that appears to have affected the psychology of tradition-bound Indian farmers is the seed-fertilizer revolution, and the resultant increase in the demand for new, high yield varieties (HYV) of seeds and for chemical fertilizers. Within five years after 1966-67 the area under HYV of seeds increased from less than 2 million hectares to 14 million hectares.¹ Whereas under a traditional system farmers generally use farm grown seeds and manures, technological change induces them to use more purchased inputs. Besides, due to 10 percent change in the gross cropped area between 1964-65 and 1970-71, the demand for traditional inputs appears to have increased as well. For these reasons, the demand for agricultural credit has risen greatly in recent years.

No precise estimates are available about the demand for short-term agricultural credit in India. Rough estimates, however, indicate that the annual borrowings of Indian farmers increased from Rs. 12,350 million in 1960-61 to Rs. 24,000 million in 1970-71.²

It is conceivable that with the completion of on-going major and minor irrigation schemes, and with a better understanding of the new inputs among the millions of small and medium size farmers, the seed-fertilizer revolution will further expand over the next few years. This will, in turn, greatly increase the capital absorptive capacity and demand for credit among Indian farmers.

Present Sources of Short Term Agricultural Credit in India

Traditionally moneylenders have been a major source of agricultural credit in India. Until 1961-62 they provided about 50 percent of the total (short term) agricultural credit.³ In recent years, however, moneylenders have begun to lose their supremacy in the agricultural credit markets. In the first place, agricultural legislation in several states of India prevents them from occupying the land owned by defaulting borrowers, particularly when the latter are small farmers. Secondly, the same legislation directs moneylenders to obtain a license from the government, and requires them to file periodic returns to the government. At the same time, moneylenders are also obliged to provide receipts to their clients after the loans are repaid. Finally, maximum

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rates of interest have been prescribed by the state governments. These legal provisions discourage cheating and improper adjustments in accounts which were common until recently. Moneylenders have become skeptical about the scope and prospects of their operations in the rural areas.

In the face of growing demand for credit, however, even a slight decline in the number of moneylenders is likely to create an important gap between the demand for farm credit and its supply. The pace of agricultural development in India will, in fact, be considerably influenced by the availability of credit--its amount and conditions of disbursement and recovery.

Next to moneylenders, cooperatives are the second major source of agricultural credit in India. During 1970-71 cooperatives advanced Rs. 5,780 million as short and medium term credit to Indian farmers. A detailed description of the cooperative agricultural credit will be presented in a later section of this chapter. In addition to moneylenders and cooperatives another important source of credit is the commercial banking system. Until recently, commercial banks had remained indifferent to agricultural finance, but in the last five or six years they have come forward to meet a very much larger demand for short and medium term credit needs of Indian farmers. During 1961-62, commercial banks advanced Rs. 60 million to farm households all over the country, but by 1970-71 their loans to farmers increased to Rs. 853 million.⁴

However, as commercial banks have limited coverage of rural areas, they cannot be relied upon for the supply of agricultural credit to large areas of agriculture.

Retail traders also constitute an important source of credit in rural areas. However, they are primarily concerned with financing the consumptive needs of rural households, and may not be able to meet the growing productive needs for credit.

Government agencies such as the Agricultural Refinance Corporation, the Rural Electrification Corporation and the Departments of Agriculture of the state governments also provide loans to farm households. Their focus is, however, on big projects having long gestation periods. Generally, government agencies do not provide direct finance to the small and medium land owners. Further, due to bureaucratic formalities and complexities involved, regardless of low interest rates, farmers generally become skeptical about government finance.

Under these conditions in India, cooperatives seem to be particularly suitable institutions to provide agricultural credit. It may be argued that both moneylenders and cooperatives have unique opportunities to comprehend the detailed problems facing Indian farmers. In reality, cooperatives have two advantages over moneylenders. One advantage is that cooperatives are a part of a wider super-structure running from the Reserve Bank of India down to the village cooperative. As a result, they have access to larger amounts

of funds than moneylenders who generally work on an individual basis. Second, there is an ideological difference in approach too which can favor cooperatives. While a moneylender works primarily for personal profit (which may involve monopolistic exploitation of borrowers), cooperatives are expected to work for the welfare of farmers. Cooperatives do follow basic rules of business enterprise, but their approach is based on the dictum of "maximum welfare of the maximum number."

Yet, over-emphasis on cooperative credit has a danger of, what may be called, cooperative chauvinism. Penny remarks that in recent years most governments in the developing countries have designed their agricultural credit policies with a strong conviction that cooperatives are the most suitable institutions to supply agricultural credit. He also observes two additional hypotheses under which these governments seem to be molding their cooperative credit policies: (i) that the cooperative credit should be supplied at a subsidized interest rate and (ii) that credit to the small farmers is an effective method to provide a large expansion of capital use for those who have so far been denied adequate credit.⁵

Guided by such beliefs the Union (Federal) and state governments in India have spent over Rs. 1,800 million on development of cooperative credit institutions since 1951. Out of this amount Rs. 1,300 million was spent during 1961-71. At the same time, the short term Reserve Bank of India credit to cooperatives has been raised from Rs. 183 million in 1960-61 to Rs. 5,200 million in 1970-71.⁶

The Problem

These massive programs of expanding agricultural credit through cooperatives have enlarged the geographical coverage of cooperative credit institutions, and have also increased the flow of short term cooperative loans from Rs. 1,828 million in 1960-61 to Rs. 5,200 million in 1970-71. Cooperative credit appears still inadequate in relation to the overall demand for agricultural credit.

However, the financial health of cooperative credit institutions has deteriorated in recent years. Lately, various conferences of the registrars of cooperative societies have repeatedly shown their deep concern about the growing overdues of cooperatives at the district and village levels.

The interest rate of 9 percent charged on short term cooperative loans, is much lower than the rate charged by other agencies. Further, in an inflationary situation such a low rate approximates a zero percent rate.

Indian planners hope that by the end of the Fourth Five-Year Plan (1973-74), cooperatives will be able to provide Rs. 7,500 million in the form of short term and medium term loans. A central question is how can the cooperative agricultural credit institutions achieve this goal while increasing their financial stability or at least without further weakening the cooperative agricultural credit system?

Objectives of the Present Study

This study has been undertaken with the following

objectives: (1) to define the concept adequacy of agricultural credit, especially the adequacy of cooperative agricultural credit in India, (2) to evaluate the recent progress and financial health of cooperative credit institutions in India, and particularly in Rajasthan, (3) to examine the availability of credit to different groups of farmers (stratified according to size) in the district of Jhalawar, Rajasthan, and (4) to recommend certain modifications in the existing cooperative agricultural credit policy.

Numerous estimates of the demand for short term agricultural credit in India have been made in recent years. Economists and policy makers have developed the practice of comparing these estimates with the present availability of cooperative credit and in this way have indicated the inadequacy of institutional credit in India.

It appears that the past estimates of demand are obsessed with subjective, personal biases and fail to provide a close approximation of the demand for agricultural credit in India. This study hypothesizes that supply of credit by some agency (cooperative or otherwise) provides just one criterion for ascertaining the adequacy of such credit. In addition to the amount of loan, rate of interest, terms and conditions of the loan the procedural formalities and the timing of loan disbursement and recovery also need examination when determining the adequacy of agricultural credit.

As noted above, the development of cooperative credit institutions has been one of the major objectives of Indian

planners. However, in the process of increasing the number and coverage of such institutions, and while channeling huge funds into the cooperative pipeline, they appear to have paid very little attention to the problems of cooperatives. In fact, the progress of cooperative credit institutions should be evaluated on the basis of their quantitative achievements (geographical coverage and increase in their loan operations) as well as their financial health and efficiency.

Recent studies and reports of the agro-economic research centers indicate that small farmers have been so far neglected by the cooperative credit institutions. It was hypothesized by Professor Schultz that investment in the traditional inputs is not likely to bring agricultural transformation in the developing countries.⁷ In other words, capital may not be a constraint in the traditional agricultural societies. It is however, possible that even within a traditional set up, availability of capital (including credit) becomes a constraint to a group of farmers, whereas the other group(s) may have a relatively easy access to capital. Such a situation warrants a redistribution of agricultural credit rather than an increase in its supply.

The Program of This Study

The present study is divided into six chapters. The present chapter presents, apart from the objectives listed above, a brief description of the scope and methodology followed in this study.

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Chapter II examines the assumptions and methodology used in estimating the demand for credit by committees and individuals who have presented estimates in recent years. Chapter II also presents certain criteria for testing the adequacy of credit.

A brief review of the progress made by cooperative credit institutions in India has been given in Chapter III. This chapter also reviews the reports of various committees on cooperative agricultural credit, and analyses the extent to which their recommendations have influenced the cooperative credit policy in India. This chapter also examines recent trends in the financial health of cooperative credit institutions.

A similar review with respect to the cooperative credit movement in Rajasthan has been presented in Chapter IV. Rajasthan has a relatively backward economy and the health of cooperatives in this state is poor in comparison with other states. This chapter also provides the author's own perception of the problems facing cooperative credit institutions in Rajasthan, based on field trips and experience.

Chapter V presents a micro study of a sample of 161 members of a cooperative agricultural credit society in the district of Jhalawar in Rajasthan. This survey was conducted with a view to (a) comparing the effectiveness of different inputs, especially of the owned or home produced inputs with the purchased inputs, (b) identifying the significant variables among the owned and purchased inputs for the

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expansion of agricultural production, and (c) examining the extent to which credit is a constraint to different categories of farmers (stratified according to size) even under a traditional agricultural setting.

The last chapter (Chapter VI) contains a brief summary and suggested modifications in the cooperative agricultural credit policy in India. The thrust of the arguments presented in this chapter is that improvement in the financial health of cooperatives and in the efficiency of cooperative personnel is at this time as important as the geographical and numerical expansion of cooperative credit institutions.

Scope of This Study

This study is limited to an analysis of short term agricultural credit.* However, reference to other forms of credit has been made where they are related to short term loans. While some of the analysis is related to the whole of India, primary focus will be on the state of Rajasthan.

*According to the Crop Loan Manual issued by the Reserve Bank of India (1966) agricultural credit was divided into three categories: (a) short term credit or crop loans obtained principally to finance the current farm business, (b) medium term credit which is given for the sinking of new or the repair of old wells purchase of bullocks, installation of pumping sets and purchase of small and low cost farm machinery. Such loans are repayable within 3 to 5 years, (c) long term credit provided for sinking of new wells, construction of tube wells permanent improvements on land and purchase of tractors.

The conclusions drawn from the field survey, are limited to the farm situation prevailing in the sample area only.

Sources of Data and Methodology

Data for Chapters II through IV were obtained from the various reports published periodically by the Reserve Bank of India and the Office of the Registrar of Cooperative Societies, Government of Rajasthan. Secondary data were also obtained from a few of the reports published by the Ministry of Agriculture, Government of India and other official agencies.

For Chapter V a sample of 161 farm households was drawn from the Salri Primary Cooperative Credit Society in the District of Jhalawar in Rajasthan. Data on landholdings, amount and value of inputs used for different crops during 1971-72 and the amount of short term loans obtained from different sources (including cooperatives) were obtained through personal interviews of the sample households.

As noted above, farm households were stratified according to size of holdings. Both the linear and the Cobb-Douglas (log linear) models of a production function were fitted to evaluate the significance of different inputs for different categories of farmers.

One of the major objectives of regression analysis was to test the rationale for current policies on agricultural credit in India. As explained in the following chapters, the focus of these policies has been on increasing the volume

of cooperative credit, particularly that part of such credit which goes to the small farmers. The present misgivings among economists and expert bodies on cooperative credit will also be examined in detail in the following chapters.

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CHAPTER II

ESTIMATES OF THE DEMAND FOR CREDIT IN INDIAN AGRICULTURE AND EVALUATION OF ALTERNATIVE MEASURES OF ADEQUACY

Normative judgement about an appropriate policy for agricultural credit generally requires an estimate of the demand for credit in a given area. Such an approximation is based on an estimate of the capital requirements and savings of farm households in different categories.

The need for farm capital largely depends on the soil and climatic conditions, the state of technology, and the types of crops grown. In a region containing homogeneous soil and climatic conditions, the capital needs per hectare for a given crop will be uniform and determined by the past experience and traditions. The credit need reflects, in addition, savings in a given year which are the surplus of household income (from all sources) over the household consumption needs.

Before setting targets for the supply of credit, policy makers should ascertain the quantity of credit needed in a stratum of households, and/or for given crops in the region. Gross under or over estimation of credit needs or arbitrary target setting for, say, institutional credit, may leave

large gaps in the availability of credit, or may, otherwise, result in a wasteful use of capital by the farm households not needing it. This chapter presents some previous estimates of credit needs and the criteria which can be used to judge the adequacy of farm credit in a region.

Estimates of Credit Needs in India

In view of the inter-regional variations in soil types, distribution of rainfall, irrigation systems, cropping pattern and farming practices prevailing in India, good estimates of agricultural credit needs for the whole country appear difficult, if not impossible. Farm management studies in different states reveal that even within a region, per hectare expenses on various inputs have a wide range. Further, borrowings for household consumption are largely determined by noneconomic forces such as religion, caste and traditions of the community. For these reasons, credit needs per household or per hectare are not easy to estimate.

Yet, attempts can be made to obtain a rough guess of such needs under varying conditions, first at the micro level and then for a given region. The thrust of the arguments presented in this chapter is that no estimation of farm credit needs for the whole of India can avoid generalization and no credit policy is likely to succeed unless it takes cognizance of inter-regional and inter-farm variations. Conversely, micro level studies too would fail to provide any guideline for formulating a rational nation wide credit policy.

Earlier Estimates of Agricultural Borrowings

The first estimates of all-India agricultural borrowings were made by the All India Rural Credit Survey Committee (RCS) in 1951-52. After a nation wide comprehensive survey, the RCS Committee reported that 58.6 percent of all the cultivating households in India borrowed in 1951-52 and that their total loans aggregated to Rs. 7,500 million. Ten years later, the All India Rural Debt and Investment Survey (AIRDIS) was conducted on a similar scale. This survey estimated agricultural borrowings (for 1961-62) at Rs. 10,341 million. During a decade, therefore, agricultural borrowings increased by almost 50 percent.* It must be mentioned in this context that as the use of high yielding varieties (HYV) had not yet begun, most of this increase in agricultural credit was due to the 16 percent increase in cropped area, the availability of more irrigation facilities and in part, increases in the prices of farm inputs and household consumer goods.

With the introduction of HYV seeds and increased use of chemical fertilizers and pesticides during the past 6-7 years,

*Purpose wise borrowings for 1951-52 and 1961-62 were estimated to be as follows:¹

(Percent to Total Amounts Borrowed)

	Capital Expenditure on Farm	Current Expenditure on Farm	Family Expenditure	Others ^e	Total
1951-52	31.5	10.5	46.9	11.0	100.0
1961-62	22.1	13.5	46.6	17.8	100.0

^eOther purposes include current and capital expenditure in nonfarm business and miscellaneous purposes.

the demand for credit seems to have increased enormously. Various studies by the Program Evaluation Organization of the National Planning Commission, the Reserve Bank of India, and the regional Agro-Economic Research Centers indicate that the cash needs per hectare in an HYV seed area have increased 80 to 125 percent as compared with traditional farming areas.² A larger number of the recent estimates of agricultural credit needs are, therefore, based on these studies. However, it appears wise to examine how the estimates of agricultural credit were made in order to evaluate their relative merits.

Recent Estimates: Study Group of the
National Credit Council

In October, 1969, a Study Group submitted its report to the National Credit Council (Reserve Bank of India) and presented a rough and ready estimate for agricultural borrowings during 1967-68. The Group worked out three separate estimates and then took their arithmetic mean. The first preliminary estimate was based on the total borrowings for current farm business and three-fourths of those for household expenditure in 1961-62. It then related these loans to the national income from agriculture during that year. It was estimated that agricultural loans constituted about 7 percent of the total national income in 1961-62. Since the national income from agriculture during 1967-68 was estimated

at Rs. 155,920 million, credit requirements in that year were estimated at Rs. 11,150 million.

The second preliminary estimate was also based on 1961-62 borrowings, but this time the Group worked out per acre borrowings (total loans for current farm business and three-quarters of loans for household expenditure divided by the net cropped area). This estimate was inflated by 70 percent to allow for changes in price level. This estimate indicated that per acre borrowing in 1967-68 was Rs. 2,568, and total agricultural loans were put at Rs. 12,750 million.

The third preliminary estimate was based on the Reserve Bank's surveys conducted in the Intensive Agricultural District Programs (IADP) areas where the HYV seeds and other complementary inputs were introduced by the Government. The costs per acre reported in these surveys were adjusted for price rise, and the credit requirement per acre was put at Rs. 30 for 1967-68. On this basis, the overall borrowings were estimated at Rs. 10,600 million. However, these estimates included only production credit needs.

The Study Group then took the average of the three preliminary estimates and concluded: "Based on these estimates, credit requirements for current farm expenses in 1967-68 can roughly be placed at Rs. 12,000 million."³ It was then argued that since cooperatives and commercial banks provided only Rs. 3,580 million and Rs. 440 million to the farm sector in 1967-68, there was a credit gap of Rs. 7,890 million

or 66.5 percent of the total needs which was met by money-lenders and individuals (Table 2.1).

However, the Group dropped household borrowings from their final estimate. Secondly, their estimates are largely based on the data obtained by AIRDIS in 1961-62. Marginal adjustments for HYV seeds and a blanket upward adjustment in the earlier scales of credit per acre raises questions about the reliability of these estimates. Finally, these estimates were made for the loans contracted ex-post, and hence they provide no policy guideline.

Working Group of the Agricultural Production Board⁴

Government of India's Agricultural Production Board appointed a Working Group in 1965 to project agricultural credit needs for 1970-71. The Working Group estimated total cash requirements separately for traditional farming areas and those areas in which improved inputs were expected to be used in 1970-71.* It was contended by the Group that the new inputs involve a relatively higher (per acre) cash expenditure than the traditional ones and, therefore, the proportion of credit content in the former would be 70 percent as against 40 percent credit content in the traditional inputs (Table 2.2). Two important features in these estimates deserve careful attention. First, the Working Group considered only production credit. Secondly, even among the production credit needs, only seasonal farm business needs (short term

*However, they based their estimates on the field surveys undertaken in different areas. Each sample unit had an average of 10 acres of holding.

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**TABLE 2.1.—National Credit Council Estimates for Credit Requirements
and Availability of Institutional Credit in 1967-68
(Amount in Million Rupees)**

Agency	Short-Term Credit	Medium-Term Credit	Long-Term Credit	Total Credit
Total Borrowings by Farmers	12,000	1,000	1,600	14,600
Availability From				
(i) Cooperatives	3,580 (29.8)	460 (46.0)	830 (51.9)	4,870 (33.4)
(ii) Commercial Banks	440 (3.7)	130 (13.0)	200 (12.0)	770 (5.3)
Total Institutional Credit	4,020 (33.5)	590 (59.0)	1,030 (64.4)	5,640 (38.6)
Credit Gap met by Money Lenders and Individuals	7,890 (66.5)	410 (41.0)	570 (35.6)	8,960 (61.4)

Note: Figures in parentheses show percentages to total amount.

Source: Indian Cooperative Review, Vol. IX, No. 4, July 1972.

TABLE 2.2.--Short-Term Agricultural Credit Requirements For 1970-71 (Projected by the Working Group of Agricultural Production Board) (Amount in Million Rupees)

Item	Total Cash Requirements in 1970-71	Proportion of Credit	Credit Needs Projected For 1970-71
A. Traditional Agriculture			
(i) Wages for Hired Labor	6,500	40	2,600
(ii) Seeds	1,730	40	690
(iii) Manures	1,490	40	600
(iv) Fodder	3,780	40	1,510
(v) Other Materials	170	40	70
(vi) Hire of Implements and Bullocks	260	40	100
(vii) Maintenance and Repair of Implements and Machinery	300	40	120
Total for A	14,230		5,690
B. Improved Agriculture			
(i) Seeds of New Varieties	560	70	390
(ii) Fertilizers	5,220	70	3,650
(iii) Pesticides	720	70	500
(iv) Cost of Fuel and Lubricants for Mechanized Cultivation	1,800	40	720
(v) Fuel, Lubricants and Electricity Charges for Irrigation	270	40	110
Total for B	8,570		5,370
Grand Total (A + B)	22,800		11,060

Source: The All India Rural Credit Review Committee: Report, Bombay, Reserve Bank of India, October 1969, p. 82.

needs) were taken into account. The estimated national credit needs for 1970-71 were put at Rs. 11,060 million.

These estimates suffer from the following weaknesses:

(1) They were based on the data drawn from farms with an average size of 10 acres. However, in India more than 80 percent of the holdings are below this average. Farmers with less than 5 acres of holdings constitute over 70 percent of the cultivating households and various studies indicate that their dependence on hired labor is very low. Thus, there is an over estimation of the cash needs for hired labor.

(2) Empirical evidence is also available to show that the cash needs for fodder are over estimated, as most of the farmers feed farm grown fodder to their cattle.

(3) Assigning fixed proportions for credit needs for all farmers appears erroneous as it ignores inter-farm and inter-regional variations relating to size, farming practices and the nature of the crops grown.

(4) Field surveys conducted by the Agro-Economic Research Centers and the Directorate of Economics and Statistics in the Ministry of Food and Agriculture have shown that until 1969-70 in most of the selected districts, the new HYV seeds and fertilizers were used largely by the well-to-do farmers who met 50 to 60 percent of the additional cash expenditure from their own funds.⁵ While the situation has changed in recent years, the Group's blanket proposal that 70 percent of the outlay on new inputs would be met through credit in 1970-71 seems to contain an upward bias.

Estimates of Agricultural Credit Needs in 1973-74

Three independent estimates have been recently released for agricultural credit needs at the end of the Fourth Five-Year Plan (1973-74). The first of these estimates was made by the All India Rural Credit Review Committee in its report submitted in December 1969. Second and third estimates are the results of exercises done by a Working Group of the Government of India (1970) and Mr. P. C. Bansil, the Joint Director of Agricultural Price Commission.

All India Rural Credit Review Committee's Estimates⁶

The Rural Credit Review Committee (RCRC) appeared aware of the dangers of blanket prescriptions for credit in all areas and, therefore, made separate estimates of credit needs for HVP areas, non-HVP but irrigated areas and totally dry regions. Data about the use of inputs in 1967-69 (seeds, fertilizers and pesticides) were obtained from the Planning Commission.* Projected demands for fertilizers and pesticides and the expected acreage under HYV seeds and non-HYV irrigated areas in 1973-74 were obtained from the Draft Fourth Five-Year Plan. The Committee felt that by the end of Fourth Plan, fertilizers would be used extensively in non-HVP irrigated and

*It was contended by the Rural Credit Review Committee that such data were drawn from large samples of farm households for the three regions, and could be relied upon. HVP areas are those where the high yielding varieties of seeds are being used.

unirrigated areas. This would, in turn, increase the demand for credit among all sections of the cultivating households. Similarly, demand for HYV seeds and pesticides was also assumed to show enormous increase during the Fourth Plan period. Further, it was assumed that use of improved seeds and fertilizers would also reflect in an increased demand for cash for the payment of wages, irrigation charges and other purposes.* The scales of finance (cash component) were carefully computed for each crop and the overall production (cash plus kind components) credit needs for the entire country were put at Rs. 20,000 million for 1973-74 (Table 2.3)**.

It was assumed by the RCRC that the kind component is likely to constitute a major proportion of the credit needed in HYV areas. On the other hand, in the unirrigated areas the overall cash needs will be more important. The Committee claimed that (unlike in the past) for the fulfillment of the targets for HYV programs, the "recommended critical inputs" must be fully utilized.

These estimates do provide an insight into the probable production credit needs in the face of changing technology.

*On the basis of National Sample Survey (17th Round) findings it was presumed that one-third of the total area was held by the households with over 20 acres of farm size and that these farmers would not require any credit.

**See Appendix A.3 for similar estimates during 1970-71. It would appear that between 1970-71 and 1973-74, short-term credit needs would increase from Rs 15,881 million to Rs. 20,000 million.

TABLE 2.3.--Estimates of Short-Term Agricultural Credit Requirements in India in 1973-74

Type of Area	Estimated Area		Kind				Total Costs (5+6+7)
	Million Hectares	Million Acres	Value of Fertilizers Likely to Be Used	Fertilizers Likely to Be Given on Credit	Seeds	Pesticides	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			-----Million Rupees-----				
High Yielding Seeds (H.V.P.)	24	60	5770	3460	990	300	4750
Non-H.V.P. Irrigated	28	69	3410	1710	0	250	1960
Unirrigated	<u>119</u>	<u>293</u>	<u>1770</u>	<u>1410</u>	<u>0</u>	<u>150</u>	<u>1560</u>
	171	422	10950	6580	990	700	8270

TABLE 2.3. Continued

Scale of Finance Assumed Per Acre (Rupees)	Cash Area for Which Cash Expt to be Provided (2/3 of Total Area) (Mill. Acres) (10)	Requirement of Credit for Cash Expenses (Million Rs.) (11)	Total Credit Needs Col. 8 + 11 (Million Rs.) (12)
(9)			
Paddy and Wheat	100	2,670	8,490 26
Other Cereals	13.3	<u>1,070</u>	3,740
Sugar Cane	4.0	240	
Other Crops	42.0	<u>1,900</u>	2,140
All Crops	<u>195.0</u>	<u>5,850</u>	<u>7,410</u>
	281.0	<u>11,730</u>	20,000

TABLE 2.3. Continued

Abstract							
Type of Area	(Area in Million Acres)	Kind		Credit		Scale Per Acre	
		-----Rs.	Million-----	Cash	Total	Kind	Cash Total -----Rupees-----
H.V.P.	60	4,750	3,740	8,490	79	62	141
Non-H.V.P. Irrigated	69	1,960	2,140	4,100	29	31	60
Unirrigated	293	1,560	5,850	7,410	5	20	25
	422	8,270	11,730	20,000			

Source: Report of the All India Rural Credit Review Committee, Bombay, Reserve Bank of India, December 1969.

Yet, these estimates were an over generalization. The findings of field surveys conducted by Agro-Economic Research Centers and the Ministry of Food and Agriculture (noted above) reveal that the per acre expenditure for paddy varied between Rs. 104 in Raipur to Rs. 424 in Karnal; for high yielding coarse grains it varied between Rs. 182 and Rs. 244 and for irrigated wheat the range was Rs. 246 in Tikamgarh to Rs. 440 in Faizabad.⁷ In the first place, these expenses are far above the per acre scales of finance assumed by the RCRC. Secondly, the validity of such scales can be questioned on the basis of high inter-regional variations in the expenses actually incurred. Finally, the Review Committee confined its estimates to production-credits needs only, and altogether ignored the credit that might be needed for household consumption.

Working Group on Agricultural Credit⁸

A Working Group (1970) recommended to the Government of India that for the attainment of viability each primary credit society in India should conduct a business of Rs. 200,000 per year. It further suggested that a society should work under the presumption that per hectare credit should be disbursed at the rate of Rs. 250 for irrigated and Rs. 125 for unirrigated areas. Based on these norms, the 1972 Conference of Registrars of Cooperative Societies released national estimates of "credit potential," of Rs. 21,179.6

million. (Appendix A.1) The Conference resolved that during the remaining period of the Fourth Plan and until the end of the Fifth Five-Year Plan (1978-79) cooperatives should be reorganized in the light of this credit potential. It was resolved by the Registrars that by 1973-74 36 percent, and by 1978-79 60 percent of such credit potential should be accomplished by the primary cooperative societies.

In the first place, credit potential was confused with credit needs at this conference. Secondly, universal scales of Rs. 125 for unirrigated and Rs. 250 for irrigated areas are misleading, as they are not based on the credit needs under different conditions nor based on detailed empirical studies. If cooperatives in India provide credit at this level it is probable that some farmers would get more credit than they needed while others (especially the small farmers planning to use the new HYV seeds) would not get needed credit. Finally, irrigation is a necessary but certainly not a sufficient condition for increase in the demand for credit, and it is erroneous to assume that introduction of irrigation alone would increase the credit potential of a farmer from Rs. 125 per hectare to Rs. 250 per hectare.

P.C. Bansil's Estimates

Bansil⁹ has based his estimates on the value of inputs to be used during the Fourth Plan period. However, he ignored miscellaneous expenses like those of hired labor

and marketing finance and considered only important inputs such as fertilizers, pesticides and seeds (Table 2.4). Secondly, he also assumed that all seeds of traditional varieties will be purchased out of the cultivator's own funds. Finally, on the basis of the size distribution of land it was assumed that a large number of farm households (especially those who have over 20 acres of land) would be able to meet their capital needs out of their own funds and that only 50 percent of the total expenditure on seeds, fertilizers and pesticides would be met through borrowings.*

Assuming that the total outlay on the three major inputs would be Rs. 14,252 million in 1973-74, the credit needs for them in that year were put at Rs. 7,126 million. Besides, Bansil considers the credit which might be taken for "miscellaneous purposes" and specific crops such as horticulture, cashew nuts, cotton, and jute and puts such needs at Rs. 2,740 million. The gross short-run credit needs for farm business were therefore estimated at Rs. 9,867 million for 1973-74. After adjusting the farm credit needs for double counting, the net credit needs for farm business were estimated at Rs. 8,190 million (Table 2.4). Finally,

*Bansil based his assumption on "A Study of High Yielding Varieties Program, Rabi 1967-68 (Wheat) in Tikam Garh District, Madhya Pradesh," Agro-Economic Research Center, Jabalpur, 1968. It was discovered under this study that the cultivators even in the HVP areas were financing 100 percent of hired human and bullock labor from own funds.

Table 2.4.---Value of Important Inputs for the Fourth Plan and Credit (Short Term) Needs in 1973-74 (Amount in Million Rupees)

Item	1969-70	1970-71	1971-72	1972-73	1973-74	
					Total Value (b)	Credit Needed 50 Percent of (b)
Fertilizers	6,770	8,254	9,665	11,121	11,137	5,568
Pesticides	781	956	1,131	1,322	1,498	749
Seeds, HYV						
Seeds Only	722	861	1,116	1,352	1,614	807
Total	8,273	10,071	11,912	13,795	14,252	7,126

Notes: Three types of fertilizers are used in India: Nitrogenous (N), Phosphatic (P_2O_5) and Potassic (K_2O) and their respective prices per tonne taken for these estimates were: N = Rs. 2,180; P_2O_5 = Rs. 2,412; and K_2O = Rs. 872.

Source: Bansil, P. C. "Short Term Credit Requirements at the End of the Fourth Plan, 1973-74," Indian Journal of Agricultural Economics, October-December 1971.

the estimated borrowings for household consumption were put at Rs. 8,580 million. The overall credit needs in 1973-74 were, therefore, estimated at Rs. 16,770 million (at 1973-74 prices).

Such estimates suffer from the following limitations:

In the first place, they totally neglect the credit required for hired labor, irrigation charges, repairs and purchase of bullock feed. Secondly, estimates based on the total outlay appear to be all right for a rough and ready macro level analysis, but it would be a big mistake to tie down the credit requirements at a 50 percent level. A slight variation in this proportion would result in a substantial increase or decrease in the estimate.* Thirdly, Bansil estimates the credit needs for household consumption on the basis of AIRDIS data on per capita consumption expenditure in 1961-62 and then adjusts them for price and population to compute the credit needs in 1973-74.¹⁰ However, he obliterated the fact that the composition of consumer's basket might have changed during this period, thus calling for a significant change in the credit needs for consumption expenditure.

Economists have been comparing these estimates (ex post as well as ex ante) with the availability of institutional

*For instance, at 45 percent of the outlay, estimated credit needs would fall from Rs. 7,126 million to Rs. 6,410 million, whereas at 55 percent, they would rise to Rs. 7,839 million.

credit. For instance, it was argued in one paper that in 1967-68 only 33.5 percent of the "credit needs" were met by cooperatives;¹¹ whereas the Registrars of Cooperative Societies expressed their concern at their last conference¹² over the poor record of cooperatives in supplying agricultural credit in 1970-71. Policies of the state governments and the Reserve Bank of India are being reshaped to pump more and more funds into agricultural sector in order to reduce the "inadequacy" of institutional credit in India. More surprisingly, the magnitude of inadequacy continued to remain everyone's guess, because the estimation of credit need itself is too subjective and too general.

Some Further Observations on the Estimates of Credit Needs

The foregoing estimates of agricultural credit needs are related to the short-term credit needs of the entire country. However, they are highly subjective and generally neglect the diversified character of Indian agriculture. In most cases the basis of estimation has been the All India Rural Debt and Investment Survey conducted in 1961-62. Even where the basis was per acre expenditure in farming, no attempt was made to provide comparable data for HYV and non-HYV areas in different regions and for different size levels of holdings. Yet, it should be conceded, the data related to expenses incurred on fertilizers and pesticides are relatively more reliable than those on other inputs.

In the present heterogeneous situation, regional estimation of the demand for credit appears to be more realistic than the national estimates. Depending on the nature of soil, type of crop, state of technology and the size of holding, different farm situations will show different levels of capital use. Further, an estimate of per hectare credit needs should also make allowance for the level of own funds to be used by farmers in different size groups of land holdings.

As regional estimates generally represent the credit needs for different types of farming, they are likely to give a more realistic guideline in the formulation of agricultural credit policy. It should be noted that estimates by crop are generally not useful in Indian conditions, as the same crop shows a wide range of expenditure per hectare in different regions.

Adequacy of Agricultural Credit

Since the estimation of agricultural credit needs in India has thus far been based on individual estimators' personal biases, (which have provided a wide range of such estimates) it would be wrong to assess the adequacy of credit under the prevailing situation. Unfortunately, a large number of economists and most of the committees concerned with farm credit have developed the practice of choosing the one estimate which appeals to them most, comparing the

same with the credit actually given by cooperatives and commercial banks and then passing on the judgment that "institutional credit is too inadequate in Indian agriculture." Such statements are highly misleading and are frequently utilized for pursuing political aims. Instances have been seen where the political party in power channelized huge funds into cooperative farm credit institutions in order to reduce or eliminate such "inadequacy of institutional credit," without caring for the eligibility of those who get such loans.¹³

If agricultural credit is defined as the difference between the total anticipated expenditure of a household and the sum total of own resources, an approximation of credit need at the micro level can be obtained. This can facilitate the estimation of credit needs in a given region, provided adequate data about cropping pattern, distribution of cropped area, distribution of income, level of living and extent of own resources are available. However, the question of the adequacy of institutional credit should be examined from three angles: (a) the amount of credit (b) the amount which credit agencies can provide at given rate(s) or interest, and (c) the terms and conditions of loans given. Nevertheless, such analysis should be made in view of the relative merits of different credit agencies as well. In other words, a rational agricultural credit policy would be expected to be based on a careful consideration of these criteria.

The Amount of Credit

Much of the confusion about institutional credit and its inadequacy has arisen due to the fact that credit needs are not properly defined. For instance, there is no agreement on the inclusion of credit needs for household nonfarm expenditure. Unlike the developed countries, (where farm credit is generally obtained for the farm business) in the developing countries a large proportion of loans are taken for household consumption.* Starting from the All India Rural Credit Survey (1951-52) down to the Report of All India Rural Credit Review Committee (RCRC) numerous arguments have been given for including household consumption needs in the estimation of agricultural credit needs in countries like India. One such argument stems from the nature of Indian agriculture itself. It is claimed that as the subsistence farmers do not charge for their labor in their own farm business, they are entitled to consumption loans during the production cycle. In other words, consumption needs in respect of small farmers should not be distinguished from their production needs. The National Cooperative Union of India argued that small farmers in India need credit throughout the year. In order to meet their farm as well as nonfarm needs, they are compelled to borrow from moneylenders and other individuals at those times when loans from cooperatives are generally not available.¹⁴

*See page 16.

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A group of experts appointed by the FAO strongly supported this view. It argued that in subsistence farming it would be unrealistic to expect that credit would be utilized for productive purposes when farmers in such situations have equally or sometimes more, pressing need for consumptive credit. Further, it stated: "History shows that strong needs for consumptive needs are symptomatic of the early stages of socio-economic development," and that complete denial of institutional credit for such purposes would continue to support the cause of moneylenders.¹⁵ However, the Group admitted, in the later stages of development, it would be convenient to draw a line between productive and consumptive credit. The Group also supported the idea of including hired labor in the assessment of credit needs.

Perhaps much of the controversy can be resolved if the ultimate goals are made clear by the policy-makers. How far do they want the institutional credit to meet the farmers' credit needs? What is the financial strength of the institutions involved? As of now, cooperatives and commercial banks in India do not seem to be strong enough to meet even the productive needs of farm households. What difference would it make if consumptive needs are also included in the estimation of credit requirements?

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Tests of Adequacy

As explained above, the estimation of capital requirements in a region is a difficult task. Equally difficult is the measurement of credit need, and its adequacy at the macro level. However, capital requirements, level of savings and credit needs may be estimated with relative convenience at the micro level. Homogeneous farm units can be grouped together and the financial inflows and outflows (ex ante) can be recorded in order to estimate the credit needs of a representative household in the given farm situation. Adequacy of credit is implicitly tested with an assumption that the entire gap between the anticipated cash income and cash expenditure is filled up by external borrowings.

Financial Budget

An ideal and fool-proof technique of measuring adequacy of credit would generally consider periodic (monthly or quarterly) inflows and outflows so as to determine the deficit or surplus for each period. Such a technique is generally known as the financial budget.

A budget has two main advantages. First, it incorporates all cash expenses, including the anticipated expenditure on household consumption. As demonstrated below, the usual techniques of measuring the adequacy of credit generally consider cash expenses in the farm business only, and therefore, do not provide a precise estimation of total credit needs.

Secondly, a budget measures credit needs (when ex ante expenditure exceeds the expected income) as well as the household's repayment capacity (when the anticipated income exceeds the expected outflows) for different periods. On the contrary, all other techniques generally provide no measurement of the repayment capacity.

However, the use of financial budget as a technique to measure the magnitude of deficit or surplus involves two big problems in a developing country like India. In the first place, data on periodic flows of liquid funds are generally not available for individual farm households. A great deal of dexterous and comprehensive knowledge of local conditions, including the level and cost of living and the cost of purchased inputs is, therefore, needed in the preparation of such a budget. Secondly, in view of the cost and time involved, it is impossible to estimate the credit needs and repayment capacity of all households in a region or even in a stratum. It may require stratified sampling of different households in a given region, and preparation of a budget for a synthesized household representing each stratum. One such budget has been given below (Figure 2.1). It would be clear that the household borrows in the first and third quarters of the year when the total expenditure (in household consumption and farm business) exceeds the total income. However, it has an opportunity to repay its debt in the other two quarters.

Cash Income/ Expenditure	Total Amount	Quarter I (Jan. - March)	Quarter II (April - June)	Quarter III (July - Sept.)	Quarter IV (Oct. - Dec.)
A. Income					
(a) Custom Labor	650	120	200	50	280
(b) Sale of Crops: Rabi	610	0	240	0	370
(c) Sale of Crops: Kharif	<u>555</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>555</u>
Total of A	1,815	120	440	50	1,205
B. Expenditure					
(a) Custom Labor	610	0	230	80	300
(b) Seeds Purchased	165	0	0	90	75
(c) Bullock Feed Purchased	360	50	50	130	130
(d) Repairs	20	0	0	20	0
(e) Land Tax	20	20	0	0	0
(f) Miscellaneous	50	50	0	0	0
(g) Household Expenses	<u>590</u>	<u>150</u>	<u>120</u>	<u>120</u>	<u>200</u>
Total of B	1,815	270	400	440	705
C. Deficit (-) or Surplus (+) ^a	0	-150	+40	-390	+ 500

^aDeficit denotes need for credit while surplus denotes repayment capacity.

Note: It is assumed that the household has 5 acres of unirrigated land and the entire area is cultivated for Rabi as well as Kharib crops. Rabi crops include wheat and linseed, whereas Kharif crops include sorghum and groundnut. It is also assumed that the household has two adult members and three children.

Figure 2.1.--Financial Budget of a Farm Household (Synthesized) (January - December)
(Amount in Rupees).

However, in the absence of reliable data on periodic inflow and outflow of liquid funds other techniques such as the linear programming and the profit maximization approach may appear easier and more convenient, but less reliable, than the financial budget. It must be noted, however, that both the techniques tend to measure the gap between the optimum level of capital use and the household's past savings. Credit is considered adequate if the existing level of credit just equals this gap. It is also worth mentioning that all three techniques discussed here are neutral to the normative issues related to the choice of credit agency.

The Linear Programming (L.P.) Model

The L.P. model can be stated symbolically as follows:

$$\text{Maximize } \sum_{j=1}^n c_j x_j \quad (j = 1, \dots, n)$$

$$\text{Subject to } \sum_{j=1}^n a_{ij} x_j < b_i \quad (i = 1, \dots, n)$$

(where $b_i > 0$, $a_{ij} > 0$)

where a_{ij} 's are input-output coefficients, c_j are returns over variable costs, x_j are real activities and b_i are resource constraints, including capital.

If different farm situations prevail in the region, one representative farm can be synthesized for each class

of farms for each situation, and credit needs can be estimated for each.* Such needs can then be compared to the actual availability of institutional (or noninstitutional together with the institutional) credit in order to ascertain the adequacy of credit in each situation and for each class of farmers.

Profit Maximization Approach

This approach also uses representative farms from different situations and classes. Adequacy is based on the premise that a farmer maximizes his profit with respect to the use of an input where the MVP of input is equal to its MFC.** It requires an empirical estimate of production function in order to determine whether credit is used optimally. Since capital (in its liquid form) is considered to be an input,

*For instance Sharma and Prasad classify farmers in the north-western region of Uttar Pradesh into six groups: (i) irrigated small farms, (ii) unirrigated small farms, (iii) irrigated medium farms, (iv) unirrigated medium farms, (v) irrigated large farms, and (vi) unirrigated large farms. Then he assumes the presence of four situations: (a) present technology without borrowing, (b) present technology with borrowing, (c) improved technology without borrowing, and (d) improved technology with borrowing. On the basis of optimum plans he computes credit needs for each situation. J. S. Sharma and B. Prasad in Indian Journal of Agricultural Economics, op. cit., pp. 503-508.

**MVP = marginal value product of a factor. Consider a production function: $Q = f(x, y)$, where x is labor, y is capital and Q represents the output, the marginal value product of y with given prices of Q , x and y would be $P \cdot \frac{\partial y}{\partial Q}$. Here P represents the price of output and $\frac{\partial y}{\partial Q}$ represents the marginal product of capital. On the other hand, MFC represents the marginal factor cost which is assumed to be given.

the optimum level of capital will be where the MVP of capital = MFC. Assuming that the farm in question is operating in the second stage, the short fall or excess of capital as compared to the optimum level can be shown in the following diagram:

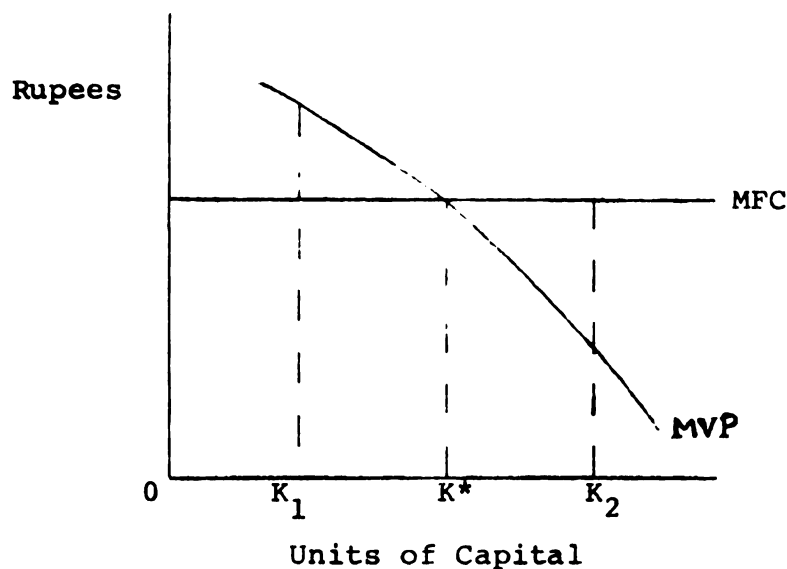


Figure 2.2.--Optimum use of capital on a farm.

In the above diagram, the horizontal axis measures the units of capital (cash) funds used on the given package of land and other inputs; the MVP and MFC of capital have been measured in rupees on the vertical axis. It should be noted here that in this analysis capital includes owned funds as well as credit obtained from different sources. The profit maximizing level of capital use is K^* where $MVP = MFC$. Here the farmer may be assumed to have access to adequate capital.

On the other hand, if he operates at K_1 (where $MVP > MFC$) he is unable to maximize his gains from capital use due to inadequacy of credit.* Likewise, at K_2 he is over using the available capital (either his own and/or borrowed funds). This last situation explains wasteful use of liquid funds.

It appears that both the L.P. and the profit maximization techniques tend to establish the optimum level of capital use. However, the focus of L.P. is generally on identifying the restricting inputs including capital whereas the latter method defines the level of optimum capital use, while assuming (for convenience) that other inputs are already used optimally.

It is unfortunate that agricultural economists in India have paid very little attention to determination of the degree of adequacy of credit at the micro level. There is an urgent need to undertake research to determine the need for credit in different regions for a cross section of farming population, and then examine the extent to which additional credit from cooperatives and commercial banks can increase farm output, savings and the level of living of farm households. There is an additional need to determine the extent to which institutional credit will supplement moneylender credit or be a substitute for it.

*This is termed as inadequacy of credit because his own funds are supposedly given and supplemented by credit.

Rate(s) of Interest

Once the shortages of credit are indicated, the policy makers may make plans for injecting additional funds through cooperatives or in other ways. Here comes an important question: at what rate of interest should such additional funds be made available to the farmers?

Millard Long states that the intellectuals and policy makers of south and south-east Asian countries are guided by a belief that majority of the farmers in these countries borrow in the informal credit markets (from moneylenders), and are required to pay exorbitant rates of interest. Horace Belshaw argues that farmers in developing countries are generally poor and are often discriminated against in the national pricing and fiscal policies. Either way, such beliefs encourage policy makers to prescribe lower rates of cooperative or government credit than are generally charged by moneylenders.¹⁶

The cooperative agricultural policy in India is based on a somewhat similar premise. The Reserve Bank of India grants short-term accommodation to the state cooperative (apex) banks at an annual interest rate of 4 percent which is 2 percent below the bank rate. The primary cooperative credit societies are urged to charge 9 to 10 percent annual interest on the short term loans advanced to farmers. It must be noted in this context that the usual rate of interest on commercial bank credit to nonagriculturalists in India is 12 percent,

whereas the rate charged by moneylenders on short-term agricultural loans ranges between 18 and 24 percent per annum. In short, planners in India are guided by an "interest illusion" and appear to believe that subsidization of interest rate would provide sufficient relief to farmers.

As has been noted above, such "interest illusion" for institutional lending in India has imposed heavy costs on society. Several arguments are generally given to explain the high rates of interest charged by moneylenders in the underdeveloped countries. First, the element of risk in agricultural lending as compared to nonagricultural loans is very high. Agricultural production in such countries largely depends on the vagaries of nature. As against this state of risk and uncertainty, a typical farmer does not have sufficient collateral, and, in most cases, obtains loans on personal security. The moneylender would, therefore, add some premium for risk while charging the cost of his credit.¹⁷

U Tun Wai¹⁸ believes that due to high risk and uncertainty a moneylender would add from 2.0 percent to 200 percent premium to the normal rate of interest, depending on his anticipated rate of default (Appendix A.1). Since the proportion of defaults is high in the underdeveloped countries,¹⁹ rates of interest would obviously be adjusted upward in order to make good the loss caused by defaults.

Second, the cost of management of loans is higher in agriculture as compared to other sectors. Anthony Bottomley

argues that the number of loans advanced by the moneylender in a rural area is relatively small and also that the size of individual loan is small. As a result of these factors, and also due to the inclusion of monopolistic position of the moneylender, he charges a high rate of interest.²⁰

Third, farmers' demand for credit in the developing countries like India is more inelastic than the demand for agricultural credit in the developed countries. However, Pani analyzed the elasticity of demand for credit among different farmers in India (stratified according to size of holdings) and concluded that cultivators with substantial holdings have high marginal propensity to borrow as compared to those who are subsistence farmers. In other words, in his opinion, the elasticity of demand for credit among the large farmers is relatively lower than the one found among small farmers.²¹ Generally the demand for an input (say capital credit in this situation) is a derived demand and its elasticity depends on the following:

- (a) η_y or the elasticity of demand for the final products (agricultural products)
- (b) η_o or the elasticity of supply of other inputs
- (c) σ or the elasticity of substitution between capital and other inputs, and
- (d) R or the ratio of the cost of (credit) to the total cost of production.

Since demand for credit is derived from the demand for agricultural products, the lower the elasticity of demand

for the latter, the lower will be the elasticity of demand for credit. By the same token it can be argued that lower the elasticity of supply of other inputs (such as land, owned funds, family labor, bullock power, and implements) lower will be the elasticity of demand for credit.

Assuming that the credit-output and credit-other input ratios are given, Figure 2.3 can explain the derivation of demand curve for credit.

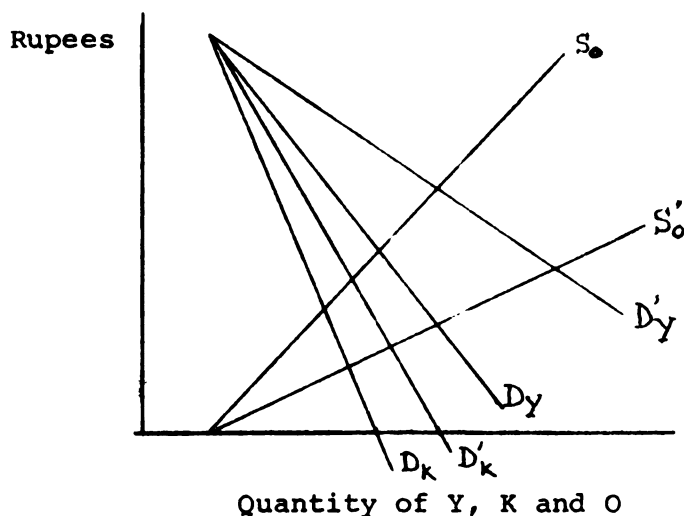


Figure 2.3.--Derived demand for credit.

In the above diagram, the horizontal axis measures the quantity of final product (Y) supply of inputs other than credit (O) and the units of credit obtained at different prices. The vertical axis shows the prices of final product, other inputs and cost of obtaining credit. D_Y denotes the demand curve for final product whereas S_0 represents the

supply curve of other inputs. Assuming that input-out ratios remain constant for all inputs, the demand curve for credit can be directly derived from D_y and S_o . The elasticity of demand for credit will change with a rotation of D_y or S_o or both. For instance, if the supply of other inputs becomes more elastic (S_o'), the derived demand curve for credit will rotate to D_k' showing a relative increase in the elasticity of demand for credit too.

The degree of substitutability between credit and other inputs (including owned funds) would also determine the elasticity of demand. If elasticity of substitution (θ) is very low, it will imply that even a substantial change in the price(s) of other input(s) would not bring a major change in the use of credit. Finally, a low ratio of the cost of credit to total cost would also mean a low coefficient of its elasticity of demand. For instance, if cost of credit (rate of interest) constitutes only 2 percent of the total cost of production, even a major change in rate of interest would not induce a farmer to effect a proportionate change in the use of credit.

Empirical evidence is lacking to substantiate all of what has been stated above. From the N.S.S. data and other studies, however, it appears that in India the demand for credit for the following purposes is relatively interest inelastic: (a) consumptive needs, especially among the households having small holdings (b) payment of land-tax and

petty dues to the village-trader, (c) seeds, fertilizers and payment of hired labor, and (d) religious and social ceremonies.²²

These studies also indicate that η_y is less than unity and due to fixity of the above mentioned needs, elasticity of substitution (θ) also appears to be fairly low. A study of four villages in Madras (Tamilnadu - India) shows that when innovations are proved to be particularly profitable, institutional credit is obtained for productive purposes even at high interest rates.²³ In another case study, Ajeya Ray concludes that a good part of demand for agricultural credit in West Bengal is interest-inelastic. Singh and Jha took a sample of three villages in Delhi and after estimating agricultural credit needs of farm households under different technological situations, concluded that the cost of credit is not the only factor influencing the use of borrowed funds.

In all these studies the demand for agricultural credit was found to be very low (between -.006 and -.028).²⁴ Yet, there seems to have been no study to demonstrate that the low elasticity of demand for credit was a result of low elasticity of demand for the final product, and/or low elasticity of substitution, and/or low elasticity of supply of other inputs, and/or the low ratio of credit cost to total cost of production.

There seems little wisdom in the arguments given by those working under "interest-illusion." For the reasons listed above, even a substantial reduction in the rates of interest may not raise the demand for farm credit greatly. On the other hand, such low rates may prove suicidal for the lending institutions themselves and may impose heavy costs on the rest of the economy. In the first place, it may imply lower income to the lending agency which may be tempted to hire inefficient and untrained personnel to save administrative costs. Secondly, low rate of interest on loans implicitly lowers the rate of interest paid on deposits and this will be reflected in a weak financial base for the lending agency.* Thirdly, low rates of interest provide no cushion against defaults. As shown in the next chapter, the rate of default in the cooperative loans in India has been very high and rather than borrowers of cooperative credit paying the cost of default, there is a drain on the whole society when the Government decides to write off a part of loans receivable from cooperative institutions. Finally, in view of the current technological development in India, and the resultant shifts in the MVP of capital in several parts of the country, the prevalence of universally low interest rates on cooperative loans appears paradoxical.

*Empirical evidence is available plentifully to support this view. (Please see Chapter III on the conditions of cooperative societies in India.)

Baker wonders if small farmers could borrow at "exorbitant" interest rates in the informal credit market (from moneylenders) why can they not borrow at an equivalent rate from a credit institution (cooperative)? Further, low rates of interest give an impression to borrowers that future is amply provided for, and will encourage consumption. On the other hand, a high rate of interest increases the reward for savings. Baker further argues that on the demand side the timeliness of loan decision and simplicity of loan negotiations are more important than the rate of interest.²⁵

Dale Adams²⁶ explains that in an inflationary situation low rates of interest erode the real value of credit portfolios. In fact, in such a situation the effective rate of interest becomes negative.* In India in recent years the effective rate seems to have become negative.** It is, therefore, time that the policy makers and cooperatives in India review the wisdom of their "interest-illusion" and consider providing loans to farmers at the interest rates which are close to capital's opportunity cost.

*It can be explained by the following formula:
 $R = [(1 + r)(1 + P)] - 1$ where R = nominal interest rate,
 r = effective rate of interest, and P = annual rate of inflation.

**For instance, within a year after December, 1971, the general price level in India rose by 13.7 percent [$P = .137$]. If the rate of interest on cooperative loans is taken at 10 percent ($R = .10$), the effective rate of interest turns out to be negative. (For rate of inflation see Economic Survey 1972-73. New Delhi, Government of India, p. 36.)

Terms of Credit

Even if an approximation of credit needs has been made and a pragmatic approach to interest rate has been taken as noted above, the terms of institutional vis-a-vis noninstitutional credit remain critical in determining the success of official credit policy.

Empirical evidence suggests that noninstitutional credit is not bad per se. Even if cooperatives and other institutional agencies are adequately equipped with loanable funds, they would not gain popularity among the farming community until their terms of loans, i.e., lending procedure, timings and modes of disbursement and recovery compare favorably with those of moneylenders. The FAO Group remarks,

"There are still too many cases in which the leaders of agricultural banks and cooperative credit organizations think exclusively in terms of rates of interest when they try to drive out the moneylender, . . .forgetting that in the opinion of the interested farmers it is usually much more important that loan procedures are simplified and loans disbursed without delay."²⁷

It was discovered through field studies that cooperative credit is generally not made available to Indian farmers when it is actually needed.²⁸ Besides, the burden of administrative formalities inherent in such loans have a disincentive effect on them to borrow from cooperatives even though their interest rates are lower than those of moneylender.²⁹ Tuck states that in the traditional agricultural societies moneylenders generally provide a number of services

beside credit (such as marketing farm products, supply of inputs, counselling etcetra) to farmers. If some preferred institutions (cooperatives) are being developed to get credit functions currently discharged by moneylenders, then it is of crucial importance to grasp at the outset the whole extent and dimension of other functions as well. In short, increasing the amount of credit alone would not ensure that credit is adequate.³⁰

Conclusions

As will be shown in the subsequent chapter, not only are cooperative loans very meager in India, but cooperatives seem to have taken no initiative in supplying farm inputs, and have shown a poor performance in marketing agricultural products. For the success of institutional financing, as the FAO Group suggests, credit, marketing and input supply should be considered as a trinity.³¹ However, extension, or more particularly, technical assistance and adequate supervision over the use of loans could also be added as the additional criteria for adequacy of institutional credit.

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CHAPTER III

SUPPLY OF COOPERATIVE AGRICULTURAL CREDIT AND REVIEW OF THE COOPERATIVE CREDIT MOVEMENT IN INDIA

Various difficulties in estimating the demand for agricultural credit were highlighted in the preceding chapter. It was stated that the numerous estimates of demand for agricultural credit in India suffer from over generalization and generally ignore the prevalent inter-regional differences in climatic conditions and soils. It was also argued in the last chapter that in addition to the amount of loan, the rate of interest, terms of credit and the timings of loan disbursement and recovery were also important in determining the adequacy of credit. A pragmatic approach to agricultural credit will, therefore, consider all these criteria of adequacy.

If cooperatives are preferred (to other agencies) for raising the supply of agricultural credit their objective should be not only to supply credit at the competitive rate of interest, but they should also do so at the terms and conditions suitable to farmers as well as to their own health.

This chapter will present a brief appraisal of the progress made by cooperative agricultural credit institutions

In India. It is also proposed to examine their loan procedures and present state of health. Finally, it is also proposed to see the extent to which cooperative credit is useful to Indian farmers. However, since the present state of cooperative agricultural institutions owes a great deal to the various committees and groups of experts, a brief review of their reports seems to be in order.

Report of the All India Rural Credit
Survey (RCS) Committee (1954)¹

The RCS Committee was appointed in 1951 to review the progress of the Cooperative Movement in India since its inception in 1904. The Committee was severe on cooperative agricultural credit institutions for their failure to provide sufficient loans to Indian farmers. It estimated the total short-term needs of Indian farmers at Rs. 7,500 million in 1951-52, but revealed that 92.7 percent of this credit was provided by moneylenders and other individuals. On the other hand, cooperatives and government met only 3.1 percent and 3.3 percent of such needs (Table 3.1). Except in Bombay (now a part of Maharashtra), the overall performance of cooperative agricultural credit institutions was reported to be extremely poor.

Cooperatives were generally found to be in deplorable financial situation in most of the states. It was also reported by the RCS Committee that cooperative loans were not only inadequate, but they were unsuitable to meet the farmer's

TABLE 3.1.--Average Borrowing From Different Credit Agencies in India, 1951-52.

Credit Source	Borrowings					
	Cultivators		Noncultivators		All Families (Cultivators and Noncultivators)	
	Amount Per Family (Rupees)	Percentage	Amount Per Family (Rupees)	Percentage	Amount Per Family (Rupees)	Percentage
Government	6.9	3.3	1.0	1.5	4.9	3.1
Cooperatives	6.5	3.1	1.0	1.5	4.6	2.9
Relatives	29.8	14.2	10.3	15.5	23.0	14.4
Landlords	3.2	1.5	3.2	4.9	3.2	2.0
Agricultural Moneylenders	52.1	24.9	16.4	24.8	39.7	24.8
Professional Moneylenders	94.0	44.8	25.1	38.0	70.1	43.8
Traders and Commission Agents	11.5	5.5	6.5	9.9	9.8	6.1
Commercial Banks	2.0	0.9	1.3	2.0	1.8	1.1
Others	3.5	1.8	1.3	1.9	2.8	1.8
Total	209.5	100.0	66.1	100.0	159.9	100.0

Sources: (i) Report of the Rural Credit Survey Committee, Bombay, Reserve Bank of India [1955].
(ii) Report of the All India Rural Credit Review Committee, Bombay, Reserve Bank of India [December, 1969].

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needs. By unsuitability the Committee meant untimeliness and unfavorable conditions of repayment. Even though money-lenders were charging 18 to 30 percent interest rates on their loans, they were easily accessible to farmers. They would generally give loans without compelling borrowers to disclose the purpose of loans and generally showed flexibility in their dealings. On the contrary, the secretary of a primary credit society has little sympathy with members and prefers to stick to the "rules and regulations" prescribed by the Central Cooperative Bank (CCB) and/or the state's Department of Cooperation.²

Yet, in the Committee's opinion, cooperatives could render better service to the Indian farmer in view of the ideals for which such institutions really stand. In order to strengthen their financial base and administrative efficiency, active participation of the government was urged at all levels. Besides, the RCS Committee also stressed the need for an effective integration of credit, marketing and processing. The Union Government and Reserve Bank of India were called upon to set up the All-India Warehousing Corporation, and the National Cooperative Development and Warehousing Board, the National Agricultural Credit (Long-Term Operations) Fund, and the National Agricultural Credit (Stabilization) Fund to make the "Integration Scheme" more effective. The Committee also recommended the nationalization of the largest commercial bank, i.e., "The Imperial Bank of India" and

[illegible]

eight other State Banks so as to introduce banking facilities in the rural areas under the guidance of the government.

The most pioneering recommendation of the RCS Committee was related to the introduction of Crop Loan System (CLS) under which short-term loans are based on the estimated outlays on different crops. The important features of CLS as suggested by the RCS will be described later in this chapter. The RCS Committee implicitly recommended the ouster of money lenders and wanted cooperatives to meet all the seasonal farm credit needs. It went so far as to suggest that moneylenders should be forbidden by law to extend farm credit, except in those cases where they deposit their funds with the cooperative society of their area.³ The Committee urged the state governments to contribute liberally to the share capital of cooperative credit institutions. In addition, the Reserve Bank of India was called upon to grant short-term loans to cooperatives at concessional rates of interest.

All the recommendations (except the one related to the ban on moneylenders) of the RCS Committee were accepted. A three-tier structure of cooperative credit institutions has been created in all the states to implement the Integrated Scheme of Agricultural Credit recommended by the RCSC. However, as will be shown later, the CLS was introduced in different states only after the mid-sixties. The new cooperative credit structure and the various functions assigned to a primary (village) cooperative society have been depicted in

in Figure 3.1 and 3.2. As the farmer obtains credit only from the primary society, these charts may provide a useful background of its functions and organizational superstructure.

The Committee on Cooperative Credit (1960)

This Committee submitted its report in 1960 and unlike the RCS Committee suggested that farm cooperative credit societies should be reorganized on the basis of village community as the primary unit.⁴ The Committee's emphasis was mainly on the introduction of a crop loan system and the attainment of viability by cooperative credit societies. It also urged the Government to help cooperatives in building a large capital base and in improving their administrative efficiency. An annual subsidy of Rs. 900 to Rs. 1,200 to meet the cost of management was recommended for the initial five years.

As a result of such recommendations, generous subscriptions were made by state governments to the share capital of cooperative institutions. Training of cooperative personnel and a management subsidy were also incorporated into government policy towards cooperatives.

The All India Rural Debt and Investment Survey (1961-62)

This survey was conducted in 1961-62 by the Reserve Bank of India. The primary focus of this survey was on the distribution of assets, pattern of capital and current expenditure on farm, and on the measurement of indebtedness among

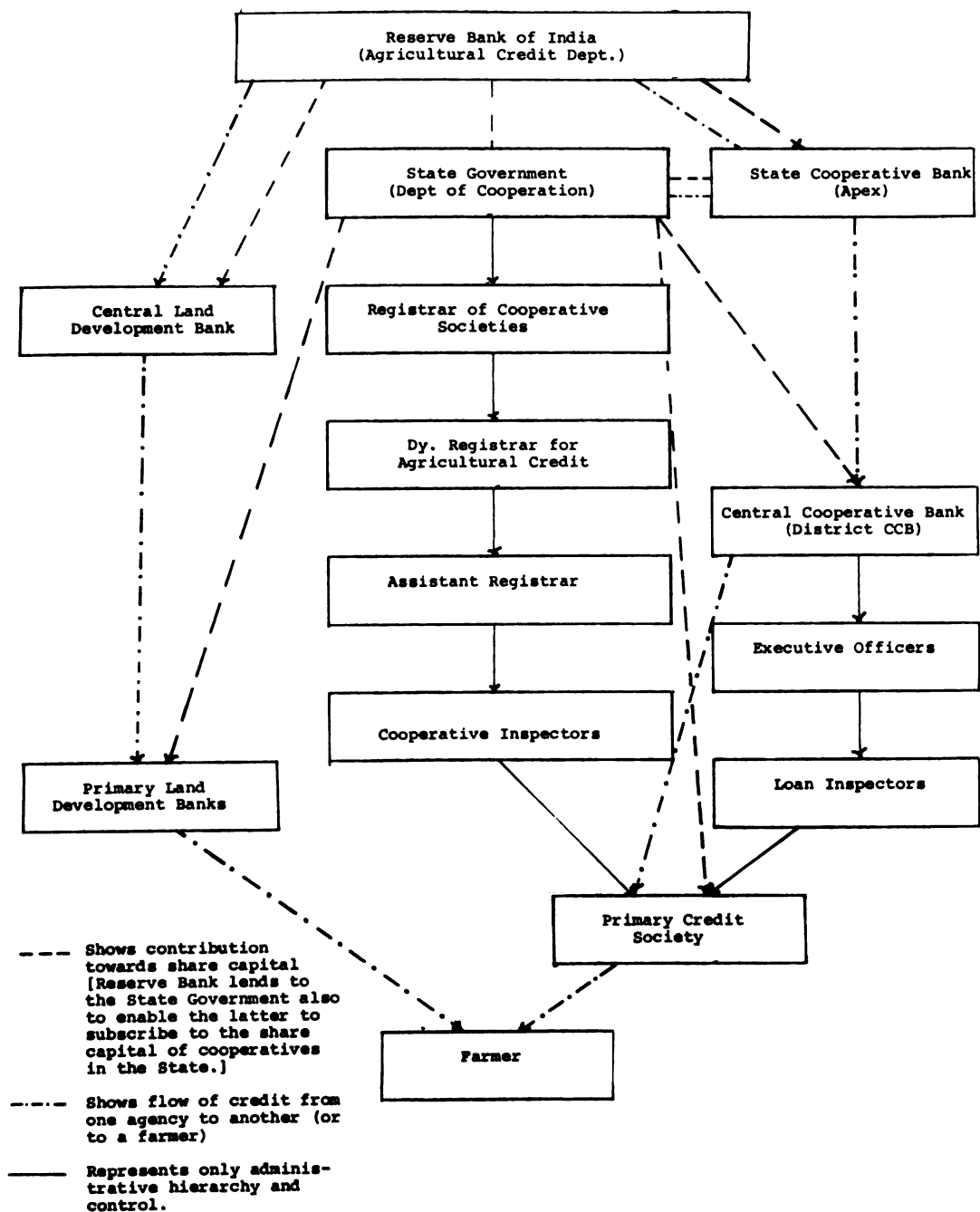
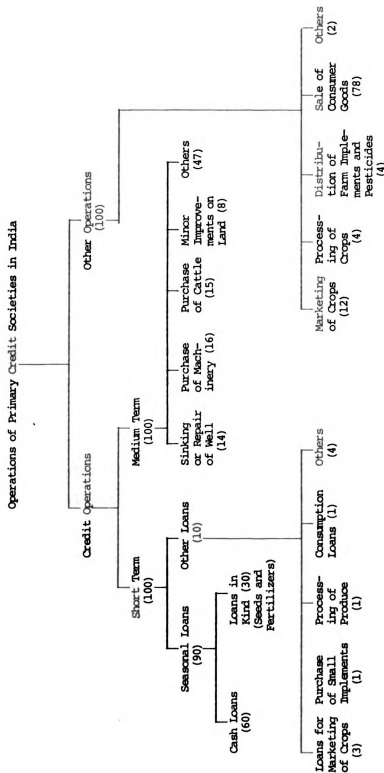


Figure 3.1.--Cooperative credit structure in India (for each state).



Note: Figures in parentheses show weights for each operation in 1970-71. The proportions of credit and other operations were 98 percent and 2 percent, respectively, for this year. Between the short-term and medium-term the respective weights were 90 and 10. Thus, short term loans accounted for 74 percent of all the operations.

Source: Statistical Statements Relating to the Cooperative Movement (1972), pp. 97-103.

Figure 3.2.

the Indian farmers. However, it also collected data on the cash loans from different agencies during the reference period for different states in India.⁵

The survey disclosed that the coefficient of concentration (Gini ratio) in the distribution of assets was .87 which explained that few farmers owned a large proportion of total farm wealth (Appendix A-4). It was also reported that 64.4 percent of the assets in rural India were in the form of land, while livestock and farm business equipment constituted 7.7 percent and 1.4 percent, respectively. The relative proportion of capital expenditure on farm equipment and machinery was also very low. However, nearly 50 percent of the capital expenditure was incurred for the purchase of livestock (Appendix A.5). Rajasthan showed over 67 percent of capital expenditure going for this purpose which demonstrates the importance of cattle breeding in this state.

Interestingly enough, it was revealed by this survey that the total outstanding loans of Indian farmers stood at Rs. 23 billion in April, 1962, as against the total value of their asset, Rs. 33 billion. Per household outstanding loan in the relatively poor states like Rajasthan, Uttar Pradesh and Assam was reported to be higher than in the relatively better off states such as the Punjab and Madras. Furthermore, loans outstanding to cooperatives had a heavy concentration among the rich farmers, having assets worth Rs. 20,000 or more, as compared to the poor cultivators who had assets

worth Rs. 5,000 or less. The coefficients of concentration in the distribution of cooperative loans ranged between .74 and .80 in different states, which showed that few large farmers obtained a very large proportion of cooperative loans in India.

Agency-wise Borrowing in 1961-62

The AIRDIS testified that within a decade following the RCS (1951-52), the contribution of cooperatives to total agricultural credit increased from 3.1 percent (out of the total borrowings of Rs. 7,500 million) to 15.5 percent (out of the total borrowings of Rs. 10,341 million in 1961-62) (Table 3.2). However, this proportion was over 38.3 percent in Mysore, but was less than 6 percent in Rajasthan, Assam, Bihar and West Bengal (Appendix A.6). Thus, cooperatives made little headway in relatively backward states.

It was also revealed by the AIRDIS that farmers with less than Rs. 2,500 worth of assets obtained only 10.7 percent of their total credit needs from the cooperative societies as against 28 percent for those who had assets worth Rs. 20,000 or more. Likewise, cooperatives marketed only those crops which were grown by the rich farmers and failed to mobilize the marketable surplus of the relatively poorer farmers. Strangely enough, the all-India coefficients of concentration ratios for cooperative credit and distribution of farm assets were almost equal, i.e., 0.86 and 0.87, respectively, which implied that those who owned a larger

TABLE 3.2.—Average Borrowings by Cultivators From Different Agencies
in India, 1961-62

Credit Agency	Amount Per Household (Rupees)	Percent of Total Borrowing
Government	5.3	2.6
Cooperatives	31.9	15.5
Commercial Banks	1.2	0.6
Landlords	1.2	0.6
Agricultural Moneylenders	73.9	36.0
Professional Moneylenders	27.0	13.2
Traders and Commission Agents	18.1	8.8
Relatives	18.1	8.8
Others	28.6	13.9
Total	205.4	100.0

Source: Reserve Bank of India Bulletin, December 1965.

Part of the agricultural assets also appropriated a large part of the cooperative agricultural credit. Thus, despite an improvement in their contribution to the overall supply of agricultural credit, cooperatives could not provide very much help to the small farmers and tenants.

After the introduction of Crop Loan System in 1966, the government hoped that small farmers and tenants would be able to obtain cooperative loans on the basis of personal rather than their tangible security.

Introduction of Crop Loan System (CLS)

It has been mentioned above that the RCS Committee laid heavy emphasis on the CLS. In its view, the CLS should have the following important characteristics:⁶

(a) The amount of the loan should be so fixed as to be an adequate proportion of the cash outlay per acre of crops. In most cases, it would bear a reasonable (approximately one-third) relation to the value of the crops to be grown.

(b) Wherever appropriate, the loans may be given in suitable installments instead of a lump sum at the start.

(c) Loans should be in kind to the maximum extent possible.

(d) Cooperatives may be allowed to have a "statutory charge on the crop for the seasonal finance given to buttress personal security."⁷ In other words, cooperatives should have the first charge on the borrowers' crops in the event of default.

In 1966, the Reserve Bank of India, which is a major source of capital for cooperative institutions, issued the Crop Loan Manual.* This manual prescribed detailed guidelines for lending and recovery of cooperative loans, and the related procedures to be followed by cooperatives all over the country.

The manual required each central cooperative bank (CCB) to prepare a scale of finance for the district of its operation. Such scale of finance would consist of: (a) a cash component for traditional cultivation which might not generally exceed one-third of the value of total gross produce under such cultivation, (b) a kind component representing modern inputs such as fertilizers, pesticides and the new high-yielding varieties of seeds, (c) an additional cash component up to 50 percent of what is drawn under (b).

The scale of finance would have to be prepared at an annual conference of the field workers, consisting of the chairman of a few cooperative societies, directors of the Central Cooperative Bank, the field staff of the Department of cooperation, the extension officers of the Department of Agriculture. The conference was required to determine the probable expenditure for each crop under the three components. It was also stated in the manual that a cultivator's repaying capacity should be taken at half the anticipated gross output under the traditional system of cultivation.

*Appendix A.9 shows the assistance provided by the Reserve Bank of India to cooperatives in 1971-72.

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The Crop Loan Manual requires each cooperative society affiliated with the district central cooperative bank to maintain a register of every member's holding. This was important for the landowners as well as for the tenants.

Once the scales of finance were ready, the secretary or the manager of each society would check with each member about the crops the latter wants to grow during the following two seasons.* This would help in the preparation of the Credit Limit Statement for each society in the district. Such statement would not entitle the primary society to draw the entire amount contained in it. However, after a thorough scrutiny of the particulars given in the Credit Limit Statement about each member, the central cooperative bank's inspector would give his recommendation about the amount under the society's command and the balance which had to be sanctioned by the bank. Under the limit so sanctioned, a society could draw funds as and when needed for meeting the agricultural credit needs. Moreover, timeliness of credit was given top priority in the Crop Loan Manual.

Crop loans for the next crop could be given only after the members have repaid their preceding debts. This implicitly

*There are generally two cropping seasons in India: Kharif and Rabi; Rabi crops are sowed in October-November and are harvested in April-May. Kharif (autumn) crops are sowed in July-August and are harvested in October-November. However, the new high yielding varieties have a shorter duration than the traditional varieties of seeds. In some areas, therefore, three crops are grown in a year.

meant that only those members were entitled to fresh loans who kept their past records clean by prompt repayments after the preceding harvest. An intermission of two to three weeks was considered as "desirable" between the repayment of past loans and the disbursement of the fresh ones.

As per the Crop Loan Manual, once a society was permitted to draw certain amount for disbursing among the individual members, its manager would have checks in their favor and the latter could present them at any branch of the central cooperative bank. For loans in kind (component b) the society would issue either delivery orders to the loanees who could get the required amount of (new) inputs from the area's cooperative marketing society, or would try to make available such inputs on its own.

The manual also provided for an additional loan of 5 to 10 percent of the value of crops marketed by a member through the primary marketing society during the previous year. It was hoped that such a provision would foster a better integration between cooperative credit and marketing.

Yet, the CLS did not work effectively, largely because the loan procedures prescribed in the manual were not honestly followed by the central cooperative banks and/or the primary credit societies. Cooperatives continued to increase their total volume of agricultural credit, but somehow it occurred to the government of India that their "progress" in terms of membership and the amount lent to farmers was illusory. The

All India Rural Credit Review Committee (RCRC) was, therefore, appointed to reassess the whole situation related to agricultural credit in India and suggest means to improve it. The focus of this Committee was on the supply of agricultural credit in the context of India's Fourth Five-Year Plan (1969-74) in the light of increasing demand for improved varieties of seeds and fertilizers and other nontraditional inputs. As stated in the last chapter, the RCRC presents an estimate of short, medium and long term credit needs for 1973-74. In fact, the Committee's estimates were largely based on the data provided by the AIRDIS and a few field surveys conducted in the IADP* districts by the Agro-Economic Research Centers.

Report of the All India Rural Credit Review
Committee (RCRC)

The RCRC noted that notwithstanding the periodic failure of crops, agricultural production in India has shown a substantial (50 percent) increase between 1949-50 and 1967-68. It hoped that unlike in the past, the prospects of a wide-spread use of the HYV seeds and fertilizers were bright over the next

*IADP refers to Intensive Agricultural District Program. Since 1961 such programs have been introduced in some selected districts having adequate irrigation facilities or assured rainfall. A package of HYV seeds, fertilizers, pesticides and other necessary inputs is then made available to the participating cultivators. The program also includes proper soil and water management, extension education and provision of cooperative credit.

decade. The committee estimated that the area under such seeds would increase from around 10 million hectares to 24 million hectares and that use of fertilizers would rise five times during the fourth plan period. In the same manner, the use of pesticides and other non-conventional inputs was also likely to increase manifold during this period.

The RCRC reviewed these facts in the light of production targets set forth for the Fourth Five-Year Plan, (1969-74) and projected the total short-term agricultural credit needs at Rs. 20,000 million for the year 1973-74. Out of this amount, it was estimated, Rs. 11,730 million would be needed as cash outlay and the rest in the form of improved seeds, fertilizers and pesticides (Table 2.3). Besides, the long term and medium term credit needs during the Fourth Plan period were put at Rs. 15,000 million and Rs. 5,000 million, respectively. The Committee implicitly referred to the big responsibility which cooperatives and other institutions had to share in the provision of agricultural credit during the Fourth Plan period.

Yet, to the RCRC the performance of cooperatives did not appear completely acceptable. It charged that cooperatives had discriminated against small farmers and tenants, and had shown a heavy bias toward the large landowners. Besides, the Committee also expressed its concern over the uneven progress recorded by cooperatives in different states.

The RCRC was disturbed by the poor quality of cooperative personnel, particularly at the primary (village) level. In its opinion, most primary cooperative credit societies in India have a low paid and nonprofessional staff. The Committee observed that despite the introduction of Crop Loan System throughout the country, cooperatives determine the scales of finance and disburse crop loans according to their convenience rather than the production needs of farmers. It was also pointed out that cooperative credit in India was generally obsessed with numerous procedural formalities.

The Committee expressed its deep concern about the mounting number and amount of overdue cooperative loans. It was amazing that in several cases (no data were provided) overdues resulted due to deliberate withholding of repayment by resourceful (large) farmers.

The RCRC quoted a few empirical studies to support its plea that in different parts of the country (including the HVP districts) lending and recovery procedures of cooperatives were designed to suit the convenience of the large farmers only, whereas the small farmers failed to obtain the required amount of credit. Since large cultivators were generally capable of meeting a larger proportion of their production outlays from their own resources, the Committee urged a conscious effort to increase the proportion of loans going to the medium and small farmers.

The RCRC urged a better coordination between short, medium and long term loans. The Committee also stated that specialized agencies were required to help the small, but potentially viable farmers, as their problems were different from other groups of farmers. It was suggested by the RCRC that small farmer development agencies should be set up all over the country on a pilot basis.

Each Small Farmer Development Agency (SFDA) would identify those farmers who are small but potentially capable of becoming surplus producers with improved techniques, irrigation and availability of agricultural inputs. It was also recommended that each pilot project serve nearly 50,000 such farmers. The Union (Federal) Government was urged to provide all the funds needed for developing SFDAs. Besides, the RCRC called upon cooperatives to provide the necessary short, medium and long term loans for the small farmers identified under such schemes. However, the loans so provided would be earmarked for small farmers.

The Government of India accepted these recommendations and decided to set up 46 SFDAs all over the country during 1970-74. The government decided to allocate Rs. 15 million for each SFDA over four years. Cooperatives have been assured of liberal loans from the Reserve Bank of India and periodic grants on defaults related to the loans advanced to small farmers.

Until the end of May, 1972, over 1.58 million small farmers had been identified by the SFDAs, of whom about 0.7 million were enrolled as members of cooperative credit societies. During 1970-72 production loans (short term) worth Rs. 185 million and investment (long and medium term) loans worth Rs. 123 million were advanced to these farmers.⁸

In addition to accepting the recommendations of the RCRC, the government also set up the Rural Electrification Corporation and reorganized the existing agencies for long term agricultural credit, i.e., the Agricultural Refinance Corporation and Land Development Banks.

Other Committees on Cooperative Agricultural Credit

Besides the above mentioned committees, a few other committees and expert groups have also studied the system of cooperative agricultural credit prevailing in India. All these studies reveal that despite the introduction of Crop Loan System, cooperatives have not been able to provide useful services to farmers, especially the small and medium cultivators. However, three of such reports deserve a brief appraisal. The first report was submitted by the Mirdha Committee in 1964, and the second and third reports by a Study Group of the Reserve Bank of India and the National Council of Applied Economic Research (NCAER), respectively, in 1972. However, these committees did not analyze the working of cooperative credit agencies as comprehensively as was done by the RCS Committee, AIRDIS and the RCRC.

Mirdha Committee on Cooperation⁹

It was reported by the Mirdha Committee that despite the tough policies pursued by the Reserve Bank of India in granting accommodation to cooperatives, the number of dormant societies was rapidly increasing. In 1963, for example, about a quarter of the farm credit cooperatives were inactive. The Committee also expressed its concern over the dwindling financial resources of cooperatives in India. Yet, it gave an endorsement to the cooperatives and argued; ". . .notwithstanding individual lapses here and there, the cooperative movement as a whole is progressing in the right direction."¹⁰ Apart from describing the principles of cooperation and their relevance in the Indian context, the Committee suggested that moneylenders should not be permitted to join the cooperatives.

The Mirdha Committee was skeptical about the competence of cooperatives to meet the increasing demand for credit on the crop loan basis. It recommended an overall assessment of short-term agricultural credit requirements in different parts of the country before launching a program of crop loans.¹¹

Study Team on Cooperative Agricultural Credit Institutions (1972)¹²

This team was asked in 1971 to examine the working of agricultural cooperative credit institutions in West Bengal, but the team claims that similar conditions prevailed in several other states and, therefore, its conclusions and

recommendations were relevant to them too. After finding that the cooperative institutions in West Bengal were in a state of financial crisis, the team feared that this crisis could soon acquire new dimensions unless effective measures were taken to improve the situation. In its opinion, observance of "financial discipline" by cooperatives is a sine-qua-non of their efficient working.

The cooperative institutions in West Bengal were facing a grave problem of rising over dues too. The team estimated that the short term credit needs of West Bengal in 1970-71 were Rs. 785 million. However, its method of estimating the farm credit needs was erroneous, as the team took fixed averages of Rs. 250 per hectare for the irrigated land and Rs. 125 per hectare for unirrigated areas as the norms of credit needs throughout the state. Based on these estimates, the study team concluded that cooperatives were supplying less than 23 percent of the total credit needed.

Even though cooperatives in West Bengal were generally found in a desperate situation, the team conceded, "creation of altogether new institutions is impossible in view of the resources, organization and time it may involve."¹³ However, if a specific institution could not be improved, it should be replaced by, what the team labeled, a cooperative agricultural bank.

The team report contains some high sounding recommendations to improve the working of cooperative institutions in

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West Bengal. For instance, it suggests the "creation of a sense of responsibility among the cooperators," because it would help timely recovery of loans. Further, the report recommends that "a sense of devotion and altruism" should develop among those who lead the cooperative movement. But the team neither cared to examine the causes of present apathy and indifference among the cooperators and/or the leaders of cooperatives, nor did it suggest measures to correct such an attitude, albeit it does plead for a strict action against those who fail to repay their loans on due dates.

The National Council of Applied
Economic Research (NCAER) Study¹⁴

The NCAER conducted a study of 24 villages in three districts of Gujarat, Bihar and Mysore. But rather than discovering the effectiveness of cooperative loans in agricultural production, the reader finds a stereotyped analysis of overdue loans, the coverage of cooperatives among rural households and the financial condition of the primary cooperative societies in the selected villages. The focus of the study was, however, on the low coverage of cooperatives and their inability to provide "adequate" loans to their members. However, the NCAER Study commits the same mistake as the West Bengal Study Team in using the norms of Rs. 250 and Rs. 125 per hectare for irrigated and unirrigated areas for estimating the farm credit needs.

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One interesting revelation of this study was the "tendency of deliberate and willful default" by rich farmers in paying off their loans.¹⁵ It also reported a significant coefficient of correlation between cooperative loans and the size of landholdings, implicitly showing the neglect of small farmers, who obtained the bulk of credit from the village moneylenders.

It was also reported that lending procedures of cooperative societies were generally incomprehensible and time consuming, thus making it difficult for a vast majority of farmers (especially the small ones) to borrow from these agencies. It was stated that the permissiveness and "let it go" policy of the secretaries and directors of cooperative societies also encouraged several members to withhold or delay the repayment of cooperative loans.

Report on the Utilization of Cooperative Loans¹⁶

The Program Evaluation Organization's Study (PEO) of the Utilization of Cooperative Loans was released in 1965. The study was based on comprehensive nation-wide surveys of farm holdings and presented useful information on the utilization of cooperative loans in different states. The PEO field surveys revealed that 40 percent of the recipients of short term cooperative loans diverted the use of such funds to nonproductive uses. The estimated proportion of the short term credit so diverted was 23.4 percent of the total amount.

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For the medium term loans, the corresponding proportion was 34.8 percent during 1960-62.

The PEO study computed the total cash expenditure among different categories of farmers and estimated their credit needs. It argued that since Indian farmers generally fail to get adequate credit for meeting their needs, such diversion of cooperative loans for consumptive purposes is inevitable. It reported that in the relatively less advanced states, the proportion of diverted short term credit was much higher than in the economically advanced states such as Bombay, Madras and Punjab.* Further, those having some formal education reported a much lower proportion of diversion than the illiterate borrowers (Table 3.3). It was also discovered that small farmers diverted a larger proportion of their loans than the large landowners. Generally, half of the diversion was found to be the result of economic pressure (lack of money to buy consumer goods) but nearly 40 percent of it was a result of the borrowers' ignorance about the specific uses for which cooperative loans were meant.

Surprisingly, the PEO study found no significant relationship between supervision and the magnitude of diversion. However, it did report that most of the primary societies covered under the study were managed by part time or honorary secretaries or managers having very little or no training or practical experience in running a cooperative.

*In the economically backward states such as Rajasthan and U.P. 60 to 72 percent of the short term cooperative loans were diverted to nonproductive purposes.

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TABLE 3.3.—Proportion of Farm Households Diverting Cooperative Credit According to the Level of Literacy, Size of Holdings and the Length of Membership, 1960-62 (Percent of all Diverters)

Factors Affecting the Magnitude of Diversion	Short-Term Loans (S.T.)	Medium-Term Loans (M.T.)
<u>Literacy:</u> (i) Illiterate	64.7	54.8
(ii) 2-5 years of schooling	19.5	22.7
(iii) 6-8 years of schooling	13.3	18.6
(iv) High school and above	<u>2.5</u>	<u>3.9</u>
	100.0	100.0
<u>Size of Holding:</u> (i) Below 5 Acres	45.3	25.8
(ii) 5-10 Acres	18.7	22.5
(iii) 10-30 Acres	27.3	36.9
(iv) Above 30 Acres	<u>8.7</u>	<u>14.8</u>
	100.0	100.0
<u>Length of Membership:</u> (i) Below one year	6.9	2.8
(ii) 1-2 years	10.1	7.4
(iii) 2-3 years	13.5	13.5
(iv) 3-4 years	7.0	6.0
(v) 4-5 years	13.5	9.5
(vi) Above 5 years	<u>49.0</u>	<u>60.8</u>
	100.0	100.0

Source: Program Evaluation Organization, Study of Utilization of Cooperative Loans, New Delhi Planning Commission, 1965.

It seems, however, that no serious thought has been given to the problem of diversion of cooperative loans. Some of the recent studies pointed out that 30 to 40 percent of cooperative loans are still not used for farm business.¹⁷

In the remaining part of this chapter a brief review of the past performance of cooperative agricultural credit institutions and their present condition will be presented.

Review of the Cooperative Agricultural Credit Movement in India

The introduction of the Cooperative Credit Societies Act in 1904 marked the beginning of the Cooperative Movement in India. However, the movement gained momentum only after the inception of economic planning in 1951. It was realized by Indian planners that shortage of credit was a major bottleneck in the development of Indian agriculture. They also held a belief that farmers in India were generally exploited by moneylenders and, therefore, there was an urgent need to provide them not only more credit, but to provide it at a concessional rate of interest.

The publication of RCS Committee Report (1954) supported these beliefs. As a result, since 1955 the Government of India and state governments redesigned their policies so as to stimulate the availability of agricultural credit through cooperatives. The outlay on cooperative development schemes increased from Rs. 71 million during the First Five-Year Plan (1951-56) to Rs. 1,786 million during the Fourth Five-Year Plan

(1969-74). The Union and State Governments spent over Rs. 3,000 million on development of cooperatives between 1951 and 1972. A detailed breakdown of these outlays on agricultural and other forms of cooperation is not available, but on the basis of geographical coverage, number of members and volume of business, it may be estimated that 60 percent of this amount or Rs. 1,800 million has so far been spent by the government for the development and maintenance of cooperative agricultural credit institutions.¹⁸

In addition to these generous allocations for plan outlays for the development of cooperative agricultural institutions, the Reserve Bank of India (RBI) has also been providing liberal loans to cooperatives subsidized rates of interest (Chapter II).

The present organizational structure of cooperative agricultural credit (for each state) has been portrayed in Figure 3.1. A farmer borrows from the primary credit institutions of his area, which themselves seek financial help from the central or apex level cooperatives. It is evident from Figure 3.1 that eventually a large part of cooperative agricultural credit is provided by the RBI.

As a result of the above mentioned measures (taken by the government and the RBI), cooperative agricultural credit institutions have registered a phenomenal increase in their membership, share and working capital and the amount of credit advanced. Tables 3.4 and 3.5 explain the progress of the apex

and central cooperative banks between 1961 and 1971. It is evident that during this period their loan operations have expanded 3 to 4 times.

The progress of the primary credit societies has been shown in Table 3.6. It is clear that currently 9 out of 10 villages are covered by the primary credit societies. Further, 33 percent of the rural population and 45 percent of the cultivating households appeared to be in the cooperative fold in 1971. Table 3.6 also explains that during the decade following 1961, short and medium term cooperative loans have increased almost three times. It is hoped that the volume of cooperative credit (short and medium term) will increase from Rs. 5,779 million in 1970-71 to Rs. 7,500 million in 1973-74, and further to Rs. 12,500 million by 1978-79.¹⁹

But these data about the quantitative growth of cooperatives are, in reality, misleading. As will be shown below, the primary societies and central cooperative banks are in the grip of financial crisis. This situation was described at length by all the committees and expert groups cited above, but it is getting worse year after year. The following aspects of their present health deserve particular consideration.*

*Data for this analysis have generally been taken from the Statistical Statements Relating to the Cooperative Movement in India, op. cit., (1972).

TABLE 3.4.--Progress of State Cooperative Banks in India, 1961-1971^a (Amount in Million Rupees)

Serial Number	Item	1961	1966	1969	1970	1971
1.	Number of Banks	21	22	25	25	25
2.	Membership (Number)					
	(a) Cooperatives	22,515	12,918	12,711	11,905	11,756
	(b) Individuals	7,069	8,092	8,558	6,955	6,839
3.	Paid up capital	182.4	288.3	376.9	396.0	426.3
4.	Government contribution out of (3) above	64.6	98.6	116.0	117.7	133.7
5.	Reserves (Total)					
	(i) Statutory Reserves	57.6	161.3	377.8	432.2	500.5
	(ii) Bad Debt Reserves	25.6	56.3	83.9	93.9	105.7
	(iii) Credit Stabilization Fund	10.7	23.5	34.0	35.6	36.9
	(iv) Other Reserves	. . .	. . .	189.9	223.0	261.7
		21.3	81.5	70.0	79.7	96.2
6.	Deposits (Total)	723.3	1465.1	2156.3	2343.1	2787.0
7.	Borrowings (Total)	1253.2	1985.2	2754.4	3023.2	2944.5
	(i) From the Reserve Bank of India	1148.9	1744.7	2249.0	2430.2	2419.1
	(ii) From the State Government	60.0	203.0	172.2	163.2	196.6
	(iii) Other borrowings	44.3	37.5	333.2	429.8	328.8
8.	Working Capital (Total 3+5+6+7)	2270.6	4105.4	5878.0	6382.4	6852.1
9.	Loans advanced during the year	1950.7	4078.9	6636.0	7228.6	7475.9
10.	Loans outstanding	1666.9	3079.3	4589.5	5097.6	5342.7
11.	Loans overdue out of (10) above	69.7	93.4	23.11	27.55	35.86

^aFigures relate to the cooperative year ending on 30th June of each year.

Source: "Selected Statistics Relating to Cooperative Credit in India", Bombay, Reserve Bank of India, September 1972.

TABLE 3.5.--Progress of Central Cooperative Banks in India, 1961-71 (Amount in Million Rupees)

Serial Number	Item	1961	1966	1969	1970	1971
1.	Number of Banks	390	346	341	340	341
	Number of Offices	1,445	2,475	3,124	3,438	3,775
2.	Membership: (Number)					
	(i) Cooperatives	235,166	258,166	237,426	234,902	235,200
	(ii) Individuals	152,530	103,990	102,839	76,603	75,292
3.	Paid up Capital	389.2	753.2	1152.4	1279.2	1411.3
	Of which Government contribution	103.1	192.7	298.8	331.9	375.0
4.	Reserves (Total)	119.4	256.2	396.3	462.3	579.2
	(i) Statutory Reserves	56.6	117.5	165.1	186.1	206.7
	(ii) Bad debt Reserves	24.2	65.2	104.3	123.6	145.0
	(iii) Credit Stabilization Fund	.	.	40.0	55.2	69.1
	(iv) Other Reserves	38.6	73.5	86.9	97.4	158.4
5.	Deposits (Total)	1120.2	2365.9	3508.4	3816.1	4385.5
6.	Borrowings (Total)	1411.7	2449.9	3247.5	3719.4	3931.4
	(i) From the State Coop Banks	1348.9	2296.7	2912.2	3310.9	3533.5
	(ii) From the State Government Banks	48.4	146.1	94.2	76.4	94.3
	(iii) Others	14.3	7.1	241.1	332.1	303.6
7.	Working Capital (3+4+5+6)	3183.2	6157.1	8812.4	9797.2	10814.1
8.	Loans Advanced During the Year	2901.0	5449.6	8230.8	8549.7	8663.9
	Short-Term Loans	2699.2	5046.7	7701.8	7956.8	8020.8
	Medium-Term Loans	201.8	402.9	529.0	592.9	643.1
9.	Loans Outstanding (Total)	2200.3	4377.2	6410.4	7397.9	8134.0
10.	Percentage of Overdue Loans to (9)	12.5	19.9	26.9	29.1	33.7

Source: "Selected Statistics Relating to Cooperative Credit in India," Bombay, Reserve Bank of India, September 1972.

TABLE 3.6.--Progress of Primary Cooperative Credit Societies in India, 1961-1971
(Amount in Million Rupees)

Serial Number	Item	1961	1966	1969	1970	1971
1.	Number of Societies (Total)	212,129	191,904	167,760	162,700	160,780
	(a) of which Active Societies	171,124	168,224	146,699	143,709	140,546
	(b) Number of societies lending funds	169,919	152,658	124,946	121,722	117,063
	(c) Dormant Societies	41,005	23,680	21,061	18,991	20,234
2.	Percentage of villages covered by (1a)	66	82	86	85	86
3.	Percentage of population covered by (1a)	24	33	33	33	33
4.	Number of members ('000)	17,041	26,135	29,173	29,773	20,963
5.	Percentage of borrowing members	53	42	38	39	36
6.	Paid up capital (Total)	577.5	1153.2	1673.1	1865.2	<u>2057.4</u>
	Of which Government contribution	57.1	104.8	130.3	148.0	169.4
7.	Reserves	178.0	335.9	478.5	523.3	<u>595.7</u>
8.	Deposits	145.9	344.9	568.4	626.7	694.6
9.	Borrowings from the Central Cooperative Banks	1837.8	3631.5	5402.2	6179.4	6751.9
10.	Loans advanced by (1b)	2027.5	3419.8	5038.7	5401.1	5778.8
	Short-Term loans	1828.2	3051.8	4563.9	4877.7	5193.4
	Medium-Term Loans	199.3	368.0	474.8	523.4	585.4
11.	Loans recovered during the year	1626.4	2835.4	4209.7	4552.4	5046.5
	(a) of which those recovered by the sale of members' produce	. . .	. . .	448.0	406.0	478.3
	(b) Number of societies concerned	. . .	. . .	13,305	21,163	16,843
12.	Loans outstanding (Total)	2180.0	4269.0	6187.5	7114.4	7844.8
	Short-Term Loans	N.A.	3565.3	5219.3	5956.8	6472.0
	Medium-Term Loans	N.A.	703.7	968.2	1157.6	1372.8
13.	Percentage of Overdue Loans to Total Loan Outstanding	20.3	29.4	34.6	37.7	41.1

Source: "Selected Statistics Relating to Cooperative Credit in India," Bombay, Reserve Bank of India, September 1972.

Note: N.A. = not available.

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TABLE 3.7.--Progress of Long-Term Cooperative Agricultural Credit in India Between 1961-1971. (Amount in Million Rupees)

Central Land Development Banks	1961	1971	Primary Land Development Banks	1961	1971
1. Number	18	19	1. Number	463	865
2. Membership:			2. Membership ('000)	669.2	3537
(a) Primary Banks (Number)	414	855			
(b) Individuals ('000)	274	1442	3. Share Capital	19.70	415.5
3. Paid up Share Capital	43.30	488.84	4. Deposits	3.97	25.7
4. Debentures	36.53	7252	5. Borrowings	241.33	4465.6
5. Reserves	11.18	91.00	6. Working Capital	269.88	5506.6
6. Deposits	5.64	71.7	7. Loans Outstanding	246.61	4482.7
7. Working Capital	476.00	8412.22	8. Loans Advanced During the Year	71.68	1189.4
8. Loans Outstanding	366.12	6376.50	9. Overdues	6.4	174.7
9. Debentures Issued During the Year	103.3	1584.40			
10. Loans Advanced During the Year (Total)	116.21	1682.80			
(a) For Land Improvement	46.49	89.63			
(b) For Purchase of Machinery	34.48	185.26			
(c) For Debt Redemption	30.76	8.41			

Note: Value in million rupees unless otherwise specified.

Source: Statistical Statements Relating to the Cooperative Movement in India (1960-61 and 1970-71), Bombay, Reserve Bank of India.

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Number of Active Societies

In 1955 about 20 percent of the primary credit societies were inactive but by the end of June 1971, their proportion increased to 27 percent (Table 3.6). In Assam and West Bengal less than a quarter of the primary credit societies conducted business during 1970-71. On the other hand, in Punjab, Madhya Pradesh, Gujarat, Haryana, Maharashtra and Bihar the proportion of inactive to total number of societies was 14 percent or less.

It was observed by the RCRC that a large number of primary credit societies were too small to conduct sufficient volume of business and become viable units. Eventually, such societies become inactive, though they are still not considered as dormant societies. The RCRC, therefore suggested that the state governments take necessary (statutory) steps for the amalgamation of nonviable cooperatives so as to convert them into viable units.

Until June, 1971 only eight states (Maharashtra, Rajasthan, Orissa, Andhra Pradesh, Uttar Pradesh, West Bengal, Kerala and Madhya Pradesh) had passed laws for compulsory amalgamation of the inactive, nonviable primary credit societies. The Annual Conference of the Registrars of Cooperative Societies observed in 1970 that there was a marked reluctance on the part of societies and the state governments to accept amalgamation as a necessary step for converting small and inactive societies into viable units.²⁰

In short, the pace of reducing the number of dormant, inactive and nonviable credit societies has been very slow. In addition to this, the state governments are reluctant to take measures which are imperative to activate even those societies which may become viable with a little financial help.

Number of Borrowing Members

It is apparent from Table 3.6 that the proportion of borrowing members (and even their actual number) to total membership is declining year after year. It was mentioned earlier that 45 percent of the cultivators are associated with the primary credit societies in India. If the proportion of borrowing members is compared with the cooperative membership, only 17 percent of cultivators in fact benefitted from cooperative credit during 1970-71.

In Assam, Bihar, Orissa, Uttar Pradesh and West Bengal more than 70 percent of the members did not obtain any loan from the primary credit societies in 1970-71. On the contrary, in Haryana, Punjab and Gujarat more than 50 percent of the members received cooperative credit during this year. These data suggest that more than one-third of the members are fully dependent on noncooperative agencies to meet their credit needs for farm business and household consumption.

Loan Per Member

It can be argued that 45 percent of the cooperative short and medium term loans were advanced to those members in

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1970-71 who held more than 4 hectares (10 acres) of land. It may be pointed out in this context that farmers with over 4 hectares of land constitute 16 percent of the cultivators in India, but command about 50 percent of the total agricultural land. In other words, there is a significant correlation between the distribution of land and the distribution of cooperative loans among farmers. This seems obvious in view of the fixed scales of per hectare cooperative finance prescribed under the Crop Loan System.

It can also be observed that the cooperative loans in Bihar, Jammu and Kashmir, Orissa, Rajasthan and West Bengal had a much lower average (less than Rs. 300) in 1970-71, as compared to the corresponding average of Rs. 600 in Gujarat, Maharashtra, Punjab and Tamil Nadu. Thus, small loans, which presumably go to the small cultivators, show a concentration in those states where the level of agricultural development is generally low. Loans in the range of Rs. 1,000 and over per borrowing members show a heavy concentration either in those states where the HYV of seeds are used on a large scale (such as Punjab, Haryana, Gujarat Maharashtra and Andhra Pradesh) or where the feudalistic elements still command a large proportion of the cropped area.

Problem of Overdue Loans

Overdue loans (commonly known as overdues) often result in the stagnation and poor financial health of cooperative

credit institutions. In India, the proportion of overdues to the outstanding cooperative loans at the end of June, 1971 were 41 percent at the primary level (Table 3.6), 34 percent at the CCB level (Table 3.5) and 36 percent at the apex bank level. It is apparent from Tables 3.4 to 3.6 that the problem of overdues has become serious during the past 10 years. At the end of June 1971, the proportion of overdues at the primary level was 60 percent or higher in Assam, Bihar, Jammu and Kashmir, Orissa and West Bengal (Appendix A.7).

What is more striking is the fact that except in Gujarat, Himachal Pradesh and Kerala the amount of overdue loans exceeded the owned funds (paid up share capital and reserves) of the primary credit societies. This implies that in most of the states of India overdues have not only absorbed the owned funds of these agencies, but have even eroded a sizeable part of their borrowed capital (Appendix A.7).²¹ The RCRC examined the causes of overdues at length and put them into four broad categories: (i) natural calamities and failure of crops, (ii) lack of supervision over the utilization of loans (iii) permissiveness of the secretaries and directors of primary credit societies towards the willful defaulters, and (iv) poor linkage between agricultural credit and marketing.

It was recognized by the RCRC that in the event of widespread crop failure in an area (resulting from natural calamities, such as severe droughts, floods and cyclones) farmers fail to repay their loans on due dates. For such

overdues, creation of special stabilization and relief funds at the primary level was recommended by the RCRC.

Better supervision over the use of loans and better linkage between credit and marketing operations were suggested as effective measures to combat the problem of overdues. For the willful defaulters, the RCRC suggested that legal and coercive measures would be needed.

It was suspected by the Registrars of Cooperative Societies at their conference in September 1972, that the proportion of overdues to outstanding loans had risen to 45 percent by the end of June 1972.²²

Cost of Overdues

Simple arithmetic calculations reveal that the primary societies lost Rs. 381 million in 1969-70 and Rs. 487 million in 1970-71 on account of overdue loans (Table 3.8). In other words, their interest income would have been higher by this amount if there were no overdues. Obviously, such losses are likely to rise further if no effective measures are taken to combat them.

Another estimate shows that during 1970-71 alone the default rate on cooperative loans was 12.5 percent.* As per

*In 1970-71 the primary credit societies advanced short term loans worth Rs. 5,778 million but could recover only Rs. 5,046 million. Thus the rate of default was 12.5 percent. However, the rate of default was much higher than this level in many states (Appendix A.8).

Table 3.8.—Estimated Loss of Interest Income to Primary Cooperative Societies in India Due to Overdue Loans in 1969-70 and 1970-71 (Amount in Million Rupees).

Period for Which Loans Were Overdue	Assumed Mean Period in Years (t)	Amount Overdue		Loss of Interest Income [@]	
		June 30, 1970	June 30, 1971	1969-70	1970-71
1 year or less	0.5	1343.3	1505.1	60.45	67.72
1 to 2 years	1.5	606.7	722.2	86.15	106.82
2 to 3 years	2.5	373.0	473.7	86.53	109.90
Over 3 years	3.0	359.4	492.6	147.73	202.44
Total		2642.4	3223.6	380.86	486.88

@Following formula was used to compute the loss of interest income:

$$I = \{P. (1 + r)^t - P\}$$

where I = total interest, income lost, P = amount overdue, r = rate of interest and t = period for which the loan was overdue. Since cooperative societies in India generally charge interest at the rate of 9 percent per annum, the formula can be written as:

$$I = P (1.09)^t - P$$

Source: Statistical Statements, op. cit., No. 29.

U Tun Wai's calculations (mentioned in Chapter II), cooperatives should have charged interest at the rate of 24.2 percent to compensate for such default. The cooperatives impose no penalty on the defaulters. Rather, their rate of interest on defaults was only 12 percent which was much lower than the interest rate charged by moneylenders on normal loans.

The mounting number and amount of overdues generally have two implications: (i) first, if the amount of overdues exceeds the owned funds of cooperative societies (as is the case in most states in India), it would have an adverse effect on all those institutions from which such societies borrow especially the CCBs, and (ii) they adversely affect the financial health of a primary society and inhibit its growth. It was conceded by the Registrars of Cooperative Societies at their conference in 1970 that the ratio of overdues to outstanding loans at the CCB level ranged between 50 to 75 percent in Assam, Bihar and West Bengal. It should be recalled that in these states the incidence of overdues was high at the primary level too. It is probable that the critical financial conditions of CCBs in these states has been largely due to the heavy accumulation of overdues at the primary level.

Poor Linkage Between Credit, Input Supply and Marketing

It was stated in the preceding chapter that credit alone would not provide an answer to the problem of the low level of agricultural development in India. Referring to the

trinity of credit, input supply and marketing of crops, it was argued that an effective integration of the three will create conditions for the success of cooperative institutions. Earlier in this chapter it was contended that the CLS tends to emphasize loans in kind, and as far as possible, requires the recovery of loans through the sale of crops.

Available statistics, however, clearly demonstrate that the trinity continues to remain a myth for the cooperative credit agencies in India. For instance, out of the total recoveries of Rs. 5,046.5 million, only 9 percent represented sales of crops grown by members. Further, except in Gujarat, and Maharashtra cooperatives in other states took no interest in encouraging the recovery of their loans through such sales in 1970-71 (Appendix A.9).^{*} Moreover, the number of such societies engaged in recovery through marketing in 1970-71 was lower than in 1966-67 (Table 3.9).

With respect to the supply of farm inputs also, their performance has not been encouraging. Out of the total value of farm requisites supplied in 1970-71, (Rs. 1,286 million) over 60 percent was supplied in Gujarat, Punjab and Maharashtra only. It is noteworthy that the respective proportions of fertilizers, pesticides and improved seeds in the total value of inputs supplied were 86.7 percent, 1.7 percent and 6.4 percent in 1970-71. During 1970-71, the total amount of

^{*}Out of 117,063 societies involved in lending operations only 16,843 sold their members' crops.

TABLE 3.9.--Growth of Primary Cooperative Credit Societies in India After the Introduction of Crop Loan System, (1966-67, 1969-71)

Serial Number	Indicator	Item	1966-67	1969-70	1970-71
1.	Total Number of Societies	Number	178,735	162,700	160,780
2.	Membership	Thousand	26,709	29,765	30,963
3.	Borrowing Members	Thousand	10,611	11,736	11,233
4.	Ratio of 3 to 2	Percent	40.0	39.4	36.3
5.	Total of Owned Funds	Million Rs.	1654.9	2388.5	2652.8
	of which (i) share capital	Million Rs.	1286.1	1865.2	2057.4
	(ii) Reserves	Million Rs.	368.8	523.3	595.4
6.	Deposits	Million Rs.	390.9	627.7	694.6
7.	Working Capital	Million Rs.	6252.0	10456.7	11534.0
8.	Loans outstanding	Million Rs.	4774.6	7114.4	7844.8
9.	Loans overdue	Million Rs.	1601.5	2682.5	3223.6
10.	Ratio of 5 to 7	Percent	26	23	23
11.	Ratio of 9 to 7	Percent	26	26	28
12.	Ratio of 9 to 5	Percent	97	112	122
13.	Value of Crops Marketed	Million Rs.	414.9	406.0	478.3
14.	Number of Societies Participating				
15.	Loans Advanced during the Year	Number	9383	2125	3186
16.	Number of Societies Advanced	Number	3647.9	5400.3	5778.1
17.	Ratio of 13 to 15	Number	131,826	121,722	117,063
18.	Societies with Full Time Managers/Secretaries	Percent	11	7.5	8.3
19.	Ratio of 18 to 1	Number	26,990	50,726	53,429
		Percent	15	31	33

Sources: (i) Statistical Statements Relating to the Cooperative Movement in India. Part I 1967 to 1971.

(ii) Report on Currency and Finance, Reserve Bank of India, 1971-72.

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seasonal loans given by cooperatives was Rs. 4,697 million, out of which only 27.4 percent was given in the form of inputs. During the same year only Rs. 52.4 million were given as consumption loans.

Poor Financial Base

For a healthy cooperative credit structure it is important that the primary credit societies develop a sound capital base. Indian cooperatives are, however, moving in the opposite direction. If their record of capital base is analysed for the past five years when the CLS has been in vogue, the ratio of owned funds to working capital appears to have declined from 26 percent in 1966-67 to 23 percent in 1970-71 (Table 3.9). It should be made clear that the degree of their reliance on borrowed capital moves inversely with such ratio. Appendix A.7 indicates that in Assam, Bihar, Haryana, Jammu and Kashmir, Madhya Pradesh, Orissa, Punjab, Rajasthan and West Bengal, the primary societies' owned funds constituted 20 percent or less of their working capital. It is surprising that even in the relatively advanced states like Maharashtra and Gujarat, the percentage of owned funds to total working capital was less than 28. What is more striking is the failure of cooperatives to build up an adequate capital base in Punjab and Haryana, where generally farmers are more prosperous, and cooperatives are showing better coverage than in other states. The situation seems to

be deteriorating further in view of the rising overdue loans across the country. Furthermore, the heavy reliance of primary institutions on borrowed funds induces a chain reaction on CCBs and the apex banks. In the ultimate analysis, as noted above, it is the Reserve Bank of India on whose help the entire cooperative credit structure depends (Appendix A.9).*

Poor and Inefficient Management

The skill, competence and aptitude of secretaries and managers largely determine the extent to which cooperative institutions can operate successfully. The Rural Credit Review Committee (RCRC) stated in its report that most primary credit societies and a large number of CCBs in India were managed by inefficient and inexperienced personnel. The Committee reported that the biggest need in the prevalent situation was the expansion of training facilities for the cooperative personnel at the primary level.

The RCRC reported that as of April 1, 1966, the proportions of trained secretaries to their total number in some of

*As per the Report on Currency and Finance (1971-72) the Reserve Bank of India advanced for seasonal agricultural operations only, Rs. 4,344 million in 1969-70 to State (Apex) Cooperative Banks at 2 percent below the bank rate. For 1971-72, the corresponding amount was Rs. 4,823 million. The outstanding loans on June 30, 1972 in this account was Rs. 1,539 million. Besides, outstanding medium term loans (total) on this data amounted to Rs. 457.8 million. All these loans were due from the Apex Banks, which accommodate the central cooperative banks and ultimately these funds help the primary credit societies.

the states were as follows: (percent)²⁴ Andhra Pradesh (1), West Bengal (3), Assam (4), Tamil Nadu (5), Mysore (13) and Kerala (30). The over all ratio of trained secretaries to the total number in these states was 5.5 percent. The government has so far made only modest efforts to provide professional training to the cooperative personnel working at the primary level. The V. M. National Institute of Cooperative Management and the regional cooperative training colleges (numbering 13) offer training programs for the key personnel and junior officers working at the apex and district level cooperative institutions. In addition, there are 62 cooperative training centers to train the managers, supervisors and secretaries of the primary credit and marketing societies, irrigation societies, consumer stores and other types of cooperatives. In short, these programs offer no specialized training for the personnel working at the primary credit societies.

In addition to lack of training, the poor management of the primary credit societies can be attributed to two additional, but inter-related, factors: (a) low pay offered to the personnel, and (b) lack of incentives.

It was recently acknowledged by the Registrars of cooperative societies that due to poor internal resources, most primary credit societies could not pay more than Rs. 100 per month to their secretaries.²⁵ Further, out of the total number of 140,546 primary credit societies working at the end

of June, 1971, only 38 percent had full-time (paid) secretaries. Others had either part time or honorary secretaries.²⁶

The RCRC also mentioned that primary credit societies in India generally offer no reward to the efficient secretaries who might have contributed greatly to increasing the volume of business and profits of their institutions. On the contrary, there is no provision to penalize the inefficient personnel. It was also observed that most secretaries do not enjoy security of their job.

In short, a sense of insecurity and frustration among the cooperative personnel generally results in a low volume of business, low level of profits and an attitude of permissiveness towards those who do not repay their loans on due dates. Such an attitude increases the incidence of overdues and eventually pushes the cooperatives into a financial crisis.

Faulty Operational Policies

It was noted earlier that the primary credit societies generally did not follow the guidelines prescribed in the Crop Loan Manual. Even though the Crop Loan System (CLS) requires that a cooperative advance short term loans on the basis of operational holdings, yet, in practice the potential borrower has to offer his land as security. On the other hand, each tenant has to produce two sureties who own land. Thus, landed security continues to be a basis of cooperative loans.

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Under the CLS cooperative loans are provided on the basis of scales of finance by crop and the production plans submitted by farmers. The RCRC observed that the scales of finance were generally fixed arbitrarily (without studying the per hectare cash expenditure in the region) and then were inflated year after year in the same fashion. The Committee further reported that the record of land holdings at the village level was either incomplete or out of date. For this reason, there was a considerable room for arbitrariness in the determination of individual member's credit limit statement.

The RCRC discovered that despite the introduction of CLS in 1966, the progress towards the adoption of seasonality in the disbursement and recovery of cooperative (short term) loans was very slow. In addition to this, the RCRC also reported that the procedural formalities in cooperative credit were lengthy and incomprehensible to the borrowers.²⁷

General Paucity of Leadership

The RCRC, the NCAER and the West Bengal Study team reported that cooperatives, from the primary level up to the apex institutions, generally lack a conscientious and devoted leadership. The RCRC was disturbed at the undue interference of the government in the operations of cooperative institutions, especially at the apex and CCB levels.

It was observed that in a large number of cases the

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members of managerial committees or boards of directors were illiterate, and were unable to play the role expected of them. The legal provisions limiting the number of years for which a member could hold such an office, were often violated by the resourceful farmers.

In the foregoing pages a detailed description of the weaknesses of cooperative credit societies and the major causes of their poor health have been presented. It was shown that cooperatives are financially weak and have generally failed to provide the noncredit services such as agricultural marketing, supply of inputs or even counselling which are rendered commonly by moneylenders. In the following section the adequacy of cooperative credit will be examined in the light of the criteria presented in the preceding chapter.

Adequacy of the Short Term Cooperative Agricultural Credit in India

The first criteria to measure the adequacy of credit is the amount of loans. It may be recalled in this regard that the amount of cooperative agricultural credit (short and medium term) has shown a significant increase (from Rs. 220 million in 1951-52 to Rs. 5,779 million in 1970-71) during the past two decades. It is also possible that with a continued flow of (large) funds from the RBI, cooperative credit societies will be able to accomplish the Fourth Five-Year Plan target of Rs. 7,500 million by 1973-74.

However, tested on the basis of other criteria, cooperative agricultural credit does not seem to be adequate. The rate of interest on such credit is very much lower than the one charged by other lending agencies. However, as argued earlier, without government support and willingness to bear the incidence of interest-subsidization, cooperatives will not be able to provide such relief to their members.

The timings of disbursement and recovery of cooperative agricultural credit generally do not suit the farm business needs of individual farmers. Finally, the fact that their emphasis is exclusively on credit, cooperative credit societies are not able to compete with moneylenders who generally provide a wide range of services to their clients. To sum up, except the amount of loans, cooperative agricultural credit in India does not meet the different tests of adequacy.

Conclusions

The quantitative growth of cooperative agricultural credit societies, described earlier in this chapter, needs to be evaluated in view of the facts discussed in the preceding sections. Though the amount of cooperative agricultural credit has risen 26 times (from Rs. 220 million to Rs. 5780 million) during the past two decades, faulty operational policies and inefficient management have plunged the cooperative societies into a deep financial crisis.

It was observed that cooperatives are suffering heavy

losses due to mounting number and amount of overdues. The capital base of cooperatives at the primary level is not sufficient and forces them to rely heavily on the CCBs, which themselves have inadequate funds and must borrow from the apex banks. Unless effective measures are taken to mobilize additional resources and improve their recovery ratios, the primary credit societies will soon plunge into a still deeper financial crisis.

As explained above, except for the amount of loans, cooperative agricultural credit does not meet the several criteria of adequacy. Cooperatives have not established the trinity, i.e., an effective integration between credit, marketing and input supply. Nor have the cooperatives timely credit, advice and other services to their members. As a result, they find themselves unable to compete effectively with moneylenders.

The performance of cooperative societies in most states has been utterly disappointing. It would, indeed, require a Herculean effort to combat their present problems, especially those emanating from the heavy incidence of overdues, insufficient capital base and inefficient management.

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CHAPTER IV

REVIEW OF COOPERATIVE AGRICULTURAL CREDIT IN RAJASTHAN*

The past performance and present economic situation of cooperative credit institutions in India were discussed at length in the preceding Chapter. It was observed that these institutions generally have a weak financial base and do not appear capable of meeting the growing demand for agricultural credit. The structure of cooperative credit institutions is relatively weaker in Assam, Jammu and Kashmir, Madhya Pradesh, Uttar Pradesh, Bihar, West Bengal, Nagaland and Rajasthan, than in Maharashtra, Gujarat, Punjab and Haryana.

The present chapter provides a detailed analysis of the modus operandi, and the present economic situation of cooperative agricultural credit institutions in Rajasthan.

*With a total area of 132,152 square miles, Rajasthan is the second largest state in India. Over 55 percent of this area constitutes arid and semi-arid zones. About 82 percent of the state's population lives in rural areas. Since this state is not industrially advanced, nearly three-fourths of the total labor force is engaged in agriculture. As compared to the all-India average of 20 percent, in Rajasthan only 12 percent of the cropped area is irrigated. Further, the state ranks very low in respect of per capita income, roads and railroads, availability of electric power and level of literacy. It is estimated that 50 percent of the urban and 61 percent of the rural people in Rajasthan live below the subsistence (poverty) line.¹

It should be noted that the cooperative credit movement in Rajasthan made only a modest beginning until 1956. The primary cooperative societies covered less than 15 percent of the villages and 5 percent of the farm households by this time. By June 1972, however, they had covered about 98 percent of the villages and 35 percent of the farm households. They have also shown phenomenal growth in their working capital and the amount of short (as well as medium) term loans advanced.

However, it appears that much of this quantitative growth has been accomplished without giving sufficient consideration to their qualitative performance. The following section will provide an appraisal of their quantitative progress and will review the state of their present financial health and working procedures. Since the scope of this study is limited to short-term agricultural credit, the focus of this chapter will be on the primary credit societies only.

Review of Quantitative Progress Of Cooperative Credit Institutions

Tables 4.1 through 4.3 show the record of quantitative progress achieved by cooperative agricultural credit institutions in Rajasthan since 1955-56. The State Cooperative Bank (Apex Bank) has increased its owned funds 40 times during the 1955-71 period. The corresponding increase in the amount of loans advanced was nearly 390 times in the same period (Table 4.1).

TABLE 4.1.--Trend of Progress: Rajasthan State (Apex) Cooperative Bank, 1955-56 and 1960-61/1970-71 (Year Ending June 30) (Million Rupees)

Year	Share Capital	Reserve Funds	Borrowings	Total Working Capital	Total Loans Advanced	Loans Outstanding	Percent of Overdue to Loans Outstanding
1955-56	0.98	0.04	2.51	4.53	3.75	3.01	5
1960-61	8.87	0.68	49.76	67.04	50.68	58.43	2
1961-62	11.58	1.28	40.05	63.54	48.77	55.68	15
1962-63	12.26	1.58	41.79	61.57	47.33	51.43	13
1963-64	12.71	1.96	47.60	70.79	47.24	61.10	10
1964-65	13.42	2.36	60.60	94.64	74.76	77.22	11
1965-66	14.30	3.30	64.54	97.61	67.07	85.17	10
1966-67	15.21	5.30	51.60	98.17	58.77	81.36	16
1967-68	16.64	10.54	46.96	91.64	85.56	79.86	2.7
1968-69	18.25	14.60	107.27	160.43	204.99	150.01	2.4
1969-70	19.71	17.65	118.19	181.81	171.61	165.45	8.4
1970-71	20.32	19.91	105.65	179.84	1169.01	164.34	6.0

Source: Progress of Cooperatives in Rajasthan: Statements released every year by Registrar of Cooperative Societies, Jaipur between April and August.

Likewise, the district central cooperative banks (CCBs) have increased) their owned funds 20 times and working capital 18 times during these years. However, the increase in their loan-operations have been marred in recent years by increasing overdue loans (Table 4.2).

At the primary level too, cooperative credit institutions have exhibited steady growth during this period. Their membership increased from 132,000 to 12.9 million during 1955-72, whereas, the increase in share capital in this period was from Rs. 2.4 million to Rs. 75.0 million (Table 4.3). Similar spectacular growth has been accomplished in working capital and amount of short-term credit advanced. During 1955-71, the working capital of cooperative credit societies increased from Rs. 13.2 million to Rs. 385 million. The increase in short and medium term loans was from Rs. 8.55 million to Rs. 163.34 million in this period. However, as a result of heavy overdues, cooperatives were forced to reduce their short and medium term credit from Rs. 163.34 million in 1970-71 to Rs. 97.41 million in 1971-72. The decline in short-term loans was from Rs. 156 million to 90.66 million within one year after 1970-71.

The number of primary societies showed a secular increase until 1967-68, but then declined due to the policy of the state government to eliminate the defunct societies, or to force their merger with other societies. It must be made clear that merger is generally permitted only where

TABLE 4.2.—Trend of Progress: District Central Cooperative Banks in Rajasthan (1955-1971) (Million Rupees)

Year	Number of Banks	Share Capital	Reserve Funds	Deposits From Societies & Individuals	Borrowings From the Apex Bank	Total Working Capital	Owned ^a Funds as Percent of Working Capital	Loans ^b Advanced During the Year	Loans Outstanding	Overdues as Percent of Loans Outstanding
1955-56	10	1.73	1.62	9.2	4.39	17.02	19.7	13.44	9.36	25
1960-61	25	14.85	2.09	27.86	59.40	104.21	15.5	73.62	71.81	26
1961-62	25	16.97	2.20	28.09	55.69	104.95	18.3	64.24	73.18	38
1962-63	25	20.95	2.61	27.84	51.49	102.89	20.9	63.40	72.74	40
1963-64	25	23.28	2.85	33.26	61.52	120.90	21.7	60.90	82.58	44
1964-65	25	26.71	3.11	39.67	78.05	147.63	20.2	90.13	85.48	42
1965-66	25	29.64	3.51	49.32	86.32	168.83	20.0	120.99	113.96	38
1966-67	25	31.79	4.51	50.19	82.39	168.89	21.5	102.85	122.47	46
1967-68	25	34.56	4.92	54.02	78.79	172.30	22.9	108.90	128.41	43
1968-69	25	41.43	5.76	58.47	129.55	235.21	20.0	188.93	191.22	33
1969-70	25	47.53	7.42	68.24	152.38	275.56	20.0	172.31	224.51	38
1970-71	25	53.68	8.84	82.72	161.65	306.88	20.4	187.15	249.33	44

Source: Same as in Table 4.1.

^aThese loans include Medium Term Loans^bOwned funds include share capital and reserve funds only.

TABLE 4.3.—Trend of Progress: Primary Agricultural Cooperative Credit Societies in Rajasthan, (1955-1972)
(Amount in Million Rupees)

Year	Number of Societies	Number of Members ('000)	Share Capital	Reserve Funds	Deposits	Working Capital	Owned Funds as Percent of Working Capital	Loans Advanced During the Year Total Medium Term Loans	Loans Outstanding	Percent of Over-dues to Loans Outstanding
1955-56	4,812	132	2.43	2.60	0.55	13.22	38.00	8.55	N.A.	18
1960-61	10,913	673	19.39	2.23	2.66	88.76	24.3	56.52	1.34	31
1961-62	11,535	771	23.01	2.41	3.19	96.91	26.2	53.92	1.84	44
1962-63	11,947	829	25.48	2.48	3.73	97.22	28.8	50.89	1.18	48
1963-64	12,474	891	28.61	2.85	5.69	115.42	27.3	49.92	1.75	52
1964-65	12,820	951	31.07	3.04	6.50	120.09	28.3	58.08	3.10	51
1965-66	12,702	1,016	34.11	2.95	8.17	152.89	24.4	77.30	9.38	47
1966-67	12,378	1,065	37.35	3.12	8.59	168.67	24.0	69.75	8.35	45
1967-68	11,460	1,121	41.59	3.25	10.26	180.31	24.9	90.36	7.66	44
1968-69	9,691	1,180	50.48	3.05	11.78	249.37	21.5	145.55	18.89	31
1969-70	8,042	1,234	60.03	3.22	12.16	292.20	21.6	138.54	12.08	36
1970-71	7,808	1,271	69.51	3.30	13.03	326.45	22.3	163.34	7.51	44
1971-72	7,727	1,289	75.08	3.62	14.34	385.17	24.1	97.41	6.75	54

Source: Same as Tables 4.1 and 4.2.

N.A. = Not Available

the weak society appears potentially viable, and the merger is expected to yield better results.

Yet, there should be no room for complacency. Judged by certain basic indicators of performance, it can be demonstrated that the cooperative credit structure in Rajasthan is generally weak.

Weaknesses of the Present Cooperative
Credit Structure in Rajasthan

Cooperative credit institutions in Rajasthan generally suffer from the following weaknesses:

(1) Insufficient capital base: The preceding paragraphs provided a description of the phenomenal increase in working capital, membership and the lending operations of cooperative credit institutions of Rajasthan. However, it would be a mistake to assume that the overall health (financial condition) of these agencies has also improved during the past sixteen years.

In reality, cooperatives have failed to mobilize sufficient owned funds (share capital and reserve). As a result, their dependence on borrowings has increased substantially since 1956. Table 4.1 to 4.3 explain that the ratio of owned funds to their working capital was less than 24 percent until 1971-72. Assuming that owned funds provide an important criterion of the health of cooperative institutions, it would appear from Tables 4.2 and 4.3 that many district central cooperative banks are presently in a more vulnerable financial condition than the primary credit societies.

District wise analyses of the primary credit agencies are presented in Appendices A.10 and A.11. It is evident that except in Alwar, Bharatpur, Kota, Ganganagar and Ajmer, the primary credit societies in Rajasthan generally do not possess adequate owned funds. Except in the districts mentioned above, the ratio of owned funds to working capital is less than 17 percent. Further, nearly one-third of these agencies had a share capital of less than Rs. 3,000 and only 7 percent of them (mostly in Kota and Bharatpur) had a paid up share capital of Rs. 20,000 or more (Appendix A.11).

2. Concentration of cooperative short-term credit in the more advanced districts: In Kota, Bharatpur and Tonk the proportion of borrowing to total members in 1971-72 was higher than 50 percent. On the contrary, in Banswara, Barmer, Dungarpur, Jaisalmer, Jhunjhunu and Pali, this ratio was less than 10 percent. It is important to note that the latter group of districts constitutes a part of the arid zone, whereas Kota, Bharatpur and Tonk possess fertile land as well as adequate irrigation facilities. This implies, therefore, that cooperative short-term credit has a heavy concentration in the relatively more fertile regions.

A corollary of what has been described above can be found in Table 4.4. It shows that the average amount of cooperative loan is much higher in the more fertile districts than in the arid zone. Statistical statements released by the Registrar of cooperative societies also demonstrate that

**Table 4.4.--Cooperative Loan (Short-Term and Medium Term)
Per Member in Rajasthan (1971-72) (Amount in
Rupees)**

District	Loan Per Member	Loan Per Borrowing Member
Ajmer	104	300
Alwar	99	194
Banswara	6	100
Barmer	11	146
Bharatpur	118	193
Bhilwara	42	400
Bikaner	37	183
Bundi	180	531
Chittorgarh	91	231
Churu	18	94
Dungarpur	10	141
Ganganagar	163	471
Jaipur	37	157
Jaisalmer	0	0
Jalore	22	94
Jhalawar	42	195
Jhunjhunu	13	162
Jodhpur	97	324
Kota	300	336
Nagaur	14	79
Pali	5	426
Sawai Madhopur	51	121
Sikar	31	109
Sirohi	15	66
Tonk	98	141
Udaipur	63	214
Average for Rajasthan	73	220

Source: Same as Table 4.1, 1972.

nearly two-thirds of the loans advanced by the primary credit societies in 1971-72 were shared by only six districts (Kota, Bharatpur, Ganganagar, Alwar, Ajmer and Chittorgarh). These six districts had less than one-third of the total membership of primary credit societies in Rajasthan at the end of June, 1972. This implies that the primary agricultural societies in Rajasthan have made very little progress in providing credit for the relatively more backward districts.

3. Concentration of cooperative credit for certain crops: Coarse foodgrains such as sorghum, bajra and ragi occupy over 50 percent of the state's cropped area. They also constitute the staple food grains for a majority of the state's population. Similarly pulses account for nearly 21 percent of the total cropped area and constitute the only protein source available to the vast majority of low income people in Rajasthan. However, cooperative credit seems to be given more liberally for wheat and groundnuts which are basically commercial crops in this state and constitute less than 10 percent of the cropped area (Table 4.5).

4. Small size of cooperative loans in Rajasthan: The size of cooperative loans in Rajasthan is generally smaller than in other states of India. For instance, the average amount of cooperative credit (short-term and medium-term combined) advanced per member in Rajasthan was Rs. 128 in 1970-71 as compared to the corresponding all-India average of Rs. 183.² Similarly, the average size of loan per society was also small in Rajasthan (Appendix A.12).

TABLE 4.5.--Crop-Wise Distribution of Short-Term (Crop) Loans in Rajasthan, 1971-72.

Name of the Crop	Percent of the* Total Area Cropped	Crop Loans Advanced (Million Rs.)	Crop Loan Advanced Per Hectare (Rupees)	Percent of the Total Crop Loans
Wheat	8	35.27	26.4	39
Paddy	2	1.63	4.92	2
Pulses	21	0.97	0.28	1
Cotton	1	0.55	0.33	.5
Oilseeds (Groundnuts)	2	18.00	53.80	20
Bajra	29	3.12	0.67	3
Others	<u>37</u>	<u>40.94</u>	<u>6.61</u>	<u>34.5</u>
Total	100	90.48		100.0

Sources: (i) Commerce, Annual Number, 1972 (Bombay, December 1972).
(ii) Registrar of Cooperative Societies, Trend of Progress: Primary Cooperative Societies (August 1972) (Mimeograph)

*Total cropped area in 1969-70 was 14.3 million hectares. In the absence of any recent reports, it has been assumed that the State's cropping pattern has remained unchanged over these years.

The average cooperative loan per borrowing member was Rs. 300 as against the corresponding all-India average of Rs. 516 in 1970-71. However, in six districts of Rajasthan, cooperative credit per borrowing member was less than Rs. 100 in 1970-71. Table 4.4 presents a similar picture of 1971-72.

5. Problem of default and rising overdues: Rajasthan is one of those states in which overdue loans have pushed cooperative credit institutions into an extremely critical situation. In fact, overdues are posing a serious threat even to the survival of the district central cooperative banks in Chittorgarh, Bikaner, Churu, Banswara, Barmer, Dungarpur, Ganganagar, Jaipur, Sirohi, Pali and Jalore (Appendix A.13). Latest reports indicate that the CCBs in the districts of Jhalawar, Bhilwara, Sikar, Nagaur and Udaipur have also moved into a critical financial situation (Appendix A.14).

At the primary level, this problem is even more serious. Except in the districts of Bundi and Sawai Madhopur, overdues have absorbed not only the owned funds of the primary credit societies throughout Rajasthan, but have eroded a sizeable fraction of their borrowed capital too. What is still more shocking is the fact that in Banswara, Barmer, Bikaner, Dungarpur, Jalore, Jaisalmer and Sirohi, the ratio of bad and doubtful overdues to the owned funds ranges from 65 percent to 108 percent (Appendix A.14). It would be correct to conclude, therefore, that most primary cooperative societies in these districts are in a miserable, perhaps irreparable condition.

The mounting number and amount of overdues in Rajasthan explains the inability of cooperative credit societies to recover their loans on due dates. As noted in the preceding chapter, overdues generally weaken the financial position of a cooperative credit society and substantially reduce the magnitude of its (lending) operations.* It was also discovered in the last chapter that cooperatives in India are incurring heavy losses on account of overdue loans.

At the end of June, 1971, about 47.3 percent of the outstanding cooperative loans in Rajasthan were due for more than one year. It is shown in Table 4.6 that the total loss of income due to overdues was Rs. 15.8 million in 1970-71. Cooperatives generally charge interest at the rate of 12 per cent on overdues and list this interest as a part of their income. However, this is a fake and misleading device to inflate their income, and due to its uncertainty cooperatives cannot budget their expenditure on the basis of such "accrued but not received" income.

6. Poor linkage of cooperative agricultural credit with marketing and supply of inputs: It was observed in Chapters II and III that cooperative credit becomes more useful if it is linked with cooperative marketing and cooperative supply of inputs. At the same time, cooperative marketing

*As was mentioned earlier, cooperatives in Rajasthan advanced short and medium term loans worth about Rs. 163 million in 1970-71, but because of the increased incidence of overdue loans they were forced to reduce their loans to Rs. 97 million in 1971-72.

**TABLE 4.6.--Estimated Loss of Interest Income to Primary
Cooperative Societies in Rajasthan as a Result
of Overdue Loans, 1970-71
(Amount in Million Rupees)**

Period for Which Loans Were Overdue	Mean Period in Years (t)	Amount Due on June 30, 1971	Loss of Income to the Societies
1 Year or Less	0.5	48.68	2.19
1 to 2 Years	1.5	24.24	3.44
2 to 3 Years	2.5	13.10	3.04
Over 3 Years	3.0	17.26	7.09
Total	—	103.28	15.76

Note: Computation of interest is based on the formula:

$$I = \{P \cdot (1 + r)^t - P\}$$

Source: Statistical Statements Relating to the
Cooperative Movement in India, 1970-71.
Reserve Bank of India, 1971 (No. 29).

of agricultural outputs generally helps in reducing the incidence of overdues.

However, the primary credit societies in Rajasthan have made little progress towards integrating credit with marketing of agricultural inputs and outputs. During 1970-71 and 1971-72 approximately 75 percent of these societies did not supply any inputs to farmers. Even those which did so, generally confined their operations to fertilizers and pesticides. Further, in 1971-72, 62 percent of the inputs supplied (worth Rs. 30 million) by the primary credit societies were disbursed in Kota and Bharatpur districts.²

Figure 3.2 in the preceding chapter showed that a primary credit society in India is expected to provide short term loans for agricultural production, processing, marketing and purchase of small implements. However, the primary credit societies in Rajasthan have thus far shown no interest in financing agricultural processing and marketing.

The Crop Loan System (CLS) emphasizes recovery of cooperative loans through selling the crops grown by their members. In 1970-71, out of the total recoveries of Rs. 138 million only Rs. 183,000 represented the sale of crops.³ It seems cooperatives in Rajasthan have failed to convince their members of the merits of cooperative marketing.

7. Inefficient management: The RCRC reported that cooperative credit institutions in Rajasthan had an "extremely poor quality of personnel,"⁴ It was observed by this author

that the secretaries of primary credit societies in Rajasthan generally lack the professional skill and aptitude needed to do their work efficiently. Informal talks with about 30 secretaries in Kota, Jhalawar, Jaipur and Bundi districts revealed the following facts:

- (a) that most of them did not have adequate experience in bookkeeping and maintenance of proper accounts,
- (b) that except 3 or 4 secretaries, none had adequate professional training,
- (c) that the average monthly pay of a secretary was less than Rs. 100,
- (d) that the boards of directors generally provide no reward to them for a good performance. The criteria of performance cited were: amount of loans advanced, enrollment of new members and ratio of recovery to outstanding loans, and
- (e) that due to insecurity of jobs, most of them consider their present position as purely a temporary assignment.

It was discovered that most secretaries supplemented their income with farming. In short, lack of trained and experienced personnel, low pay and lack of incentives generally breed a sense of indifference or frustration among the cooperative personnel in Rajasthan. This attitude, in turn, reflects in the accumulation of overdues and poor health of the primary credit societies.

Estimates of Demand for Short Term
Credit in Rajasthan

The importance of such estimates has been mentioned in Chapter II. In fact, they provide a useful guideline in the formulation of agricultural credit policy for a state or for a region. No official estimates of the demand for short term credit in Rajasthan have so far been released. However, in a research paper Agarwal estimated that the total demand for short term agricultural credit in Rajasthan ranged between Rs. 1,600 million and Rs. 1,810 million for 1970-71.⁵

The following section examines the methodology used by Agarwal in estimating the agricultural credit needs in Rajasthan. At the same time, it also presents two alternative estimates of such demand.

Agarwal's Estimates

Agarwal tried to compute the demand for agricultural credit on the basis of three mutually exclusive methods, and then took a simple mean of the three estimates to provide an estimate for 1970-71.

First, he estimated the demand for short-term credit on the basis of norms prescribed in the Crop Loan Manual. Such norms suggested that the crop loans should have three components: component (a) which would normally be equal to, or less than one-third of the value of crops produced, component (b) would be in kind, and would be generally 50 percent of the expenditure to be incurred on improved seeds,

fertilizers, manuring and pesticides, and component (c) would be half the value of component (b). The manual suggested that components (a) and (c) be given in cash. This method gave a value of Rs. 1,810 million as the total demand for short-term credit in 1970-71.

In the second method, he calculated the credit obtained per acre in 1961-62 for Rajasthan, and adjusted the same for June, 1967 price level. This norm, multiplied by the anticipated acreage under different crops in 1970-71, provided the estimated agricultural borrowings in 1970-71. On the basis of this method, the demand for credit was put at Rs. 1,600 million.

For his third method, Agarwal related agricultural borrowings in Rajasthan to the state's income originating in agriculture in 1961-62, and by applying this ratio to the state's anticipated income from agriculture in 1970-71, estimated the demand for credit at Rs. 1,800 million. The average of the three estimates was put at Rs. 1,740 million.

Agarwal's estimates can be criticized in several ways. In the first place, use of 1961-62 as the base year for computation neglects the technological change which has taken place in recent years. Secondly, it was equally erroneous to assume a constant price level between the year of estimation (1967) and 1970-71. In fact, it did not. Thirdly, tying credit needs to the state's income originating in agriculture is to assume that the credit needs will show a proportionate

increase with agricultural production. Finally, like most of the estimates presented in Chapter II, these estimates ignore the prevalent inter-regional and inter-farm variations. It is a big mistake to assume that the credit requirements per acre are alike in the arid zone and the canal fed areas in the southeastern districts.

Unfortunately, no (published) data are available to explain the inter-regional and/or inter-crop cost differentials in Rajasthan. Similarly, district wise estimates on farm income, household expenditure and savings are not available. Unless these gaps are filled, precise estimation of credit needs is likely to remain infeasible.

In a subsistence agriculture, like the one prevailing in Rajasthan, it is difficult to separate the credit required for household consumption from the one needed for current farm business. In the absence of suitable data on household consumption and savings, credit needs in this chapter will be estimated only for farm operations.

Two alternative estimates are given below. The first estimate is based on the scales of credit prescribed by the All India Rural Credit Review Committee (RCRC). As was noted in Chapter II, the RCRC estimates take cognizance of the cost differentials prevailing in HVP areas,* irrigated areas and

*HVP area is defined as that area where high yielding varieties of seeds are being used.

the dry farming zones for different crops. The second estimate is based on the average cost of production of specific crops in four different regions of Rajasthan. The purpose of presenting these estimates is not to identify the existing gaps in the institutional credit, as has been done by most of the committees and groups of experts in the past, but is to suggest that the incorporation of inter-crop and inter-regional differences in the cost of production provides better estimation than the fixed averages.

Alternative Estimation of Credit Needs in Rajasthan

A--Estimates Based on RCRC Scales

As reported earlier, the proportion of irrigated to total cropped area in Rajasthan is about 12 percent. In 1970-71, about 1.4 percent of the total area was under high yielding varieties of seeds. As per the RCRC estimates, credit (cash and kind) needs for such varieties of wheat and paddy grown in the irrigated areas. For the dry regions (unirrigated), the per hectare credit needs were estimated at 1/5 of those in the HVP areas.

On the basis of the scales of credit provided by the RCRC, the short-term agricultural credit needs in Rajasthan were estimated at Rs. 628 million for 1970-71 (Table 4.7). However, in the absence of adequate data it was difficult to estimate the credit needs among different categories of farmers.

TABLE 4.7.—Estimates of Short-Term Credit Needs for Farm Operations in Rajasthan (1970-71)

Category of Area	Area (Million Hectares)	Scale of Credit Per Hectare			Total Credit Required		
		Kind (Rs.)	Cash (Rs.)	Total (Rs.)	Kind —Million Rupees—	Cash	Total
H.V.P.	0.18	200	155	355	36.0	28	64
Non-H.V.P. Irrigated	1.68	72	76	148	121	128	249
Unirrigated	<u>11.69</u>	<u>12</u>	<u>50</u>	<u>65</u>	<u>257</u>	<u>58</u>	<u>315</u>
Total	13.55				414	214	628

- Sources:**
- (i) Scales of credit per acre are taken from the Report of All India Rural Credit Review Committee, (1969) , p. 88.
 - (ii) Data on cropped area obtained from the Directorate of Economic and Statistics, Rajasthan, Jaipur.
 - (iii) For area under HVP, see Ram Saran, "High Yielding Varieties Cultivation—Some Economic Aspects," Agricultural Situation in India, August 1972.

Note: H.V.P. refers to the area in which high yielding varieties of seeds are used.

As Table 4.8 explains, two-thirds of the credit was needed in kind during 1970-71. The estimated need for cash component was significant in irrigated areas not adopting the HYV seeds. On the other hand, in unirrigated and HVP areas, a larger part of credit was needed in kind.

It is interesting to note that the value of fertilizers consumed in Rajasthan in 1970-71 was approximately Rs. 400 million.⁶ If 60 percent of this is assumed to have been obtained on credit, Rs. 240 million worth of credit in kind was required in this form.

B--Estimation of Cash Costs and Credit Needs by Regions

This estimate is based on the approximate costs of production of different (major) crops in Rajasthan. First of all, the entire cropped area was divided into four categories. Category I includes 85 to 90 percent of the cropped areas in the Western and Northwestern districts of Rajasthan. This area is known as arid zone and covers the districts of Barmer, Bikaner, Churu, Jaisalmer, Jalore, Jhunjhunu, Jodhpur, Nagaur and Sikar. The districts of Pali and Sirohi have large areas known as the semi-arid zone.

Category II covers unirrigated areas throughout the state. But the districts where the proportion of unirrigated area is relatively very high include Ajmer, Jaipur and Jhalawar. Two factors distinguish this category from the arid and semi-arid zones. First, in the arid and semi-arid zones, the mean

aridity index (which measures the overall moisture deficit) is generally over 70 as compared to 55 in Category II. Secondly, as compared to the districts placed in Category II rainfall in the arid and semi-arid zones is highly uncertain and erratic.⁷ However, what is common in both the categories is the overall low proportion of the area under irrigation.

Categories III and IV include the irrigated tracts spread across the state, but relatively cover a larger proportion of cropped area in the districts of Kota, Bundi, Bharatpur, Ganganagar, Udaipur, Alwar, Bhilwara and Chittorgarh. However, not all irrigated area has been brought under the HYV seeds. For obvious reasons, the cost of cultivation in the HVP areas is likely to be higher than the other areas and so should be the credit needs per hectare.

The next step was to identify the major crops for each category of area. Since data on costs and returns are not available, it was assumed that under homogenous conditions, the overall cash costs per hectare can best be approximated by the cash costs incurred per hectare in growing the major crop of the area.

The following crops were chosen for the four categories of land mentioned above:

- (1) Bajra in Category I
- (2) Sorghum in Category II
- (3) Wheat in Category III, and
- (4) HYV wheat in Category IV.

It was assumed that the farmer tried to maximize the production of the crop chosen or of an alternative crop with greatest profit potential. For simplicity, the cost of production of alternative crops in question was assumed equal to the cost of production of the specified crop.*

As data about costs per hectare for bajra and sorghum were not available for Rajasthan, the mean cash expense incurred per hectare in the neighboring states of Haryana and the Punjab (district Mohindergarh) was taken as an approximation of cash expenditure in Rajasthan. The mean cash expenditure on bajra and sorghum were estimated at Rs. 75 and 96 respectively.⁸ For irrigated (non-HYV) wheat, the average cash expenditure in Kota district was estimated at Rs. 207, as against the per hectare cash expenditure of Rs. 544 on HYV of wheat (based on variety S.227) estimated by a study carried out recently.⁹

The following assumptions were taken for estimating the short-term agricultural credit needs in Rajasthan:

- (i) In the arid zone, semi-arid zone and unirrigated areas, 40 percent of the cash needs are met through borrowings.¹⁰
- (ii) In the irrigated areas the proportion of borrowings to short-term cash needs is 45 percent. This seems to be a

*For instance, in Category I, the crop competing with bajra could be kharif pulses or in Category III, the alternative crop could be barley, linseed or gram.

conservative estimate, as the use of fertilizers and other purchased inputs is generally higher in these areas. Likewise, due to higher output per hectare, the expenditure on labor hired for harvesting and threshing operations ought to be higher too.

(iii) In the HYV areas, the proportion of credit to cash needs have been reported in the range of 50 to 70 percent (depending on the nature of input) by various studies conducted by the Agro-Economic Research Centers. For simplicity the proportion of credit in these areas was taken to be 50 percent. According to this method, the short-term credit needs in Rajasthan during 1970-71 were estimated at Rs. 600 million. This included credit in the form of cash as well as in kind (Table 4.8).

Sample surveys for different classes of farmers may in each region provide better estimates of credit needs for small vis-a-vis large farmers. They may provide important guidelines to the policy makers to streamline cooperative credit institutions in the state. However, it is clear that cooperative societies provided about 26 percent of the short-term farm credit needs in 1970-71. Even if credit needs are held constant for 1971-72, the share of cooperative credit in the total farm borrowings (excluding loans taken for the household needs) declined to 15.0 percent.*

*Even at these conservative estimates of agricultural credit needs, (for farm business) with the total short-term credit of Rs. 155.83 million in 1970-71 and Rs. 90.66 million

TABLE 4.9.--Estimated Demand for Agricultural (Short-Term) Credit Requirements in Different Areas of Rajasthan, 1970-71

Serial Number	Category of Area	Area (Million Hectares)	Cash Expenditure Per Hectare	Credit as a Ratio of Cash Expenditures (Percent)	Credit Needed Per Hectare (Rupees)	Total Credit Required (Col. 3 x 6) (Million Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Arid and Semi-arid Zone	6.65	75	40	30.0	199.5
2.	Other Unirrigated Area	5.04	96	40	38.4	193.6
3.	Irrigated Area NonHVP	1.68	207	45	93.1	156.4
4.	HVP Areas	0.18	544	50	272.0	50.0
	Total	13.55				599.5

Note: For details see the text.

Source: (i) Jodha, N.S. and Purohit, S.D., op. cit.
(ii) Ram Saran, op. cit.
(iii) Parmatam Singh and Gupla, D.D., op. cit., and
(iv) Kahlon, A. S., Miglani, S. S. and H. Singh, op. cit.

Demand for farm credit will increase at a faster rate over the next decade than in the past, especially in view of the expected increase in the area under irrigation and further, in the area under improved and high-yielding varieties of seeds.

A recent study by Mitra¹¹ revealed that until now, small farmers of Rajasthan (having less than 2 hectares of land) could not adopt the HYV seeds as much as they were willing to, largely because they could not obtain sufficient credit to purchase the nontraditional inputs (Appendix A.16). Even though the soil and climatic conditions in the sample areas were homogeneous (because the sample households were chosen from the HVP areas only), wide variations were discovered in the per acre cash expenditure among different categories of farmers.* It seems logical to anticipate that, in the future, these discrepancies would be minimized, especially in the HVP areas.

It may also be expected that the methods of cultivation and quality of inputs currently used in the vast, arid and semi-arid zone and other unirrigated areas, will show improvement over the next decade. This would also raise the demand for agricultural credit.

in 1971-72 (Table 4.3), their share in the total loans was 26 percent in 1970-71, but declined to 15 percent in the following year. If demand for credit for the household needs is also considered, this ratio will be still less significant.

*See Appendix A.14.

Conclusions

Short-term agricultural credit needs in Rajasthan were estimated to lie between Rs. 600 million to Rs. 628 million for 1970-71. As compared to these needs, the short-term credit advanced by the primary credit societies in that year was Rs. 156 million (Table 4.3). Thus, cooperatives provided 25 to 26 percent of the total credit needs in 1970-71.

In July, 1972, it was announced by the government of Rajasthan that by 1973-74 cooperatives would supply Rs. 300 million (including medium-term loans). The corresponding target for 1978-79 was put at Rs. 450 million.¹²

However, the present magnitude of overdues, the level of efficiency of the cooperative personnel, the existing level of (owned) capital base and other problems identified in this chapter suggest that it will be difficult for cooperative credit institutions of Rajasthan to achieve these targets.

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CHAPTER V

EFFECTIVENESS AND ADEQUACY OF CAPITAL USE IN A STATIONARY FARM SITUATION: A MICRO STUDY OF JHALAWAR DISTRICT IN RAJASTHAN

This chapter presents an analysis of the cross section study undertaken in the southeastern district of Jhalawar in Rajasthan, during 1971-72. A random sample of 161 farm households, associated with the Salri Primary Cooperative Credit Society, was taken to examine the effectiveness of different inputs in agricultural production, and to ascertain the adequacy of credit among different groups of farmers.

Over 60 percent of cropped area in Jhalawar District is cultivated for coarse food grains such as sorghum, (jowar) maize and kharif pulses. This is largely due to the highly un dependable weather conditions and general lack of irrigation in the district.* Farmers having irrigation generally grow wheat, paddy, gram and sugar cane. The cropping intensity in the district was 1.09 in 1970-71 reflecting inadequate

*According to the Statistical Abstract of Rajasthan (1970), only 8 percent of the cropped area is under irrigation. Further, during the five years following 1964, the annual rainfall showed a range of 14.4 to 48.8 inches.

irrigation facilities. Farming practices in the district are generally traditional. The new HYV seeds have not yet become commonplace in this area.

The Jhalawar District Central
Cooperative Bank (JCCB)

The Salri Primary Credit Society is a member of the JCCB, and as such, is entitled to receive periodic financial help from the latter. The JCCB was set up in March, 1957, but started working effectively only after 1960. The record of its performance during 1961-72 has been given in Appendix A.16.

It is evident that the JCCB has made good progress in advancing farm credit, and also, in accumulating working capital. The paid up share capital and reserves (owned funds) have tended to increase during the same period, yet their combined proportion to working capital in 1971-72 was lower than in 1960-61. On the contrary, borrowings from the State Cooperative Bank (Apex Bank) show an enormous increase in this period.

The situation with respect to overdue loans appears to be quite critical. Over 57 percent of the Bank's working capital is presently blocked in overdue loans, and this state of financial stringency has been reflected in the sudden and sharp decline in its lending operations during 1971-72 (Col. 7, Appendix A.16).

It was mentioned by the officials of the JCCB that as against the Bank's owned funds of Rs. 2.65 million, its overdue loans towards the Apex Bank stood at Rs. 3.8 million

in June, 1972. Unless immediate action is taken to improve this situation, the JCCB may soon go into liquidation.

The position and working of the primary credit societies associated to the JCCB have been depicted in Table 5.1. It appears that the average society in Jhalawar has a larger number of members than in Rajasthan (Appendices A.10 and A.11) yet, its financial position is relatively worse. The average amount of loan advanced in 1971-72 was lower than the corresponding average for Rajasthan. Further, as compared to other districts, the proportion of borrowing members to total number of members in Jhalawar district is very low.

The primary societies had an overdue balance of Rs.7.2 million among its members on June 30, 1972. It seems logical that their inability to recover loans results in the financial stringency confronting the JCCB.

The Salri Primary Credit Society

The Salri Primary Cooperative Credit Society was established in September, 1964, but could not function actively until 1966. With the introduction of CLS in Rajasthan in 1966, the Salri Credit Society has become an active participant in the farm credit market of this area. It has a total membership of 242, spread over four villages. The position of this society at the end of June, 1972, and the details of its lending operations during 1971-72 have been presented in Table 5.2.

It is clear from Table 5.2 that this society has more

**TABLE 5.1.--Working of Primary Cooperative Societies in
Jhalawar District and Their Position at the
End of June 1972**

Indicator	Unit	Amount/Number
Number of Societies	Number	217
Number of Active Societies	Number	136
Number of Members	(Number '000)	41.5
Borrowing Members ^a	(Number '000)	8.9
Share Capital	(Rs. '000)	3,305
Deposits	(Rs. '000)	673
Working Capital	(Rs. '000)	15,658
Working Capital per Society	(Rs.)	72,161
Working Capital per Member	(Rs.)	377
Loans Outstanding (Total)	(Rs. '000)	9,577
(a) Short-Term	(Rs. '000)	8,383
(b) Medium-Term	(Rs. '000)	1,194
Loans Overdue		
Short-Term	(Rs. '000)	7,188
Loans Advanced	(Rs. '000)	1,741
Loan Advanced per Member	(Rs.)	42 ^b
Loan Advanced per Society	(Rs.)	12,800
Ratio of Societies with More Than 100 Members	Percent	92

^aNumber and value related to the year 1971-72.

^bPer borrowing member the average is Rs. 195.

Source: Annual Report of the Jhalawar District Central
Cooperative Bank, 1971-72.

TABLE 5.2.--Position of the Salri Primary Cooperative Credit Society on June 30, 1972

Serial Number	Indicator	Unit	Amount in Rupees/ Number
1.	Membership	Number	242
2.	Share Capital	Rupees	12,885
3.	Reserves	Rupees	179
4.	Deposits	Rupees	37,048
5.	Working Capital	Rupees	7,562
6.	Loans Advanced in 1971-72	Rupees	69,663
7.	Number of Borrowing Members	Number	184
8.	Loans Overdue (More than 2 Years)	Rupees	31,605
9.	Sale of Fertilizers in 1971-1972	Rupees	4,750
10.	Sale of other inputs	Rupees	. . .
11.	Recovery of Loans Through Sale of Crops	Rupees	. . .

Source: Data taken from the records of the Salri Primary Cooperative Credit Society (District Jhalawar-Rajasthan).

resources and its advances more loans to its members than its counterparts in the district, or even in the state of Rajasthan. It was claimed by the Secretary of the Society that over the past two years, he has been showing one hundred percent recovery of short term loans.* The amount of overdues is, however, outstanding for over two years.

Table 5.2 also explains the relatively weak capital base of the Salri Cooperative Credit Society. Its owned funds constitute less than 14 percent of the total working capital. It is also clear that the society's primary function is to lend to the members and that it makes no attempt to sell members' crops in the market or to supply farm inputs to them.

The JCCB generally prescribes dates for the loan disbursement and recovery. The secretary of the society is required to campaign for recovery of the seasonal loans during the pre-harvest weeks. Personal observations and investigation, however, reveal that the recovery campaign and disbursement of loans are a matter of convenience for the secretary of a cooperative society. Several members reported of considerable delay in the availability of cooperative credit.

As per the JCCB's notification of February 28, 1972,

*It was however, reported (unofficially) that considerable amount of book-adjustment was in vogue in this district. Moneylenders and local traders help the secretaries of primary credit societies in showing "such recoveries" in their records. This practice enables the society to obtain fresh loans from the CCB.

the scales of finance were decided in the following manner:

Item	General Rs.	Per Hectare Scale of Finance (Rs.)	
		On showing 75 percent or higher propor- tion of recov- eries for short term loans	Additional cash if fertilizers are also used
Single Cropping	75	100	25
Double Cropping	125	150	50

The scales of finance for loans in kind were also suggested in this notification. It is strange that the scales of finance for the loans in kind (component b) were raised arbitrarily in 1971-72 and the JCCB recommended that all member societies prepare their Credit Limit Statements on the basis of new scales. As Appendix A.17 suggests, except for maize, there was an across the board increase in the scales of finance for component b of cooperative loans. It is also strange that despite variations in rainfall, soil conditions and other factors, the scales of finance in Jhalawar are the same as in Kota, Jaipur, Bundi and a few other districts. This supports the RCRC's contention that scales of finance in India are generally prescribed arbitrarily.¹

It was observed that contrary to what has been suggested in the Crop Loan Manual (Chapter III) the sample households had no production plans. At the society level, therefore, scales of finance were interpreted by the secretary in his

own fashion while preparing the credit limit statement. In short, the scales of finance practically bore no relationship with the cropwise costs and credit needs of an individual farm household. Also, while fixing these norms, no thought was given to the availability of loanable funds (for cash component) and fertilizers (component b) to the society.

Other Lending Agencies in the Area

Besides the Salri Primary Credit Societies, there are three other sources from which farm households in this area generally borrow. First is the group of petty traders and cloth merchants who generally sell their merchandise to farm households on credit. Apparently these traders do not charge interest on their debit balances, but in reality, a mark up ranging from 20 percent to 100 percent is added to the price of a product on such credit sales.* The proportion of mark up added by the cloth merchants is lower, but they charge an interest of 12 percent on the outstanding debt.

Then there are village moneylenders who frequently combine money lending with some retail trade. In fact, in most cases cloth merchants and petty traders act as moneylenders. Rates of interest charged by moneylenders generally vary between 12 to 15 percent, but due to monthly compounding, the

*Such mark up varies inversely with the value and volume of a commodity. On small items such as salt, spices, food grains, kerosine and bidis (indigenous cigarettes) the mark up is generally larger than on soap, cosmetics and such other articles.

effective rate of interest is much higher. Nevertheless, such rate never exceeds 24 percent even on the loans overdue for one year. Since moneylenders are indifferent towards the purpose of loans, most of the credit given by them is used for litigation, religious ceremonies, marriages and repayment of old debts.

Finally, there is a branch of the Central Bank of India. This has been recently opened in this area, and at the time of this study had lent only Rs. 9,000 to two farmers for the construction of wells. Even though the Central Bank of India charges the same rate of interest (i.e., 9 percent per annum), the former does not seem to have any interest in short term loans and prefers to advance only medium term loans.

The Sample Design

The Salri Primary Credit Society has a total membership of 242. Two-thirds of the members (161) were randomly selected under this study. Since only 18 members could read and write, personal interviews were arranged in the Summer of 1972 in order to record their use of inputs, output of crops and sales, income from nonfarming activities, household expenditure and borrowings. All the sample units were stratified on the basis of their holdings in order to analyse the effect of size on income, expenditure and credit needs. Schedules for the survey were prepared on the lines suggested in "Guide to Methods and Procedures of Rural Credit Surveys."²

Characteristics of the Sample Units

Due to general lack of literacy among the members of Salri Cooperative Credit Society, no written records of their income, expenditure and borrowings were available. Considerable reliance had to be, therefore, placed on their ability to recall or recollect various items and amounts of receipts and expenditure. It is interesting to know that in the absence of any written record, farmers generally show a tendency to report their receipts and expenses in multiples of fifty or hundred.

Usage of most inputs (particularly the use of seeds, manure, and man or bullock days spent per hectare in different farm operations) is generally governed by traditions. Among the sample units, no household had any pumpset, albeit eleven of them had irrigation facilities. Likewise, none was in possession of a threshing machine, a harvester or a tractor. Farmers with irrigation facilities use charas.* Plowing is done generally by the traditional wooden plow, whereas harvesting and threshing are done manually. Despite the traditional character of farming in this area, however, 35 farm households reported the use of chemical fertilizers, mainly because fertilizers are available on credit.**

*A charas is a leather bucket with a capacity of about 20 gallons. It is tied with a rope and is pulled by a pair of bullocks.

**Use of fertilizer also enables a member to get additional cash loans from the cooperative society (see below).

The Sample Households

Out of 161 farm households studied under this project, 88 or about 55 percent depend exclusively on farming, whereas others work partly as agricultural workers, carpenters, blacksmiths, tanners and band players during the slack season. There are few households who have a retail business in the area. However, all the households reported farming as their major occupation, albeit the proportion of the off-farm to total income is different in different groups (Table 5.3).

It was observed that small farmers (having less than 2.5 hectares) rely heavily on the off-farm jobs such as custom labor. On the contrary, the proportion of off-farm income is low for large landowners.*

The distribution of land and assets among the sample households has been presented in Appendices A.18 and A.19. It is clear that land accounts for over 65 percent of the total value of assets held, and the respective proportions of livestock (including the milk animals) and equipment are about 9.4 percent and 1.1 percent of the total value of assets. This demonstrates the traditional character of farming in the sample area. It was also discovered that 10 out of 23 small farmers had their own bullocks, while the

*Though farming is the principal source of income to all the sample households, the average income from off-farm employment or business was higher for medium and large farmers than the small landowners. It is interesting to note that the proportion of upper medium and large farmers having off-farm jobs was lower in comparison to the small farm households (Table 5.3).

TABLE 5.3.—Occupational and Income Distribution of Sample-Households, 1971-72

Serial Number	Item	Size of Holdings (Hectares)			
		Less Than 2.50	2.51 - 4.00	4.01 - 6.00	More Than 6.00
1.	Total Number of Households	23	60	49	29
2.	Households Depending on Farming Only	1	27	34	26
3.	Percentage of 2 to 1	4.3	45.0	69.4	90.0
4.	Average Income Per Household (Rs.) ^a	2,141	3,275	5,207	7,758
5.	Number of Households Having Off-Farm Income	22	33	15 ^b	3 ^c
6.	Average Off-Farm Income of Those Included in (5)	510	398	840	1,817

Notes: ^aAverage income includes income from all sources.

^bPetty-traders also included.

^cInclude 5 petty-traders and two school-teachers.

Source: Data compiled from the field investigations of the members of Salri Primary Cooperative Credit Society in Jhalawar District, 1972.

rest obtained bullocks on custom basis. On the other hand, in the other size groups, 80 to 100 percent of the farm households had bullocks. It is also apparent from Appendix A.18 that medium farmers (with 4 to 6 hectares) occupy most of the cropped land in the sample area.

The Production Functions and Regression Analyses

The sample households were arranged in ascending order on the basis of size of holdings and then grouped into small (less than 2.5 hectares), medium (2.51 to 4.0 hectares), upper medium (4.01 to 6.0 hectares) and large (above 6 hectares) farmers. In order to evaluate the effectiveness of different inputs, and the economic rationale of credit use, two types of multiple regression models, given below, were fitted separately for all the sample households and for each group. For each type of model, various subsets of the independent variables were used.

Multiple Linear Model

$$Y = a + b_1x_1 + b_2x_2 + \dots + b_{11}x_{11} + u$$

Cobb Douglas Model

$$Y = a x_1^{b_1} x_2^{b_2} \dots x_{11}^{b_{11}} u$$

where

Y = Value of crops produced

x_1 = Value of productive equipment

x_2 = All costs of production, including imputed value of owned seeds and manure, family labor and imputed rent of owned land

x_3 = Imputed value of family labor.

x_4 = Cash costs or cost of purchased inputs.

x_5 = Noncash costs.

x_6 = Cost of purchased bullock feed. This is in addition to the farm grown fodder used as bullock feed.

x_7 = Imputed rent.

x_8 = All cash costs minus cost of purchased bullock feed.

x_9 = All costs except imputed rent.

x_{10} = x_9 per hectare cost of family labor, and

x_{11} = Noncash costs of seeds and manure*

u = Error term.

[Note: All values represent Rupees per hectares.]

Assumptions

Both the linear and the Cobb Douglas production functions were fitted under the following assumptions:

- (1) that credit obtained for purchased inputs is independent of the loans taken for household consumption,

*In order to obtain a proxy for land, all values were compiled in rupees per hectare. Further, to avoid multicollinearity in the production functions, the independent variable x_2 was disaggregated in the following ways: (i) $x_2 = x_4 + x_5$; (ii) $x_2 = x_6 + x_8 + x_5$; (iii) $x_2 = x_3 + x_7 + x_{11} + x_4$, but since $x_4 = x_6 + x_8$; so, (iv) $x_2 = \underbrace{x_3 + x_7 + x_{11}}_{\text{Noncash costs}} + \underbrace{x_6 + x_8}_{\text{Cash costs}}$

Imputed rent (x_7) was included in the model to evaluate the effect of differences in the quality of land, and/or that or irrigation on the dependable variable, Y .

- (2) that x_i are mathematically (not statistically) independent, and each b_i under the multiple linear model measures the MVP of i th inputs, whereas under the Cobb Douglas model, b_i is a measure of elasticity of the i^{th} input,
- (3) that farm households make no distinction between the sources of credit while using the credit obtained from different sources,
- (4) that they generally try to optimize the use of purchased inputs because of the explicit costs involved. However, for the owned inputs, including the family labor, such assumption does not seem to be relevant.
- (5) that u_i (or $\log u_i$ for log linear model) are normally distributed with a zero mean and finite variance.

Results of the Sample Survey

Regression coefficients for the independent variables were estimated by the least square techniques. For both the models, the following equations were obtained using the entire sample of 161 farm households:*

*Equation or individual parameter estimated is significantly different from zero at 5 percent probability level, unless otherwise mentioned.

I. When $Y = f(x_1, x_2)$

(a) Multiple Linear Model: $\hat{Y} = 468.74 + .24 x_1 + .63 x_2$

$$R^2 = .28$$

(b) Cobb Douglas (Log-linear) Model: $\hat{Y} = 34.89 x_1^{.03} x_2^{.149}$

$$R^2 = .26$$

II. When $\hat{Y} = f(x_1, x_4, x_5)$

(a) Multiple Linear Model: $\hat{Y} = 538.8 + .22 x_1 + 1.537 x_4$

$$+ .14 x_5$$

$$R^2 = .35$$

(b) Log Linear Model: $\hat{Y} = 71.39 x_1^{.014} x_4^{.27} x_5^{.18}$

$$R^2 = .29$$

III. When $Y = f(x_1, x_5, x_8)$

(a) Linear Model: $\hat{Y} = 682.73 + .45 x_1 + .14 x_5 + .62 x_8$

$$R^2 = .23$$

(b) Log-Linear Model: $\hat{Y} = 146.6 x_1^{.04} x_5^{.24} x_8^{.04}$

$$R^2 = .20$$

Note: In both models, b_8 is statistically insignificant.

IV. When $Y = f(x_1, x_3, x_8, x_{11})$

(a) Linear Model: $\hat{Y} = 729.2 + .49 x_1 - .43 x_3 + .72 x_8$

$$+ .27 x_{11}$$

$$R^2 = .24$$

(b) Log Linear Model: $\hat{Y} = 338.8 x_1^{.04} x_3^{.007} x_8^{.08} x_{11}^{.09}$

$$R^2 = .20$$

V. When $Y = f(x_1, x_3, x_6, x_8, x_{11})$

(a) Linear Model: $\hat{Y} = 443.46 - .30 x_1 + .71 x_3 + 5.54$

$$x_6 + .66 x_8 + .86 x_{11}$$

$$R^2 = .55$$

$$\begin{aligned}
 \text{(b) Log Linear Model: } \hat{Y} &= 191.9 x_1^{-.04} x_3^{.025} x_6^{.124} \\
 &\quad x_8^{.11} x_{11}^{.15} \\
 R^2 &= .38
 \end{aligned}$$

VI. When $Y = f(x_1, x_3, x_6, x_7, x_8, x_{11})$

$$\begin{aligned}
 \text{(a) Linear Model: } \hat{Y} &= 361.55 - .29 x_1 + .65 x_3 + \\
 &\quad 5.40 x_6 + .47 x_7 + .49 x_8 \\
 &\quad + .78 x_{11} \\
 R^2 &= .554
 \end{aligned}$$

$$\begin{aligned}
 \text{(b) Log Linear Model: } \hat{Y} &= 66.6 x_1^{-.04} x_3^{.018} x_6^{.116} \\
 &\quad x_7^{.25} x_8^{.07} x_{11}^{.14} \\
 R^2 &= .39
 \end{aligned}$$

The following general observations can be made on the regression equations presented above:

(1) Disaggregation of all costs (x_2) into cash and noncash costs (x_4 and x_5) improves the goodness of the fit (R^2) for the linear as well as log-linear models. Further disaggregation of x_4 into x_6 and x_8 and that of x_5 into x_3 , x_7 and x_{11} yields still better fit in both the models.

(2) Imputed rent (x_7) does not affect the fit significantly (set VI).

(3) Purchased inputs (x_4) generally show significant regression coefficients as compared to the owned inputs (x_5). However, the fit improves significantly with the inclusion of bullock feed (x_6) as an independent variable (set V). On the other hand, exclusion of x_6 from the models (set III) shows a dampening effect on both R^2 and the statistical significance of the remaining variables.

(4) The Linear Model generally provides a better fit than the Cobb Douglas or Log Linear Model.

Identification of Significant Variables

Regression analysis suggests that productive equipment (x_1), noncash costs (x_5) and imputed rent (x_7) per hectare are not significant in any of the models. On the other hand, the regression coefficients for family labor (x_3), cash or purchased inputs (x_4), purchased bullock feed (x_6) purchased inputs other than bullock feed (x_8) and cost incurred on seeds and manures (x_{11}) appear to be relatively significant. Yet, few of them have certain special characteristics for which they deserve a detailed description.

Family Labor (x_3)

Professor Schultz attempted to explain that in a traditional society, there is no surplus farm labor.³ However, it was observed in this study that b_3 (regression coefficient for family labor) is generally negative or close to zero (in both the models) until bullock feed (x_6) is included in the model. (Compare equation sets IV and V). Perhaps one explanation is the redundancy of family labor in a traditional farming community. However, such redundancy is largely concealed if family labor is lumped with other inputs, or if bullock feed is included in the model besides x_3 . (Equation sets III and VI).

Cash Costs (x_4)

Since this study proposes to examine the rationale of borrowings, expenditure on purchased inputs or cash costs (x_4) seems to be the most critical variable. A farm household optimizes the use of purchased inputs (x_4) at that level where $MVP\ x_4 = MFC\ x_4$. In this analysis $MVP\ x_4$ exceeds MFC , thus giving an impression that x_4 is not being used optimally in the sample area. However, as shown below, in the case of farm households having less than 2.5 hectares of land, $MVP\ x_4 < 0$, which implies an over use of purchased inputs in that stratum.

If cash costs or outlay on the purchased inputs are disaggregated into bullock feed (x_6) and other cash costs (x_8), there is a significant improvement in R^2 (from .35 to .55) in case of Multiple Linear Model. Such disaggregation also demonstrates the relative significance of x_6 and x_8 .

Bullock feed (x_6)

This study reveals that in a traditional farming community purchased bullock feed (x_6) has a supremacy over other variables. Initially, the production functions were fitted without x_6 under a pretest that in a traditional society, bullocks perform several functions on the farm and outside, and, as such, bullock feed should not have a significant relationship with output per hectare. Later x_6 was introduced as a proxy for management. Surprisingly enough, introduction of x_6 in the model not only significantly

improved the fit, but also affected the regression coefficients of other variables. (Equation sets IV and V) As indicated above, with x_6 , family labor shows a positive regression coefficient. This seems to be a result of better utilization of family labor in bullock care, which in turn, results in a higher efficiency of bullock labor and higher production per hectare.

Table 5.4 shows a significant correlation between the average value of crops per hectare and the cost of (purchased) bullock feed. It is evident that farm income is generally higher where better bullock feed, and implicitly, better bullock care are in effect. In a traditional society the usage of seed, manure and other inputs is generally at a uniform rate for all the households. Further, variations in the quality of land (given by x_7) generally show not effect on R^2 . For these reasons, cost of bullock feed (x_6) may be accepted as a proxy for management, and, therefore, x_6 may be assumed to provide an indication of the level of management.

Regression Analyses for the Sample Household Groups

Stratification of the sample households provides an insight into the inter-group differences in the behavior of different variables.* Regression coefficients in respect of

*As noted above, the sample households were stratified into following groups on the basis of size-level of holdings: Stratum I (less than 2.5 hectares), Stratum II or medium farmers (2.51 to 4.0 hectares), Stratum III or upper medium farmers (4.01 to 6.00 hectares) and Stratum IV or large farmers (above 6 hectares).

TABLE 5.4.--Bullock Feed and Value of Crops Produced on the Sample Farms

Expenditures for Purchased Bullock Feed Per Pair of Bullocks (Rupees)	Number of Farms	Total Value of Crops Produced (Rupees Per Hectare)	Mean Value of Crops Produced (Rupees Per Hectare)
Less than 30	1	627	627
31 - 50	12	8,810	734
51 - 70	27	23,114	856
71 - 90	78	78,901	1,012
91+	14	17,677	1,263
Total	132	129,129	978

Note: Twenty-nine sample farms were dropped because 26 had no bullocks of their own, while 3 had more than one pair of bullocks. Those who had no bullocks usually obtained bullocks on custom basis.

Source: Data compiled from the field investigations of the members of Salri Primary Cooperative Credit Society in Jhalawar District, 1972.

different groups of farm households have been given in Table 5.5. It is evident that R^2 for Stratum I is higher than that of other strata. However, in the latter case too, it shows a significant improvement with the inclusion of bullock feed (x_6) in the two models.

Productive equipment (x_1) seems to show significant coefficients for Stratum I and IV until x_6 is introduced in the production functions. Regression coefficients for x_1 are close to zero initially, but turn negative if bullock feed is combined with other inputs. However, this process would have just the opposite effect on the coefficients related to family labor (x_3). Exclusion of purchased bullock feed (x_6) has a dampening effect on b_3 among all the groups, but less so in respect of Stratum I. The explanation of this behavior apparently lies in the excessive use of cash costs (x_4). As Table 5.5 reveals, the MVP x_4 is negative on small farms. To the farmers in this stratum, noncash costs (x_5) seem to be more critical than the cash costs. Further disaggregation of noncash costs reveals that expenditure on seeds and manure (x_{11}) and family labor (x_3) is significant in both the production functions related to the small farmers. On the contrary, disaggregation of cash costs (x_4) into bullock feed (x_6) and other cash costs (x_8) reveals that x_8 and the dependent variable (Y) are inversely related, whereas x_6 emerges as a significant variable.

TABLE 5.5.--Regression Coefficients of Independent Variables Used in Linear and Log-Linear Production Functions (Household Groups)

Stratum	Constant	b ₁	b ₃	b ₄	b ₅	b ₆	b ₈	b ₁₁	R ²
Stratum I (Less Than 2.5 Hectares)									
Linear Function	1. 54.07	0.198	. . .	- .22	+1.59	. . .	. . .	. . .	.60
	2. 313.50	0.25	+1.02	. . .	. . .	. . .	. . .	+3.76	.64
	3. 253.60	-0.17	+1.52	. . .	. . .	+3.17	- .43	+3.52	.67
Log-Linear Function	1. 1.005	0.005	. . .	- .005	+1.082	. . .	. . .	. . .	.50
	2. 50.79	0.02	+ .22	. . .	. . .	. . .	.009	+ .35	.53
	3. 38.92	-0.17	+ .22	. . .	. . .	+ .27	+ .07	+ .34	.65
Stratum II (2.51 to 4.00 Hectares)									
Linear Function	1. 671.59	-0.159	. . .	+1.566	- .101	. . .	. . .	. . .	.25
	2. 733.10	0.37	- .80	. . .	. . .	. . .	+ .63	+ .67	.17
	3. 525.0	-0.55	- .38	. . .	. . .	+6.55	+ .64	+1.07	.63
Log-Linear Function	1. 167.5	+0.008	. . .	+ .216	+ .09	. . .	. . .	. . .	.19
	2. 429.4	0.025	- .06	. . .	. . .	. . .	+ .04	+ .14	.17
	3. 202.2	-0.08	- .03	. . .	. . .	+ .15	+ .06	+ .25	.37
Stratum III (4.01 to 6.00 Hectares)									
Linear Function	1. 787.88	-0.008	. . .	+1.912	- .396	. . .	. . .	. . .	.48
	2. 851.56	+0.22	- .26	. . .	. . .	. . .	+1.44	- .76	.28
	3. 578.74	-0.113	+ .26	. . .	. . .	+4.48	+1.22	- .39	.63
Log-Linear Function	1. 346.40	0.002	. . .	.38	- .16	. . .	. . .	. . .	.50
	2. 612.20	0.017	- .02	. . .	. . .	. . .	+ .15	- .05	.23
	3. 411.10	-0.113	+ .000	. . .	. . .	+ .08	+ .16	- .04	.44
Stratum IV (Above 6 Hectares)									
Linear Function	1. 648.12	+1.52	. . .	+1.09	- .56	. . .	. . .	. . .	.34
	2. 863.26	+1.74	- .03	. . .	. . .	. . .	- .88	-1.72	.36
	3. 493.0	-0.38	+1.17	. . .	. . .	+6.88	+ .001	+0.10	.63
Log-Linear Function	1. 130.7	+0.12	. . .	+ .30	- .044	. . .	. . .	. . .	.26
	2. 882.0	+0.16	+ .01	. . .	. . .	. . .	- .08	- .10	.22
	3. 615.8	-0.28	+ .10	. . .	. . .	+0.24	+ .08	+ .04	.41

Source: Data compiled from the field investigations of the members of Salri Primary Cooperative Credit Society in Jhalawar District, 1972.

Note: See text for definitions of variables and strata.

In short, small farmers are over using purchased inputs, excluding, possibly, bullock feed.*

The coefficients of x_4 are significantly high in comparison with Strata II and III (in the Linear Model they are 1.57 and 1.91, respectively, thus revealing that purchased inputs [or cash costs] are critical for these households.)**

Bullock feed (x_6) universally exhibits a significant coefficient for all the groups. At the same time, its introduction improves the goodness of the fit significantly. More specifically, for the reasons explained above, introduction of x_6 considerably improves the MVP of labor in Strata II through IV.

It is interesting to observe that except for the small farmers, inclusions of x_7 (imputed rent, i.e., proxy for the quality of land) has very little effect on the goodness of the fit, albeit it does influence the regression coefficients of other variables. This implies that the quality of land is homogeneous in most cases. For the small farmers the following equations were obtained with x_7 :

$$\begin{aligned}\text{Linear Model: } \hat{Y} &= 36.21 - .20 x_1 + 1.20 x_3 + 2.93 x_6 \\ &\quad + 1.31 x_7^e - .58 x_8 + 3.11 x_{11} \\ R^2 &= .678\end{aligned}$$

*This inference is tested later in this chapter (Tables 5.5 and 5.6).

**Even if rate of interest is assumed at 15 percent, the $MFC x_4 = 1.15$. In respect of Strata II and III, $MVP_4 > MFC x_4$. This means, purchased inputs are used less than optimally.

$$\text{Cobb Douglas Model: } Y = 7.02 x_1^{-.17} x_3^{.19} x_6^{.26} x_7^{.40^d} x_8^{.04} x_{11}^{.32}$$

$$R^2 = .652$$

(^dSignificant at 10 percent)

For the other three groups, b_7 did not show any statistical significance. For the farmers with small holdings, however, improvement in the quality of land is likely to result in a significant increase in the value of output per hectare (Y).

Borrowings and the Adequacy of Credit

Table 5.6 shows that farm households in all the strata need credit for in each group the total cash expenditure including household consumption exceeds total cash receipts. However, need for credit has a positive correlation with size of holdings. Partly this is a result of the increased input usage on the large holdings, and partly due to relatively higher levels of living among the upper medium and large farmers (Appendix A.20).

Sample households were asked to disclose their cash receipts from various sources, needs for the current expenditure in farm and household needs for money.* It was discovered that the per household deficit ranged between Rs. 373 and Rs. 1,252 depending on the size of holdings. Data were also obtained on their borrowings from different agencies.

As Table 5.6 reveals, the small farmers obtained much

*Data on capital (cash) needs were verified from various sources. To avoid over estimation in respect of doubtful cases, minimum of the per hectare norms was accepted for computing the need for capital per household.

TABLE 5.6.--Cash Needs, Receipts and Credit Gap Per Household (Amount in Rupees)

Size of Holdings (Hectares) (1)	Total Cash Needs Per Household (2)	Total Cash Receipts Per Household (3)	Credit Needs Per Household (2-3) (4)	Credit Obtained From Different Sources (5)	Credit Gap (-) Or Credit Surplus (+) (6)
Less than 2.5	1,036	663	373	535	+ 162
2.51-4.00	1,608	795	813	719	- 94
4.01-6.00	2,405	1,299	1,106	973	- 133
6.00+	4,152	2,900	1,252	1,223	- 29

Source: Appendix A.21.

more credit than they really needed. The regression coefficients of x_4 for the linear, as well as the log linear production functions also support this conclusion. It appears that small farmers in the sample area had relatively easier access to sources of credit than has been assumed so far.* However, their share in cooperative credit was relatively very much smaller than that of upper medium and large farmers (Appendix A.20).

The present level of borrowings in this stratum may be justified only under a new technology which would bring forth a shift in the production function (and also in the MVP x_4), and thus tend to utilize the available cash receipts more effectively. Under the constant technology, therefore, excessive borrowings by the small farmers has a big danger of pushing them into permanent indebtedness.

On the other hand, the substantial credit gaps experienced by the medium and upper medium farmers reflected in the excess of MVP x_4 over MFC x_4 . These farmers may substantially increase their returns from farming if the present credit gaps are removed. Under a state of constant technology like this, the agricultural credit policies should be geared as to increase the supply of credit in these strata only.

*It may be recalled that various committees appointed by the Government and the Reserve Bank of India have repeatedly argued that small farmers do not have adequate credit arrangements. The RCRC and NCAER reports have particularly focused on this issue, (Chapter III) but they ignored the fact that the small farmers largely get less credit than the large farmers due to the smaller size of their holdings.

Conclusions

The conclusions from the regression analyses presented in this chapter indicate that credit is certainly a constraint for the medium and upper medium farm groups. On the contrary, increased use of credit under the present state of technology does not appear profitable on small farms. However, as suggested earlier, improvement in the quality of land inputs (especially through the provision of irrigation facilities), and implicitly improvement in the overall input mix might bring a shift in their production function. In other words, in the existing situation credit appears a big constraint for the medium and upper medium farmers (but not quite so for the large farmers). For the small farmers, however, not credit but technology seems to be a limiting factor. Further research is needed to analyze the effect of a change in technology on the demand for credit on different groups of farm households. This research indicates that any blanket, or across the board increase in the supply of credit for all the households is neither necessary nor practicable in view of the limited resources available in India.

The choice of credit agency for undertaking the responsibility of increasing the supply of credit (under static as well as under dynamic technological conditions) would largely depend on the agency's own capital base, the financial discipline among the borrowers, and the inter-agency relationships which would ensure the flow of funds to

the credit agency in question. Since cooperatives have the merit of being altruistic and welfare oriented credit institutions, despite their present major weaknesses (described in Chapters III and IV), efforts should be made to strengthen their financial base and make them an instrument in raising farm production. The next chapter, therefore, presents a set of recommendations, which may streamline the existing structure of cooperative credit institutions in India (especially in Rajasthan), and enable them to fill existing credit gaps and to facilitate the technological advancement of different size groups of farm households.

REFERENCES

CHAPTER V

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CHAPTER VI

SUGGESTED MODIFICATIONS IN THE COOPERATIVE AGRICULTURAL CREDIT POLICY IN INDIA

This study was undertaken with the following objectives:

(1) to define the concept of adequacy of agricultural credit, (2) to review and evaluate the recent progress and financial health of cooperative agricultural credit institutions in India, and particularly in Rajasthan, (3) to examine the availability of credit for different groups of farmers, stratified according to size of holdings, and (4) to recommend certain modifications in the existing cooperative agricultural credit policy.

It was shown earlier that the adequacy of credit needs to be judged on the basis of the amount of loan, rate of interest, terms and conditions of the loan procedural formalities, and the timing of loan disbursement and recovery. It was demonstrated that capital (including credit) is used optimally at that level where the incremental returns to capital (marginal value product) are equal to the given cost of capital (marginal factor cost).

It was demonstrated in Chapters III and IV that despite the progress made by cooperative credit institutions with respect to membership, number of villages and farm households covered and the amount of loans advanced, these institutions

are generally in a poor financial health. Cooperatives were found to be incurring heavy losses as a result of the mounting number and amount of overdue loans. Field investigations undertaken in this study revealed that small farmers (having less than 2.5 hectares of unirrigated land) have easier access to adequate credit than reported by the All India Rural Credit Review Committee (RCRC) and the National Council of Applied Economic Research (NCAER). Yet, it was discovered that their overall share in the total cooperative credit was much smaller than that of large farmers.

It was stated in Chapter III that during 1951-72 the Union (Federal) and state governments spent about Rs. 1,800 million on development of cooperative agricultural credit institutions. In addition, the annual flow of short term and medium term credit to cooperatives from the Reserve Bank of India was stepped up from Rs. 1,120 million in 1960-61 to Rs. 4,883 million in 1971-72. As a result of these promotional measures, short and medium term cooperative agricultural credit to farmers increased from Rs. 2,000 million in 1960-61 to Rs. 5,780 million in 1970-71. It was also pointed out that cooperative loans are advanced to farmers at a much lower rate of interest than the one charged by moneylenders.

However, in view of the existing financial health of cooperatives, particularly of the primary credit institutions, such quantitative growth appears misleading. As explained in this study, a target oriented agricultural credit policy

generally has a danger of ignoring the efficiency and (opportunity) cost of cooperative credit vis-a-vis the credit provided by moneylenders. Policy makers in India have to clearly define the goals and objectives of agricultural credit policy and redesign the cooperative agricultural credit policy accordingly.

This chapter highlights the principal objectives of the agricultural credit policy as have been described by economists. The later sections will present a schema to improve the efficiency and usefulness of existing cooperative credit societies in India.

Objectives of the Agricultural Credit Policy

Lately, development economists have suggested that the agricultural credit policy of developing countries must be so designed as to accomplish the following principal objectives: (1) increasing agricultural production through increased supply of credit, (2) providing credit at subsidized interest rate(s), and (3) helping small farmers and other weaker sections of the rural community. In addition, such policy is expected to promote the economic development of specific regions, and/or of specific crops. All these objectives will be discussed in turn.

Increasing Agricultural Production Through Increased Supply of Agricultural Credit

Cairncross, Higgins and Leibenstein¹ argue that credit is necessary for the development of agriculture in the low

income countries. These economists appear to believe that lack of credit is a major bottleneck in the agricultural development of these countries. Since 60 to 80 percent of the income is contributed by agriculture, a policy designed to increase the supply of credit is likely to play a significant role in accelerating the pace of overall economic development.

Recent studies indicate that major technological developments have occurred for agriculture in Asian, African and Latin American countries in the past decade or two, albeit such changes are still not adopted fully. It was observed in Chapter II that the recent seed-fertilizer revolution has enormously increased the demand for agricultural credit in India. Empirical studies conducted in different parts of the country indicate that the marginal returns to the new (purchased) inputs are very high.² Under this situation, a policy seeking to increase the availability of credit can be expected to play a major role in the process of agricultural development.

Providing Agricultural Credit at Subsidized Interest Rates

Millard Long³ states that the intellectuals and policy makers of south and south-east Asian countries are guided by a belief that majority of the farmers in these countries borrow in the informal credit markets, and are required to pay exorbitant rates of interest.

Similarly, Dale Adams observes that the policy makers in developing countries work with an impression that farmers are poor and are generally discriminated against in the national pricing and fiscal policies. Either way, he argues, such belief induces them to prescribe low rates of interest on agricultural loans provided by cooperative and government agencies.⁴ Belshaw argued in an FAO report that the interest rates on such loans need to be subsidized to provide relief to the farmers. In his opinion, low rates on agricultural credit are expected to provide an incentive to the tradition bound farmers of underdeveloped countries to use new inputs.⁵

It was observed in Chapter II that the elasticity of demand for agricultural credit in a country like India is very low. Generally, for this reason the small farmers are forced to pay a high rate of interest on their borrowings. Low or subsidized rates can, therefore, be used as a relief measure, as well as a device to induce farmers to use nontraditional inputs.

D. H. Penny⁶ summarizes these two objectives of agricultural credit policy in the following words,

"(In recent years) most governments in low-income countries have tried to improve their agricultural credit system. They have been induced to make the attempt by a feeling that development is inhibited because farmers are too poor, lack capital, and must pay high interest rates when they borrow. Their goal is more and cheaper credit for farmers."

Helping the Small Farmers

Numerous reports by the FAO experts⁷ indicate that the small farmers of developing countries have either no or very little access to institutional credit. The Small Farmer Credit Programs (SFCP) of the Agency for International Development have been initiated in recent years under a series of assumptions:⁸ (1) that small farmers need credit to adopt new technology, (2) that they cannot get credit economically, or at all, from private sources, and (3) that the provision of credit breaks the most important constraint on small farmer progress.

Studies made in recent years by the Indian agricultural economists seem to confirm this view. The Rural Credit Review Committee (RCRC Report and the cross section studies conducted by Ashok Mitra and others provide sufficient evidence to suggest that the small farmer generally fails to obtain sufficient credit from cooperatives. To the contrary, the bulk of the cooperative credit goes to larger farmers who have enough savings, and also, who can borrow from other agencies without much difficulty. The RCRC has, therefore, strongly advocated a preferential treatment of small farmers in the agricultural credit policy in India.

Baker holds similar views for all developing countries. He argues that in the initial stages of agricultural development, small farmers do finance the initial experiment, because the investment profits signals are strong. However, unlike

the large farmers, they have limited funds and ability to sustain an annual investment cycle requiring large cash outlays.⁹

The introduction of Small Farmers Development Agency (SFDA) and Marginal Farmers and Agricultural Laborers (MFAL) schemes in India is an indication of the preferential treatment now being given to the small and marginal farmers. These schemes are specially designed to help the weaker sections of selected villages. Cooperatives are expected to provide about two-thirds of the short-term credit needs of such people.

Conflicts and Trade-offs Among Objectives

Although precise estimates of the demand for credit are not available, in view of the increasing use of nontraditional (purchased) inputs in the developing countries, it must be admitted that the demand for credit is generally increasing. It is also conceivable that the credit policy should envisage an increase in the supply of credit under such conditions. However, a policy prescribing global increase in the supply of credit has a danger of wasteful distribution of loanable funds. Penny provides empirical evidence to demonstrate that in early sixties governments and cooperative agencies in several developing countries provided generous loans to farmers who did not want to borrow.¹⁰

It is, therefore, desirable to identify those farm situations (regions and farm sizes) where marginal returns to capital are high. Similarly, policy makers may determine

the priority crops whose production is expected to increase as a result of increase in the supply of credit.

It is probable that such policy goals will tend to concentrate the institutional credit in the already advanced regions and among the better-off farmers. In other words, allocation of credit on the basis of marginal returns will largely benefit the large farmers and may, therefore, widen the inequality of income distribution. Given the limited resources at the disposal of a public agency, either the planners can provide additional capital to large, progressive farmers so as to increase agricultural production, or maximize social welfare (under democracy, probably, political welfare of the ruling party too) by helping small farmers.

It is, therefore, imperative to distinguish between the two objectives of helping small farmers, and increasing the pace of agricultural development. It was demonstrated in this study (Chapter V) that in a stationary technological situation, increased supply of credit may bring negative marginal returns on small farms. What is needed, therefore, is to improve the irrigation facilities and the availability of new inputs to small land owners and tenants. Where the size of holdings is very small, better enforcement of land reforms may be expected to accomplish a more equitable distribution of land and improve the capital-absorptive capacity of small farmers. These measures, however, fall outside the purview of the primary societies. Furthermore, differential

treatment of different farmers on the basis of the size of holdings involves several administrative difficulties which the primary credit societies are currently unable to cope with.

The biggest need in this situation is to recognize that loans to small farmers may not be as profitable to the cooperative, and may result in a high proportion of overdues and defaults. Part of the accommodation given to small farmers may be in the form of out-right grants. In addition, inputs of better quality (traditional or nontraditional) may be made available to them at subsidized prices. The SFDA and MFAL agencies set up in India in 1970 are expected to help small farmers and agricultural laborers. Such schemes have been undertaken on pilot basis. However, it is too early to predict the implications of such schemes on the income of such farmers.

Cooperatives, to remain financially viable, must restrict their operations to those farmers who request viable loans and who have the necessary aptitude and capacity to absorb additional loans for productive purposes.

The implications of a low interest rate on agricultural credit have already been stated in Chapter II. It seems appropriate to recall that a policy of subsidized interest rate generally has four implications: first, it helps those farmers relatively more who have very large holdings and, generally also borrow larger amounts; second, low interest rates on loans would generally motivate cooperative institutions

to offer low rates of interest on their deposits, and thus affect adversely their capacity to mobilize rural savings; third, it may imply low returns to their working capital and lower level of profits; and finally, it provides no cushion against the defaulters, because the interest rates on overdues are kept at a level lower than the usual rates of interest in the informal credit market.

It was shown in Chapter II that in the face of rising prices of agricultural products, a low interest rate (on cooperative loans) may eventually turn into a negative effective rate of interest. Thus, a low interest rate objective may restrict the amount of credit available by reducing savings as well as distort resource allocation decisions. As a result, there may be a conflict between maximum economic growth and a low interest rate policy.

Suggested Modifications in the Cooperative Agricultural Credit Policy

Chapters III to V indicate major problems of the primary credit societies in India and Rajasthan. For convenience, these problems can be divided into three broad categories: first, those problems which emanate from the high proportion of overdue loans; second, those related to their poor financial health and narrow capital base; and finally, those arising from the poor quality and apathetic management. In addition, there are some problems which originate due to poor financial structure and inefficiency of central cooperative banks (CCBs).

If cooperatives are assigned the responsibility of providing additional credit to Indian farmers, it is imperative that suitable measures are taken in the four directions mentioned above. It seems appropriate to suggest modification in the organization of cooperative agricultural credit institutions. Such reorganization can be expected to facilitate the introduction of other reforms suggested in the later sections.

Reorganization of Cooperative Credit Institutions

Presently, cooperatives in different states have a three tier structure (Figure 3.1), with state cooperative bank at the apex level, district central cooperative banks (CCBs) in the districts, and the primary credit societies at the village level. While analyzing the health of cooperatives in different states, and especially in Rajasthan, it was discovered that most of such institutions at the district and primary levels are presently in a deplorable financial situation.

As a matter of fact, the CCBs are semi-autonomous agenices. A CCB is organized under the Cooperative Societies Act of a state and is generally entitled to receive financial support from the government and the apex bank. In turn, it is supposed to help the primary credit societies functioning in the district. As was observed in this study (Chapter IV), most of the CCBs in Rajasthan, as elsewhere in India, fail to raise sufficient share capital and deposits, rather, they function merely as transmission offices between the apex bank

and the primary credit societies. It was learned informally that most CCBs in the state are under the influence of politicians who have little or no experience with banking law and practice.

It was also observed in Chapter IV that the personnel recruited by the CCBs are generally paid low wages and have no incentive to work for the benefit of the employing institutions. Further, the Reserve Bank of India (RBI) too has no direct jurisdiction over them, and generally fails to regulate their operations.

It would, therefore, be desirable to organize the cooperative credit institutions into a two-tier structure, and convert the CCBs into branches of the apex bank. Such reorganization would bring them under the direct control of the RBI. Further, the apex bank will be able to adopt uniform standards in recruiting new (or training existing) personnel over the entire state. It seems reasonable to assume that such uniformity of pay and other conditions of employment will mitigate the prevailing discontent among employees of the CCBs and will consequently improve their efficiency.

A two-tier structure is also likely to establish more uniform procedures of loan disbursement and recovery, which until now exists only in theory. Further, it is expected to insulate the district level cooperatives from the local politics. Finally, such reorganization would bring the primary

cooperative credit societies under the direct control of the apex bank and improve the latter's efficiency. Under the proposed system, the primary credit societies will be linked directly with the apex bank, and as a result, will enlarge their access to loanable funds.

Reducing the Incidence of Overdues

It was stated in the previous chapters that currently the biggest threat to the existence of a large number of primary societies (and also CCBs) comes from the mounting number and amount of overdue loans. On an average, such loans constitute nearly 41 percent of the outstanding loans, and over 30 percent of the working capital of the primary credit societies (Chapter III). In several districts of Rajasthan the situation is still worse (Chapter IV).

Such high proportions of overdue loans weaken the financial base of the primary credit societies and severely cut their volume of business. Even though the interest on overdues is computed at the rate of 12 percent per annum (as against 9 percent on normal dues), such "income" is usually not received by the cooperative society. In fact, this is an incorrect and misleading accounting practice. Furthermore, in view of 18 to 24 percent annual interest being charged by individual moneylenders on their normal loans, the defaulters of cooperative loans do not really get penalized even if they withhold repayment for a long time.

Four basic factors were described in Chapter III to explain the origin of overdue cooperative loans. They were: (1) natural calamities and the resultant failure of crops, (2) lack of supervision over the disbursement and recovery of cooperative loans, (3) permissiveness of the secretary and directors of a cooperative society towards the willful defaulters, and (4) poor linkage between agricultural credit and marketing. All measures tending to reduce the incidence of overdue loans should, therefore be directed against these forces.

Recommendations

In view of the gravity of the problem of overdues it is recommended that a special fund be created by each primary credit society to meet the threat of overdues originating from crop failure. However, such funds should be utilized only after sufficient evidence is available about the loss of crops due to drought or floods. A regular contribution to such fund should be made by the primary credit society out of its profits. Similar funds need to be created at the district level to meet the threat of default by the primary credit societies. However, for the weak primary cooperative credit societies, such funds may be made available out of the state famine relief budget. The apex bank in consultation with the Department of Famine Relief can determine the district-wide norms on whose basis the outstanding (overdues) loan of a farm household will be written off. This should be considered as a form of insurance (against overdues) among the primary credit societies.

It is also recommended that in order to ensure a better supervision over the operations of the primary credit institutions, the work load of a supervisor be determined on the basis of (1) the number of societies, (2) the volume of total business (amount of loans advanced plus the magnitude of noncredit business), and (3) the level of technological advancement in the area. It is assumed here that the efficiency of a supervisor depends, inter alia, on his work load. In addition, it is also assumed that the growth of overdue loans is inversely related to the effectiveness of his supervision. It is also recommended that the apex bank should develop a pyramidal structure of supervisors in each district. These supervisors will be expected to assume the responsibility of maintenance of proper accounts and timely disbursement and recovery of cooperative loans.

It is further recommended that the secretary and directors of the primary credit societies use their personal acquaintance, friendship or relationship to persuade the defaulters to repay (overdue) loans. If personal appeals and persuasion do not seem to work, beyond a grace period of six months after the due date, coercive (legal or otherwise) action must be taken against the willful defaulters. For this purpose, all those members should be considered as willful defaulters who had normal crops during the previous year but fail to repay their loans. It is imperative that the members, the secretary and the directors of the society are made aware about the impact of overdues on their own welfare.

The most important measure to check the growth of overdue loans is the establishment of the trinity, i.e., a close link of cooperative credit with marketing of agricultural inputs and outputs. Marketing of a member's output facilitates the recovery of loans directly, whereas the supply of agricultural inputs ensures a better utilization of cooperative credit. If cooperative credit is linked with marketing, it will put a direct check on the growth of overdue loans.

A large number of villages in India have already been covered by the primary marketing societies. These agencies have so far been given a modest patronage by their members.

It is, therefore, urged that the primary credit societies require each borrower to sell his crop through the area marketing society. Where such society does not exist, the cooperative credit society should itself collect the marketable surplus of individual members. For the success of such measures the following considerations are important: first, in view of the lack of experienced personnel, marketing operations by the credit societies need to be taken only on a pilot basis; second, cooperatives should offer competitive prices to the members for their crops; third, the secretary of the primary credit society should be given adequate incentives for undertaking this additional responsibility; and finally, adequate warehousing, transportation and credit facilities should be made available to the primary credit society for marketing operations.

Under a recent decision (December, 1972) of the government of India, the wholesale trade of wheat and rice has been taken over by the state governments. It is recommended that cooperative marketing societies (and credit societies where marketing societies do not exist) be given exclusive rights to procure wheat and rice for the state government. Such an arrangement will strengthen the link between cooperative credit and marketing all over the country and may, in turn, check the growth of overdue loans. However, eventually the success of cooperative marketing will depend on the cooperative's own reputation and ability of offering competitive prices for all crops.

It was argued earlier that the present policy of cheap cooperative credit provides no incentive against the use of credit for nonproductive purposes. It is, therefore, recommended that the rate of interest on cooperative (short term) agricultural credit be raised to 11 percent per annum, i.e., one percent lower than the rate generally charged on the nonagricultural institutional loans. Such rate will be very much lower than the interest charged by moneylenders (see above). Since cooperatives generally do not pay any interest on the share capital contributed by members, the latter should be compensated in the form of some concession in the rate of interest. Obviously, the interest rate on overdues will need to be raised from their present level to a rate ranging between 18 to 24 percent depending on the length of overdue loans.

It may be assumed that such an increase in the cost of cooperative credit will also ensure better utilization of loans.

All the measures suggested above are likely to reduce the incidence of the existing overdues. They may pave the way for timely recovery of cooperative loans, and thus, may arrest the growth of overdue loans in future.

Strengthening the Capital Base of the Cooperative Agricultural Credit Societies

Owned funds are important to the primary credit societies, because they not only formulate a capital base for lending operations but also determine the ability of these agencies to borrow from the CCBs. As stated in earlier chapters, owned funds consist of the paid up share capital (including the shareholding of the state government) and the reserve funds. It was observed in Chapters III and IV that owned funds constituted less than 23 percent of the total working capital of the primary credit societies in June, 1971. However, in some states (and in some districts of Rajasthan) this ratio was less than 15 percent (Appendices A.7 and A.13). It was also observed in Chapter IV that about 55 percent of the primary credit societies in Rajasthan had a paid up share capital of Rs. 5,000 or less (Appendix A.11).

Members' Shareholding

As share capital accounts for an important part of the owned funds, an accepted principle of cooperative credit has been that each member borrowing from a cooperative credit

institution contribute to its share capital to the extent of a specified proportion of the amount borrowed. The Action Program outlined by the Government of India in 1964 specified that the ratio between a member's shareholding (in a primary credit society) and his borrowing should be 1:5 or 20 percent of the latter. For a primary credit society, the corresponding ratio of shareholding to its borrowing from the CCB was suggested at 1:10 or 10 percent. As noted in Chapter III, in many of the states the share holdings of individual members and societies do not correspond to these ratios.

Informal investigations in different parts of Rajasthan revealed that the ratio of members' shareholding to their borrowings at the primary level is 1:8. Members are generally permitted to pay their share contribution in 2 or 3 installments. Provisions about shareholdings (at the primary level) are mechanical and make no distinction between the small and big farmers. Besides, they offer no incentive to the members except that their borrowing limits are raised by Rs. 100 for each increase of Rs. 12 1/2 in the shareholdings. It was discovered during field investigations that such practice of deducting share money from the amount of loan generally has a disincentive effect on the use of rural savings for purchasing shares in the primary credit societies.

Government Contribution to Share Capital

The Reserve Bank of India (RBI) provides loans to the state governments for buying shares of the viable and potentially viable societies. The RBI suggests a limit of Rs. 10,000 for each society. By June 1971, only 12 percent of the primary credit societies were helped by the state governments. The proportion of government contribution to the total paid up share capital was 8 percent at the end of June 1971. On the contrary, the proportions of government contribution to the share capital of CCBs and apex banks were 26 percent and 34 percent respectively at this time.

Thus, partly as a result of inappropriate arrangements for raising members' shareholding and partly due to general indifference of the state governments, the primary credit societies have so far been unable to build on adequate capital base.

Recommendations

It is recommended that the ratio of shareholding to borrowings in all the states be raised to 10 percent of the total short term borrowings from the primary credit societies. It is also recommended that the present practice of allowing installment payment and deducting share money from the sanctioned loans should continue only to benefit the small farmers and tenants. These concessions may be expected to help those sections of the cultivating households who presently do not have sufficient savings.

Furthermore, in view of the current trend of rising productivity and agricultural income, it seems imperative to mobilize additional share capital from different categories of farmers. It is recommended that a dividend be given to those members whose shareholding exceeds the prescribed limit of 10 percent of their short term loans. The rate of such dividend should be little higher than the interest rate generally offered by cooperative institutions and commercial banks on their deposits.

It is also recommended that the state governments provide a share contribution of Rs. 10,000 or more to each viable primary credit society, depending on the present level of paid up share capital and reserves per member. This implies that the existing limit of Rs. 10,000 must go.

It was demonstrated in Chapters III and IV that cooperatives have so far achieved a very modest success in mobilizing rural deposits even in those states or districts where agricultural income has increased rapidly in recent years. One major reason for such slow progress in deposit mobilization is the low rate of interest offered on cooperative deposits. It is recommended that the primary credit societies offer the same rate of interest on deposits as are paid by commercial banks and other agencies in the area. It is further suggested that the initiative and drive for the mobilization of additional share capital and deposits be undertaken immediately after the harvests.



In order to strengthen the capital base of the apex bank and establish closer (financial) relationship between the primary credit societies and the apex bank, it is recommended that 50 percent of their share capital be used to buy the apex bank's shares. Such measures will provide a cushion against the defaults committed by the primary credit societies in repaying their loans to the apex bank.

Providing Incentives to the Cooperative Personnel

In the previous chapters numerous reasons were highlighted for an overall inefficient and poor quality of management of the primary credit societies. For convenience, such reasons may be placed into two broad categories: (1) lack of education, experience and training among the secretaries of cooperative societies, and (2) lack of material incentives to the cooperative personnel.

It was observed in Chapter IV that the minimum educational qualification for the secretary of a primary credit society in Rajasthan is high school diploma. Besides, when recruiting no consideration is given to his experience and knowledge about cooperative credit.

Despite the fact that the primary credit societies have different types of problems as compared to other cooperatives, no separate arrangements are made for the training of their (former's) secretaries. Recent data about the number of trained secretaries of the primary credit societies are not available, but as stated in Chapter III, only 5.5 percent of such personnel had been trained by 1966.

Many problems currently facing these institutions seem to emanate from the poor quality of cooperative personnel. The majority of secretaries employed by the primary societies do not have the necessary ability and aptitude to work efficiently.

Next to education and training, is the problem of incentive. It was explained in the previous chapters that presently the primary credit societies neither offer a reward for a good performance of their employees, nor do they penalize their secretaries for their inefficiency and poor management. In short, the performance of secretaries with respect to loan disbursement and recovery, the volume of business (credit and marketing) profits, mobilization of share capital and deposits, etc. generally have no bearing on their overall remuneration.

The facts that less than 35 percent of the primary credit societies have full-time secretaries, and that the average salary of most secretaries is less than Rs. 100 per month, provide sufficient evidence to explain the causes of their low level efficiency.¹¹ The honorary and part-time secretaries in the remaining societies have also failed to show an encouraging performance. Conversely, secretaries are low paid because they are not efficient, and earn no or very little profit for these agencies.

To sum up, the primary credit societies in India are presently caught in a vicious circle of poor quality of management, high proportion of overdues, low volume of

business, low level of profits and therefore, their inability to employ qualified, experienced and trained personnel.

Recommendations

In view of the present level of efficiency of the cooperative personnel, it is imperative to take suitable measures to provide adequate professional training. It is recommended that the existing training centers run special programs for the secretaries of primary credit societies. Such training should generally focus on the preparation of credit limit statements for individual members, disbursement and recovery procedures and preparation and maintenance of accounts. It is further suggested that such programs should be divided into two categories: (a) long duration (ad hoc or basic) courses in the management of the primary credit societies, and (b) short duration (periodic) refresher courses or workshops. Both such programs should be financed from the annual budget of the Cooperative Department of the state government.

It is assumed that such training programs will increase the proficiency of the cooperative personnel. It is equally important to convince them that they will be able to do a better job by not acting as bureaucrats; instead, they must learn to be flexible and sympathetic in their dealings with farmers.

Since the secretaries have to play a pivotal role in the operations of the primary credit societies, it is imperative that all societies have full time paid secretaries. The rights and obligations of such personnel should also be well defined.

Further, the pay of a secretary should correspond to his responsibilities. It is recommended that the secretary of a primary credit society be given the status and pay generally admissible for the clerk or cashier of a commercial bank.

It seems necessary to provide adequate incentives to him for timely recovery of cooperative loans. It is suggested that like the employees of commercial banks, secretaries of primary credit societies should also be given annual bonus. Such bonus may either be related to the total profits earned by the concerned primary credit society (including profits earned on the marketing of inputs and outputs), or else, it may be given on the fulfillment of the given recovery and marketing targets.

Summary of Recommendations

The following recommendations have been presented in the preceding section for strengthening the financial health of the primary credit societies in India and improving their mode of operations.

- (1) The cooperative agricultural credit institutions in each state should be reorganized into a two-tier structure.
- (2) A special fund should be created at the primary level in order to meet the threat of overdues originating from crop failure.

- (3) The work load of a supervisor should be reduced from its present level in order to allow better supervision.
- (4) In order to ensure better utilization and timely recovery of loans the primary credit societies should also undertake marketing of crops and supply of inputs where separate marketing cooperatives do not exist.
- (5) The shareholding requirements for members should be raised to 10 percent of short term loans. However, in order to provide relief to small (but potentially viable) farmers, they may be permitted to pay their share money in two or three installments.
- (6) A dividend should be given to those members whose shareholdings exceed the prescribed limit.
- (7) The rate of interest on cooperative credit should be raised to 11 percent or one percent lower than the level at which institutional finance is provided for nonagricultural purposes.
- (8) The rate of interest on deposits should be raised to the level at which the commercial banks accept deposits.
- (9) More facilities should be provided by the government to provide specialized (professional) training to the cooperative personnel.

- (10) The status and monthly pay of the cooperative personnel (even at the primary level) should correspond to their responsibilities.
- (11) Emphasis should be given on employing full-time (paid) personnel at the primary level. In addition, material incentives (bonus and annual increment in pay) should be given to those secretaries who consistently show good performance.

Areas of Further Research

As have been indicated on several occasions in this study, overdues pose the biggest problem before the primary credit societies in India. Cross-section studies of farmers in different farm situations will help in revealing the causes of overdues. It may be that cultural or social environment greatly influences the utilization and effectiveness of cooperative credit. A research program analysing the causes of overdues may, therefore, be an inter-disciplinary undertaking, and may involve economists, sociologists, anthropologists and psychologists.

It would also be useful to study the responsiveness of the demand for short term credit to changes in interest rates. It was hypothesized in this study that technological advancement in a region generally increases the demand for certain inputs more rapidly than for others. Except for a few case studies, no comprehensive research has been done in this area. A good program for regional studies of agricultural credit

will be expected to incorporate the effect of new technology on the demand for capital (and credit) in different farm situations. Inter-farm or cross-section studies are likely to enable the policy makers not only to analyse the impact of new technology on demand for credit, but will also help identify those inputs which are critical and for which additional supply of credit is imperative.

The Working Group of the Government of India suggested that each viable primary credit society should conduct an annual business of Rs. 200,000 (Chapter III). However, no empirical evidence is available to explain the rationale of this limit. Field investigations should be undertaken to determine the optimum size of a cooperative society in a given farm situation.

It would be useful to undertake studies of the operational behavior and problems related to decision making by the secretaries and directors of primary cooperatives. This research will provide a solid foundation for an educational program for secretaries of the primary credit societies.

Thus far no study seems to have been made to learn the behavior of moneylenders in India. It is, therefore, suggested that such studies should be made in different states to analyse the benefits and costs of cooperative credit vis-a-vis credit supplied by moneylenders. Such research will also be useful to measure the elasticity of supply of noninstitutional credit.

Conclusions

This study highlighted the problems that are currently facing the primary credit societies in India. It must be admitted that due to changes in technology, increasing use of purchased inputs, and in part, due to increasing use of traditional inputs, the demand for short term credit has enormously increased in recent years. However, arbitrary estimates of the demand for credit and equally arbitrary increase in the supply of cooperative credit may not be successful in a country like India.

What is really needed is to work out different norms of cooperative finance for different farm situations. Adequacy or shortage of cooperative credit should be ascertained on the basis of relative interest rates, terms and conditions, and the amount of loan advanced.

It is conceivable in principle, that the primary cooperative credit societies are capable of furnishing more funds and rendering more services to farmers than moneylenders and traders. Instead of the profit motive held by these individuals, the ultimate goal of cooperatives is to help farmers. What is, however, needed is to improve their financial health by reducing the incidence of overdues.

It is also imperative that cooperatives strengthen their capital base so as to eventually reduce their reliance on external sources of working capital. It should also be made clear that no policy of increasing the supply of cooperative credit will be successful unless it contains incentives for the cooperative personnel to work efficiently.

Cooperatives have shown tremendous quantitative progress during the past two decades. With the generous help provided by the RBI, the primary credit societies have enormously increased their operations during this period. However, the competition between cooperatives and moneylenders should be eventually based on the economic performance and the relative merits of each agency. There is no need to feel complacent about the quantitative growth of the primary credit societies. It is now time to shift the emphasis of agricultural credit policy to the emergence of a financially strong cooperative credit system which would itself be viable and could induce its members to attain viability.

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CHAPTER VI

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APPENDIX

TABLE A.1.---State-Wise Estimates of Credit Requirements in 1970-71^a

State (1)	Unirrigated Area (2)	Irrigated Area (3)	Credit Potential (Col. 2 x Rs. 125 Col. 3 x Rs. 250) (4)
	-----Thousand Hectares-----		
Andhra Pradesh	8,321	3,189	1,837.4
Assam	1,654	572	349.7
Bihar	6,116	2,279	1,334.3
Gujarat	8,393	1,179	1,344.5
Haryana	2,140	1,408	619.5
Himachal Pradesh	456	94	80.5
Jammu and Kashmir	437	279	124.4
Kerala	1,743	423	323.6
Madhya Pradesh	16,952	1,431	2,476.8
Maharashtra	17,031	1,431	2,486.0
Mysore	9,053	1,144	1,417.6
Nagaland	35	12	7.4
Orissa	5,067	1,027	890.1
Punjab	1,193	2,834	857.6
Rajasthan	11,036	2,059	1,894.3
Tamilnadu	3,562	2,507	1,072.0
Uttar Pradesh	10,665	6,818	3,037.6
West Bengal	4,091	1,478	880.9
Total for All States (Excluding Union Territories)	108,703	30,367	21,179.6

Source: Conference of the Registrar of Cooperative Societies, Agenda Notes,
New Delhi, Ministry of Agriculture, Department of Cooperation, September,
1972 (Mimeograph).

TABLE A.2.--Estimates of Interest Rates that Lenders Would Have to Charge to Compensate for Defaults (Percent per Annum)

Value of Defaults as Percentage of Total Loans	Normal Interest Rates in Absence of Defaults						
	1	2	5	10	15	25	50
1	2.02	3.03	6.06	11.11	16.16	26.26	51.52
2	3.06	4.08	7.14	12.24	17.35	27.55	53.06
5	6.32	7.37	10.53	15.79	21.05	31.58	57.89
10	12.22	13.33	16.67	22.22	27.78	38.89	66.67
15	18.82	20.00	23.52	29.41	35.29	47.06	76.47
25	34.67	36.00	40.00	46.67	53.33	66.67	100.00
50	102.00	104.00	110.00	120.00	130.00	150.00	200.00

Source: U. Tun Wai, Interest Rates Outside the Organized Money Markets of Underdeveloped Countries, I.M.F. Staff Papers (1957-58), p. 110.

TABLE A.3.—Estimates of Short-Term Credit Needs in India in 1970-71

Type of Area	Million Acres in 1970- 1971	Scale of Credit Per Acre			Total Credit Needed (Million Rupees)		
		Kind Rs.	Cash Rs.	Total Rs.	Kind	Cash	Total
High Yielding Varieties	35.0	79	62	141	2765	2170	4935
Non-High Yielding: Irrigated	53.5	29	31	60	1551	1658	3209
Unirrigated Area	309.5	5	20	25	1547	6190	7737
	—	—	—	—	—	—	—
Total	398.0				5863	10018	15881

Sources: (i) For acreage under different categories: The Times of India Directory(1972), Bombay, Times of India Publications. p. 29.

(ii) For scales of credit per acre: All India Credit Review Committee Report (1969), p. 88.

TABLE A.4.--Distribution of Assets in Indian Agriculture (June, 1962).

Value of Assets (Rupees) (1)	Percentage of All Households (2)	Percentage of Total Asset-Value (3)	Cumulative Percentage of Household (4)	Cumulative Percentage of Assets Owned (5)
Less than 500	2.1	0.1	2.1	0.1
501 - 1000	7.1	0.9	9.2	1.0
1001 - 2500	23.4	6.9	32.6	7.9
2501 - 5000	29.6	18.4	62.2	26.3
5001 - 10,000	22.9	27.1	85.1	53.4
Above 10,000	14.9	46.6	100.0	100.0

Source: Reserve Bank of India Bulletin, June 1965 (Statement 2)

TABLE A.5.--Capital Expenditure on Farm in India and
Rajasthan During the Year 1961-62*
(Percentages)

Item	India	Rajasthan
Purchase of Land	18.8	7.6
Reclamation of Land	2.9	0.4
Bunding and Other Land Improvements	8.9	1.8
Construction of Wells	7.1	6.2
Agricultural Implements, Machinery and Transport Equipment	11.4	11.9
Purchase of Livestock	44.4	67.1
Farm Houses	2.9	1.0
Others	<u>3.6</u>	<u>4.0</u>
Total	100.0	100.0

Source: Report of the All India Rural Credit
Review Committee, Bombay, Reserve
Bank of India (December, 1969)

*Total capital expenditure incurred by culti-
vators during 1961-1962 was Rs. 6,260 million.

TABLE A.6.—Proportion and Amount of Cash Loans Borrowed From the
Primary Credit Societies in Different States, 1961-62

State	Average Amount of Cash Loan Borrowed From Cooperatives Per Household (Rupees)	Percentage of Cooperative Loans to Total Cash Loans From All Agencies	Aggregate Amount of Loans From Cooperatives (Million Rupees)
Andhra Pradesh	35.1	12.7	143.7
Assam	0.6	1.7	0.90
Bihar	2.7	2.6	16.10
Gujarat	95.2	25.7	182.3
Jammu and Kashmir	17.5	11.4	8.5
Kerala	24.3	11.9	49.0
Madhya Pradesh	29.4	17.4	130.1
Madras	49.1	16.5	168.1
Maharashtra	84.5	38.3	318.1
Mysore	66.7	20.6	165.0
Orissa	9.1	16.6	21.7
Punjab	38.5	10.5	62.6
Rajasthan	14.9	3.8	40.6
Uttar Pradesh	27.9	16.6	269.6
West Bengal	8.4	5.9	27.8
All India Average	31.9	15.5	1605.3

Source: Reserve Bank of India Bulletin, December, 1965.

TABLE A.7.--State-Wise Position of Primary Cooperative Credit Societies in India on June 30, 1971 (Amount in Million Rupees)

Name of State/ Union Territory (UT) (1)	Total Number of Primary Credit Societies (2)	Societies Which Advanced Loans During the Year (3)
Andhra Pradesh	15,040	7,288
Assam	2,968	556
Bihar	17,171	16,174
Gujarat	8,438	7,160
Haryana	6,166	6,019
Himachal Pradesh	2,547	2,391
Jammu and Kashmir	1,104	655
Kerala	2,134	1,466
Madhya Pradesh	9,884	9,402
Maharashtra	20,014	18,421
Mysore	8,675	4,842
Nagaland	16	8
Orissa	3,759	2,245
Punjab	10,274	9,518
Rajasthan	7,808	3,676
Tamil Nadu	6,058	4,187
West Bengal	11,329	3,098
Andaman and Nicobar	44	30
Goa, Daman and Diu	168	102
Pondichery	73	58
Delhi	283	274
Uttar Pradesh	<u>25,922</u>	<u>19,252</u>
Total	160,780	117,063

Note: Difference in the total represents figures for very small union territories.

TABLE A.7. Continued

Membership ('000)	Percent of Borrowing Members	Percent of Rural Popu- lation Covered by Cooperatives	Percent of Villages Covered	Share Capital
(4)	(5)	(6)	(7)	(8)
2,260	40	82	92	105.7
388	14	82	78	11.1
2,750	33	96	96	50.0
1,330	62	95	95	252.8
598	53	100	100	38.5
438	50	100	100	24.5
280	38	78	85	4.9
1,695	40	100	100	94.3
2,081	46	93	100	161.8
3,136	42	73	98	523.1
1,787	41	94	96	140.2
neg.	0	15	34	neg.
1,410	22	100	100	53.5
1,438	75	100	100	109.8
1,271	44	86	94	69.5
3,280	19	100	100	152.5
1,034	26	71	80	36.7
2	50	35	44	0.3
61	11	100	100	1.7
14	43	100	100	1.3
33	88	52	98	3.5
<u>5,527</u>	<u>25</u>	<u>100</u>	<u>100</u>	<u>219.3</u>
30,963	36	91	95	2057.4

TABLE A.7. Continued

Reserves (9)	Total of Owned Funds (10)	Deposits (11)	Working Capital (W.K.) (12)	Percent of Owned Funds to W.K. (13)	Loans Outstand- ing (14)
39.2	144.9	34.8	605.2	24	380.9
1.1	12.2	5.2	84.5	14	63.0
7.8	57.8	29.8	308.6	19	199.2
92.3	345.1	51.2	1326.5	26	957.4
2.4	40.9	8.0	250.0	16	185.0
4.3	28.8	43.5	112.7	25	77.3
1.4	6.3	0.8	87.1	7	30.9
30.8	125.1	93.8	650.4	19	361.1
60.0	221.8	43.4	1147.3	20	838.6
104.6	627.7	40.5	2266.7	28	1648.3
53.8	194.0	35.4	774.6	25	499.2
nil	neg.	neg.	neg.	0	0
21.0	74.5	14.9	367.2	20	210.7
19.8	129.6	177.4	764.3	17	506.4
3.3	72.8	13.0	380.1	17	236.7
82.8	235.3	42.0	859.5	27	588.1
9.8	46.5	7.0	245.9	19	176.3
neg.	0.3	neg.	0.6	50	0.5
0.6	2.3	0.2	5.0	46	2.0
0.6	1.9	neg.	9.4	20	6.3
0.9	4.4	2.3	18.2	24	10.5
<u>57.9</u>	<u>277.2</u>	<u>50.3</u>	<u>1249.1</u>	<u>22</u>	<u>855.6</u>
595.7	2653.1	694.6	11534.0	23	7844.8

TABLE A.7. Continued

Loans Overdue	Overdue Loans as Percent of Loans Out- standing	Overdues as Percent of Owned Funds	Loans Advanced During 1970-71	Loans Recovered Through Sale of Members' Crops
(15)	(16)	(17)	(18)	(19)
171.0	45	118	287.5	0.3
49.8	80	409	20.8	0.1
124.8	63	216	124.6	nil
206.8	28	60	893.4	118.0
87.0	47	212	156.6	nil
16.7	22	58	49.2	nil
18.6	60	295	18.2	13.3
107.1	30	85	300.9	17.2
358.1	43	161	514.1	62.9
618.4	38	98	1149.3	224.6
215.3	43	111	380.9	17.0
0	0	0	neg.	0
138.4	65	186	87.4	0.5
205.7	41	151	571.0	0
103.3	44	142	163.3	0.2
217.8	37	93	473.7	9.4
124.3	70	268	55.9	0.1
0.2	40	70	0.4	nil
1.2	60	52	1.4	nil
2.4	38	126	5.7	nil
2.1	20	48	4.1	nil
<u>499.2</u>	<u>52</u>	<u>162</u>	<u>513.4</u>	<u>14.5</u>
3223.6	41	121	5778.1	478.3

TABLE A.7. Continued

Number of Societies Recovering Loans Through Sale of Crops (20)	Societies With Full Time Secretaries (Number) (21)	Sale of Seeds, Fertilizers, Pesticides and Implements (22)
2,297	585	22.5
56	864	neg.
0	2,250	32.1
971	5,038	275.4
0	762	35.8
0	749	4.2
721	722	9.3
456	1,564	58.3
3,207	8,413	91.8
6,642	12,633	243.4
629	4,833	112.3
0	3	0
9	2,778	11.1
0	2,609	262.2
336	2,706	10.6
201	3,588	90.7
45	106	4.5
0	0	0
0	97	1.4
0	45	4.1
0	81	0.7
<u>1,273</u>	<u>2,910</u>	<u>14.8</u>
16,843	53,429	1286.2

Source: Statistical Statements Relating to the Cooperative Movement in India, (1970-71), Part I (computations own). Reserve Bank of India

TABLE A.8.--Statewise Alternative Interest Rates to Compensate for Defaults in Cooperative Loans, 1970-71

State	Amount of Loans Advanced	Amount of Loans Recovered	Approximate Percentage of Default	Alternative Interest Rate to Compensate For Defaults (Approximate)
	---Million Rupees----			--Percent----
Andhra Pradesh	287.5	258.7	11	21.8
Assam	20.7	12.0	42	100.0
Bihar	124.6	118.5	5	14.8
Gujarat	893.4	797.6	11	21.8
Haryana	156.7	143.3	9	18.6
Himachal Pradesh	49.2	37.2	24	45.3
Jammu & Kashmir (1969-70)	18.2	30.0	.	.
Kerala	300.9	235.2	22	41.5
Madhya Pradesh	514.1	408.0	21	40.2
Maharashtra	1149.3	922.4	20	39.6
Mysore	380.9	315.6	17	26.5
Orissa	87.3	87.4	.	.
Punjab	570.9	561.0	2	10.9
Rajasthan	163.3	138.2	14	26.8
Tamilnadu	473.7	454.0	4	12.9
Uttar Pradesh	513.4	463.1	10	20.0
West Bengal	55.9	49.4	12	23.7
Total	5778.1	5046.5	12.5	24.2

Notes: (i) Interest rates have been interpolated on the basis of U. Tun Wai (Appendix B)

(ii) Jammu and Kashmir and Orissa had recovered higher amounts than the loans advanced. This was due to vigorous campaign to recover the overdue loans.

Source: Statistical Statements Relating to the Cooperative Movement, (1970-71) Part I, Statement No. 24.

TABLE A.9.--Reserve Bank of India's Credit to Cooperatives (1969-70 and 1971-72)
(Amount in Million Rupees)

Serial Number	Purpose	1969-70		1971-72	
		Amount Loaned During the Year	Amount Outstanding on June 30 1970	Amount Loaned During the Year	Amount Outstanding on June 30 1972
A.	<u>Loans to State Cooperative Banks</u>				
A1	<u>Short Term Loans:</u>				
(i)	Seasonal Agricultural Operations (at 2% below bank rate)	4344	2161	4823	1539
(ii)	Production and Marketing of Handloom Products (at 1.1/2% below bank rate)	100	50	143	59
(iii)	Purchase and Sale of Yarn (at bank rate)	1	0	1	0
(iv)	General Banking Purpose (at bank rate)	235	2	162	neg.
(v)	Purchase and Distribution of Fertilizers at (2% below bank rate)	262	24	184	39
(vi)	Conversion Loans (at bank rate)	17	2	71	54
(vii)	Loans for financing the working Capital Needs of Sugar Factories: (2% above the bank rate)	0	0	26	0
A2	<u>Medium Term Loans:</u>				
(i)	Agricultural Purposes: (1.1/2% below bank rate)	115	204	59	201
(ii)	Financing Farmers for Purchasing Shares of Coop Sugar (at bank rate)	0	1	3	6
(iii)	Conversion of Short-Term Loans Into Medium Term Loans into Medium-Term Loans in Drought Areas (at 1.1/2% below bank rate)	30	44	241	257
B.	Loans to State Governments for Contribution to Share Capital of Cooperative Credit Institutions	72	343	156	531
C.	<u>Investment in Debentures</u>				
(a)	Rural Debentures	9	96	1	106
(b)	Ordinary Debentures	43	312	40	383

Source: Report on Currency and Finance (1971-72), Bombay, Reserve Bank of India (Table 13).

TABLE A.10.--District-wise Financial Position of Primary Agricultural Cooperative Credit Societies in Rajasthan (as on June 30, 1972)

Name of the District	Number of Societies	Number of Members	Share Capital	Reserves	Deposits	Total Working Capital	Working Capital Per Society	Working Capital Per Member
		(000)	----- ('000 Rupees) -----				----- (Rupees) -----	
Ajmer	322	59.1	3,744	497	783	20,414	66,800	347
Alwar	455	86.6	5,449	56	1,219	32,558	71,550	376
Banswara	209	35.2	983	11	209	5,782	27,665	164
Barmer	249	49.3	1,683	394	295	9,766	35,205	198
Bharatpur	559	117.0	10,567	166	2,641	57,121	102,188	488
Bhilwara	270	49.0	2,639	67	372	12,390	45,889	253
Bikaner	120	21.5	704	0	206	3,891	32,425	181
Bundi	139	24.6	2,110	10	231	9,969	71,720	405
Chittorgarh	314	55.7	3,285	19	879	17,078	54,390	306
Churu	208	32.1	996	0	87	4,870	23,414	152
Dungarpur	181	32.3	783	20	177	4,705	26,000	145
Ganganagar	371	60.7	4,306	3	418	22,196	60,000	366
Jaipur	632	104.0	4,259	13	959	22,966	36,323	221
Jaisalmer	102	4.5	118	0	141	1,008	10,000	224
Jalore	218	26.2	1,132	0	152	5,380	24,680	207
Jhalawar	217	41.5	3,305	105	673	15,658	72,157	377
Jhunjbunu	248	30.4	960	0	111	3,463	13,562	114
Jodhpur	266	45.3	2,727	20	302	13,127	49,350	289
Kota	332	69.0	9,863	669	2,046	44,812	135,000	649
Nagaur	373	53.0	2,522	6	263	12,812	34,617	242
Pali	329	55.7	2,525	19	410	14,875	45,213	267
Sawai Madhopur	427	71.4	3,086	16	484	14,540	34,052	204
Sikar	296	40.5	1,266	19	227	6,070	20,500	149
Sirohi	134	14.3	742	10	62	4,433	33,084	310
Tonk	212	37.9	1,943	4	402	9,740	46,000	256
Udaipur	544	71.7	3,393	63	594	15,558	28,600	217
Total	7,727	1288.5	75,080	1,775	14,344	385,172	50,000	300

Source: Registrar of Cooperative Societies Rajasthan: Trend of Progress of Cooperative Societies in Rajasthan, 1972.

TABLE A.11.—District-Wise Distribution of Agricultural Credit Societies According to Share Capital (Including Government Contribution) as on June 30, 1972

Name of the District	Paid up Share Capital in Rupees									Total Number of Societies	Societies with Paid up Share Capital of Rs. 20,000 or more
	Up to 500	501-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-10,000	10,001-20,000	20,000+		
Ajmer	1	3	58	28	19	70	33	77	33	322	21
Alwar	5	8	30	35	175	95	64	64	21	455	21
Banswara	4	14	38	37	33	23	38	21	1	209	Nil
Bharmer	4	16	43	21	22	19	72	48	4	249	4
Bharatpur	35	15	23	16	34	29	108	109	190	559	121
Bhilwara	6	12	30	30	24	10	31	102	25	270	Nil
Bikaner	Nil	10	16	18	12	11	37	13	3	120	1
Bundi	6	1	8	9	7	11	17	43	37	139	30
Chittorgarh	3	4	32	31	25	24	63	93	39	314	26
Churu	3	14	22	40	34	30	43	22	Nil	208	Nil
Dungarpur	12	32	32	38	30	6	18	9	4	181	Nil
Ganganagar	3	22	15	16	17	28	109	107	54	371	30
Jaipur	48	33	60	57	55	152	110	78	39	632	11
Jaisalmer	28	27	35	7	5	Nil	Nil	Nil	Nil	102	Nil
Jalore	19	27	37	25	28	12	41	23	6	218	1
Jhalawar	Nil	1	2	5	7	28	44	67	63	217	63
Jhunjhunu	2	36	69	50	23	20	31	15	2	248	Nil
Jodhpur	4	3	17	28	63	23	76	43	9	266	28
Kota	1	Nil	6	11	2	19	33	89	171	332	160
Nagaur	3	46	125	90	20	36	40	11	2	373	Nil
Pali	Nil	12	50	48	90	38	50	31	10	329	10
Sawai Madhopur	28	31	64	45	54	40	89	49	27	427	23
Sikar	10	43	57	46	38	25	58	16	3	296	1
Sirohi	6	9	18	21	15	10	33	18	4	134	4
Tonk	9	10	12	17	21	16	60	41	26	212	Nil
Udaipur	40	66	81	63	48	50	79	85	32	544	4
Total	280	495	980	832	901	725	1,377	1,232	805	7,727	559

Source: Registrar of Cooperative Societies, Rajasthan: Trend of Progress of Cooperative Societies in Rajasthan, 1972.

TABLE A.12.--Comparison Between the Cooperative Credit Societies in Rajasthan and Some All-India Averages, 1955-56 and 1970-71.

Basis of Comparison	1955-56		1970-71	
	All India Average	Average For Rajasthan	All India Average	Average For Rajasthan
Average Share Capital (Rs.)				
(a) Per Society				
(b) Per Member	2,721 35	505 18	12,771 67	8,902 55
Average Deposits (Rs.)				
(a) Per Society				
(b) Per Member	441 267	114 100	4,314 372	1,670 265
Average Loan Advanced (Rs.)				
(a) Per Society				
(b) Per Member	9,558 109	1,176 64	35,942 183	20,920 128
Average Membership Per Society	80	27	192	163

Source: Statistical Statements Relating to the Cooperative Movement in India (1955-56 and 1970-71) Reserve Bank of India (1957 and 1972).

TABLE A.13.—Working Capital, Owned Funds and Overdue Loans of the District Central Cooperative Banks in Rajasthan, June 30, 1971

District C. C. B. (1)	Working Capital (2)	Owned Funds (3)	Overdue Loans (4)	5 as a Ratio of 3 (5)	Excess of 4 Over Column 3 (6)
	---Thousand Rupees---			-----Percent-----	
Ajmer	14,107	2,590	4,492	31.8	73
Alwar	24,238	5,776	5,117	21.1	N.A.
Banswara	4,976	899	4,012	80.7	346
Barmer	8,215	1,805	3,573	43.5	98
Bharatpur	41,226	8,254	7,843	19.0	N.A.
Bhilwara	12,611	2,506	4,498	35.7	79
Bikaner	3,276	695	1,552	47.4	123
Bundi	8,823	1,840	3,490	39.6	90
Chittorgarh	14,383	2,636	6,450	44.8	144
Churu	3,925	1,003	2,166	55.2	110
Ganga Nagar	18,073	3,208	7,799	43.2	143
Dungarpur	3,822	801	2,102	55.0	162
Jaipur	18,716	4,029	8,543	45.6	112
Jalore	4,728	921	2,642	55.9	187
Jhalawar	14,559	2,606	3,143	21.6	20
Jhunjhunu	5,503	1,126	1,418	28.0	26
Jodhpur	13,081	2,724	4,134	31.6	52
Kota	33,136	5,954	9,817	29.6	65
Nagaur	14,125	2,538	4,730	33.5	86
Pali	10,607	2,513	8,752	82.5	248
Sawai Madhopur	9,523	2,313	3,546	37.2	53
Sikar	5,051	1,131	2,465	48.7	118
Sirohi	3,414	577	1,743	51.1	202
Tonk	9,740	1,957	3,068	31.5	57
Udaipur	9,477	2,119	4,204	44.3	98

Note: There is no separate C.C.B. in the District of Jaisalmer.
N.A. = Not Available.

Source: Registrar of Cooperative Societies Rajasthan: Trend of Progress of Cooperative Societies in Rajasthan, 1972.

TABLE A.14.--District-Wise Owned Funds, Overdues and Excess of Overdues Over Owned Funds at the Primary Level in Rajasthan (June 30, 1972) (Thousand Rupees)

District	Owned Funds	Overdues	Amount of Bad and Doubtful Debts	Excess of Overdues Over Owned Funds
	-----Thousand Rupees-----			-Percent--
Ajmer	4,241	5,770	1,363	31
Alwar	5,505	13,041	716	137
Banswara	994	1,863	616	88
Barmer	2,077	2,619	2,035	26
Bharatpur	10,733	21,114	1,334	97
Bhilwara	2,706	4,088	392	51
Bikaner	704	994	667	41
Bundi	2,120	1,767	601	. .
Chittorgarh	3,304	4,488	827	36
Churu	996	1,869	611	88
Dungarpur	803	1,064	792	32
Ganga Nagar	4,309	7,735	381	80
Jaipur	4,272	5,918	946	39
Jalore	1,132	973	1,074	. .
Jaisalmer	118	272	181	130
Jhunjhunu	960	997	225	4
Jodhpur	2,747	2,744	679	. .
Kota	10,532	16,272	1,639	55
Nagaur	2,528	5,176	1,246	105
Jhalawar	3,410	7,188	864	111
Pali	2,544	4,975	946	95
Sawai Madhopur	3,102	2,935	525	. .
Sikar	1,286	2,873	685	124
Sirohi	752	1,123	767	49
Tonk	1,947	3,191	107	64
Udaipur	3,456	3,284	1,288	. .

Source: Registrar of Cooperative Societies, Rajasthan: Trend of Progress of Cooperative Societies in Rajasthan, 1972.

TABLE A.15.--Cash Expenses on Different Inputs According to Size-Levels of Holdings in
HVP Areas in Rajasthan, 1968-69 (Per Acre Expenditure in Rupees)

Size Group (Acres)	Seeds	Fertilizers	Manures	Plant Protection	Irrigation	Labor	Others
Below 2.5	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
2.51 - 5.0	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
5.1 - 10.0	23.4	19.1	0	0	5.1	0	0
10.1 - 20.0	51.2	90.3	15.6	0	6.1	0	0
20.1 - 50.0	72.3	92.1	25.5	3.0	6.1	99.2	4.6
Over 50 Acres	53.1	107.8	0	0.9	4.8	101.5	2.1

Note: N.P. denotes for "no-participation" in the group.

Source: Ashok Mitra, "Agricultural Inputs for Small Farmers" Commerce Pamphlet,
No. 54-55, Bombay, Vora & Co., [1972].

**TABLE A.16.--Trend of Progress: The Jhalwar District Central Cooperative Bank Limited,
(1960-61-1971-72) (Amount in Thousand Rupees)**

Year	Number of Member Societies	Share Capital	Reserves	Deposits	Borrowings From the Apex Bank	Loans Advanced
1960-61	401	295	18	929	450	954
1961-62	361	386	18	1,024	1,205	2,280
1962-63	383	495	18	1,392	1,957	3,095
1963-64	415	696	30	1,721	2,635	4,667
1964-65	428	975	79	2,747	3,607	6,266
1965-66	431	1,428	153	2,474	4,338	6,749
1966-67	284	1,512	155	2,707	4,626	4,509
1967-68	289	1,674	155	2,556	4,637	5,543
1968-69	275	2,007	165	2,769	7,261	8,017
1969-70	264	2,287	227	3,178	6,946	4,739
1970-71	263	2,376	230	3,847	8,106	8,200
1971-72	265	2,421	228	4,025	8,435	2,215

TABLE A.16. Continued

Loans Out- standing	Of Which Percent of Overdue Loans	Owned Funds as Percent of Working Capital	Overdues as Percent of Owned Funds	Profit or Loss	Overdues as Percent of Working Capital
997	30	18.5	95	11	18
1,940	31	15.4	150	21	23
3,148	26	13.3	162	34	21
3,931	17	14.3	98	45	13
4,998	15	14.2	69	37	9
6,164	28	20.0	111	43	21
6,928	41	18.5	170	66	31
7,680	27	20.3	115	59	23
10,267	34	17.8	160	65	29
10,761	55	20.0	236	34	47
12,179	26	17.8	121	59	21
10,270	83	17.5	322	62	57

Source: Registrar of Cooperative Societies, Rajasthan: Trend of Progress of Cooperative Societies in Rajasthan, 1972.

TABLE A.17.--Scales of Finance for the Kind (b) Component
Recommended by the Jhalawar District Central
Cooperative Bank, 1971-72 (Amount in Rupees
Per Hectare)

Name of the Crop	Scale of Finance For 1970-71	Scale of Finance For 1971-72
Wheat (Irrigated)	122.5	500
Wheat (Unirrigated)	75	125
Barley	107.5	125
Gram	45	125
Linseed	57.5	125
Potatoes	110	500
Corriender	85	125
Peas	0	250
Chillies	162.5	250
Maize	150	125
Bajra	67.5	125
Jowar (Sorghum)	97.5	125
Paddy	137.5	500
Groundnuts	70	125
Opium	177.5	250
Sugar cane	337.5	375

Source: The Jhalawar Central Cooperative Bank Ltd.
Notification, Serial Number JKSB/Credit/71-72/
10341, dated February 28, 1972.

TABLE A.18.—Distribution of Owned Land Among the Members of Salri
Primary Cooperative Society (District Jhalawar) (1971-72)

Size Group (Hectares)	Number of Households	Net Cropped (Hectares)	Per House- hold Mean Holding (Hectares)	Percent of Total Number in the Group	Percent of Total Area in the Group
Less than 2.5	23	40.62	1.75	14	5.5
2.51 to 4.00	60	186.66	3.11	38	27.5
4.01 to 6.00	49	235.26	4.80	30	35.0
6.00 +	<u>29</u>	<u>213.44</u>	<u>7.36</u>	<u>18</u>	<u>32.0</u>
Total	161	675.98	4.20	100	100.0

Source: Data compiled from the field investigations of the
members of Salri Primary Cooperative Credit Society
in Jhalawar District, 1972.

TABLE A.19.--Distribution of Farm Households According to Asset-Groups, June, 1972.

Asset Group (Rupees)	Total Number of Households	Percentage of Total Assets In				
		Land	Residential Buildings and Structures	Livestock	Farm Business Equipment	Bullock Carts And Household Durables
Less than 3000	3	60.0	32.0	8.0	..	..
3001 - 6000	20	65.5	25.5	8.0	Neg.	1.0
6001 - 9000	17	68.0	17.0	12.6	1.4	1.0
9001 - 12000	48	67.2	18.0	11.5	1.8	1.5
12001 - 15000	41	66.9	20.2	10.0	1.4	1.5
15000+	32	65.9	23.1	9.1	1.0	0.9
Total	161	66.5	21.7	9.4	1.1	1.2

Note: According to 1961-62 AIRDIS, proportions of different forms of assets for Rajasthan were as follows: (Percent to Total Value)

Land 64.4; Residential Buildings and Structures 19.3; Livestock 7.7; Farm Business Equipment, Bullock-Carts 0.7; Household Durables 5.7.

Source: Data compiled from the field investigations of the members of Salri Primary Cooperative Credit Society in Jhalawar District, 1972.

TABLE A.20.--Financing of Different Cash Expenses by Sample Households.

Item	Source of Finance				Total
	Cooperative Credit	Money Lenders	Petty Traders	Owned Funds	
Stratum I (Less than 2.5 Hectares)					
Current Expenditure on Farm	2,700	2,750	. . .	1,139	6,589
Capital Expenditure on Farm	. . .	. . .	. . .	. . .	. . .
Household Expenditure	. . .	3,000	3,850	10,400	17,250
Sub-total	2,700	5,750	3,850	11,539	23,839
Stratum II (2.51 to 4.00 Hectares)					
Current Expenditure on Farm	13,892	8,500	. . .	9,886	32,278
Capital Expenditure on Farm	800	. . .	. . .	. . .	800
Household Expenditure	. . .	9,450	10,500	43,450	63,400
Sub-total	14,692	17,950	10,500	53,336	96,478
Stratum III (4.01 to 6.00 Hectares)					
Current Expenditure on Farm	17,037	3,500	. . .	27,738	48,275
Capital Expenditure on Farm	2,400	. . .	. . .	. . .	2,400
Household Expenditure	. . .	6,000	18,752	42,428	67,180
Sub-total	19,437	9,500	18,752	70,166	117,855
Stratum IV (Above 6 Hectares)					
Current Expenditure on Farm	18,775	2,000	. . .	21,034	41,809
Capital Expenditure on Farm	. . .	. . .	. . .	9,000*	9,000*
Household Expenditure	. . .	1,200	4,500	63,900	69,600
Sub-total	18,775	3,200	4,500	93,934	120,409
Grand total	55,604	36,400	37,602	228,957	358,581

Source: Data compiled from the field investigations of the members of Salri Primary Cooperative Credit Society in Jhalawar District, 1972.

*Loaned by Central Bank of India.

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