1961

An evaluation of farm credit cooperatives with special reference to the U.S.A. and India

Riaz Ahmad Khan
Iowa State University

AN EVALUATION OF FARM CREDIT COOPERATIVES

83 WITH SPECIAL REFERENCE TO THE

U. S. A. AND INDIA

by

Riaz Ahmad Khan

A Thesis Submitted to the

Graduate Faculty in Partial Fulfillment of

The Requirements for the Degree of

MASTER OF SCIENCE

Major Subject: Agricultural Economics

Signatures have been redacted for privacy

Iowa State University
Of Science and Technology
Ames, Iowa

1961

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	GENERAL FEATURES OF FARM CREDIT COOPERATIVES	4
	A. Review of Literature	4
	B. Historical Development of Farm Credit Cooperatives	12
	C. The Extent of Cooperative Finance to Agriculture and the Relative Importance of Farm Credit Cooperatives	23
	D. Farmers' Propensity to Cooperate	30
	E. Government Financial Participation in Farm Credit Cooperatives	32
	F. Farm Credit Cooperatives and Central Reserve Bank	41
	G. Organization of Cooperative Farm Credit System	51
	H. Purposes of Loans from Farm Credit Cooperatives	58
	I. Security Against Loans from Farm Credit Cooperatives	63
III.	OPERATIONS OF PRODUCTION CREDIT COOPERATIVES	68
	A. Number, Membership, and Geographical Coverage of Production Credit Cooperatives	68
	B. Financial Position of Production Credit Cooperatives	72
	C. Function of Production Credit Cooperatives	78
	D. Size of Production Credit Cooperatives	79
	E. Disbursement of Loans by Production Credit Cooperatives	83
	F. Liability in Production Credit Cooperatives	86
	G. Management of Production Credit Cooperatives	88
IV.	CONCLUSIONS AND SUMMARY	92
V.	LITERATURE CITED	97
VI.	ACKNOWLEDGMENTS	100
VII.	APPENDIX	101

LIST OF TABLES

		Page
Table 1.	Number of Federal land bank associations in the U. S. A., 1917-1960	13
Table 2.	Net worth of the cooperative banks and associations, 1953-1959	18
Table 3.	Progress of all types of cooperative societies in India, 1915-1958	21
Table 4.	Loans held by farm credit cooperatives in the United States, January 1, 1955-1961	24
Table 5.	Loans advanced by farm credit cooperatives in India, 1953-58	24
Table 6.	Amount of loans to farmers and per cent of total held by lenders, January 1, 1960	26
Table 7.	Proportion of farm loans from different agencies in India, 1951-52	28
Table 8.	Farm loans classified according to purpose duration and credit agency, 1951-52	29
Table 9.	Government-owned stock in the total stock of the Federal land banks, 1917-46	34
Table 10.	Interest reduction granted borrowers, for which the U. S. Treasury reimbursed the Federal land banks, 1933 through June 30, 1945	36
Table 11.	Government-owned capital in the banks for cooperatives, 1935-1960	38
Table 12.	Government investment in farm credit cooperatives in India and the U. S. A.	40
Table 13.	Intermediate credit bank debentures held by Federal Reserve Banks, 1923-32	44
Table 14.	Agricultural paper discounted by Federal Reserve Banks for intermediate credit banks, 1928-1932	44

		Page
Table 15.	Short-term loans to State Cooperative Banks made by the Reserve Bank of India, 1950-58	46
Table 16.	Medium-term loans to the State Cooperative Banks made by the Reserve Bank of India, 1954-58	47
Table 17.	Subscription to the debentures of the land mortgage banks made by the Reserve Bank, 1951-58	48
Table 18.	Long-term loans to State Governments made by the Reserve Bank of India, 1956-58	48
Table 19.	Primary agricultural credit societies--a purpose-wise classification of loans issued during 1957-58	60
Table 20.	Primary land mortgage bank loans classified according to purpose, 1956-57	61
Table 21.	Purpose-wise classification of primary land mortgage loans in Madras State, 1953-1956	62
Table 22.	Primary agricultural credit societies--security-wise classifications of loans outstanding in India, June 30, 1958	66
Table 23.	Number, membership of production credit associations and the total number of farms in the U. S. A., 1936-1960	69
Table 24.	Total number of production credit associations organized through June 30, 1958, and their status as of that date	70
Table 25.	Capital stock, accumulated earnings and the volume of loans business of the PCAs in the U. S. A., 1949-1959	73
Table 26.	Important balance sheet and income items for 16 Iowa PCAs for year and year ending Dec. 31, 1956, 1957, 1958, 1959	74

		Page
Table 27.	Paid-up share capital, reserves, working capital and the volume of loans business of the primary agri-societies in India, 1952-1958	75
Table 28.	Audit classification of the primary societies, 1952 and 1957	77
Table 29.	Growth of multi-purpose societies in India, 1946-1956	80
Table 30.	Membership, capital stock and loans of production credit cooperatives in India and the U. S. A. (Average per association or society)	82
Table 31.	Typical example of a budget PCA loan	85
Table 32.	Distribution of agricultural credit societies by nature of liability in India, 1949-1956	87
Table 33.	Proportion of overdues to loans outstandings, June 30, 1957	90
Table 34.	Currency exchange rates between India and the U. S. A., 1945-1960	101

I. INTRODUCTION

The farm credit problem has recently attracted increasing attention all over the world. In countries of commercialized agriculture, technological advances have led to increases in overall capital requirements of agriculture. In economically less developed countries lack of adequate credit facilities acts as an important impediment in the development of agriculture. The farm credit problem in the well developed and the less developed countries is, thus, identical in respect to the increased capital requirements of both the commercialized and developing agriculture. Nevertheless, the nature and character of the farm credit problem in the two groups of economies differs in some other aspects. The well developed economies possess institutions of long standing and considerable sophistication for the supply of credit to agricultural sector. In some advanced countries, for instance, both the commercial banks and more specialized financial institutions such as cooperatives provide credit to agriculture. The farm credit problem in such countries is more in the nature of efficient handling of farm credit to meet the increasing demand for credit and for low loan costs. In most of the less developed countries, on the other hand, inadequacy of credit stems directly from the absence of well organized and coordinated institutional farm credit systems. The private credit agencies which dominate the farm credit picture are often characterized by high interest rates charged and other questionable practices. The major problem in the less developed countries is, therefore, to establish a suitable credit machinery which is not only adapted to the needs of developing agriculture, but also appropriate to channelize the surplus earnings of agriculture for investment in its continuing development.

In many countries emerging from a subsistence economy status and in the early stages of economic development, cooperative form of organization is considered to possess great potentialities to serve as an effective agency for the provision of farm credit. Thus the recent development of farm credit cooperatives in some of the less developed countries and the long experience with the working of farm credit cooperatives in the well developed countries presents an interesting problem for study.

The present study attempts to evaluate the working of farm credit cooperatives in selected countries which are in different stages of economic development. The countries selected for the study are India and the U. S. A. The U. S. economy which has reached a maturity level possesses a long experience with the working of farm credit cooperatives. The Indian economy is in the early stages of economic development and the farm credit cooperatives in India have recently been reorganized to serve as the main agency for farm credit. A comparative study of the farm credit cooperatives in India and the U. S. A. will bring out the factors which promote or otherwise retard development of the cooperatives.

The evaluation of the farm credit cooperatives is based on a comparative analysis of selected features of the cooperatives. The study is divided into two major divisions; the first deals with general features of farm credit cooperatives. In the second division, attention has been focussed on the operations of production credit cooperatives. This is followed by the conclusions and summary.

The currency exchange rates between India and the U. S. A. for the years covered in this study are given in the Appendix.

II. GENERAL FEATURES OF FARM CREDIT COOPERATIVES

A. Review of Literature

A brief review of some important research studies on farm credit cooperatives and the main sources of information used in the present investigation are given below.

1. U. S. A.

Annual Reports of the Farm Credit Administration (28, 29) were used extensively. They cover work of the Cooperative Farm Credit System including information on the number, membership, loans advanced and outstanding, changes in capital structure, income and expenditure, etc. of the various banks and associations of the cooperative system. The reports also give a brief analysis of the major changes in economic conditions affecting the operations of the cooperatives.

"Agricultural Finance Review" (9) issued annually by the Farm Economic Research Division, United States Department of Agriculture, contains information on the lending operations of the cooperatives and other farm lending agencies. It also reviews various research projects in the field of agricultural finance in the State Agricultural Colleges and State Agricultural Experiment Stations.

Butz (4) made a critical examination of the working of the production credit system, its financial position, and the effect of Federal Government subsidy. The study indicated that the membership, volume of loans, and accumulated reserves of the production credit associations substantially increased during the period 1933-43. Losses on loans were low and the percentage of all the PCAs operating within member income increased from 36 to 63 during 1936-43. The Federal Government subsidy helped many PCAs build adequate reserves. The study concluded that many PCAs had accumulated sufficient member-owned capital and reserves to enable them to retire most of their government capital.

Troelston (24) made an appraisal of the production credit system in 1950. He observed that the system is adapted to the needs of middle class borrowers.

Murray and Nelson (12) in their book entitled "Agricultural Finance" discuss the principles and procedures involved in obtaining and granting farm credit; and analyze the various types of lending agencies and their role in the financing of agriculture. Basic elements in the profitable use of credit have been referred to as the three R's--<u>Returns</u>, <u>Repayment Capacity</u>, and the <u>Risk-bearing Ability</u>. The first R, Returns, refers to the most profitable amount of credit which can be used in the business. The other two R's, Repayment Capacity and Risk-bearing Ability indicate the limitations which may be necessary in some cases for the loan to be sound. It has been emphasized that both the borrower and the lender should consider all these factors in determining the amount of credit which can be used.

Evaluating the Federal land bank system, they (12, p. 379) observed:

> The relationship of reserves and surplus to member-owned stock is worth noting especially since some critics have implied at times that farmer-owned stock in the system may become worthless since it is held as collateral security for loans.... The combined reserves and surplus of the Banks and Associations are nearly three times the member-owned stock (as of June 30, 1959).

Arnold (2) made a study entitled, "1933-58. Farmers Build Their Own Production Credit System." The study reveals that the production credit system has made notable progress during the period 1933-58. Some of the important findings of the study are as follows:

1. Farmers have made a substantial investment in their production credit associations. On June 30, 1958, they owned capital stock amounting to $120 million in their 497 associations;
2. Farmers by their investments in capital stock have hastened the time when their PCAs could become fully member-owned. Of the 497 PCAs, 443 were completely member-owned on June 30, 1958.
3. Member-owned capital and accumulated reserves amounted to more than 98 per cent of the total net

worth of the PCAs;

4. Farmers have obtained 6 million loans for $18 billion during the period 1933-58; and

5. Total losses since the organization of the PCAs have been .21 per cent of the actual cash advanced.

Farm Credit Administration made a study entitled, "1917-1957. Years of Progress with the Cooperative Land Bank System" (34). The study analyzes the problems in the growth of Federal land bank system and reveals that the system became fully member-owned by 1947. The combined net worth of the banks and associations increased from $390,058,667 to $522,901,274 during the period 1951-56.

Farm Credit Administration made another study entitled, "Banks for Cooperatives a Quarter Century of Progress" (32). This study brings out the progress of the banks for cooperatives during the period 1933-1960. The banks for cooperatives increased their net worth from $112 million in 1934 to $262.3 million in 1960. Farmers' cooperatives made considerable progress towards the goal of complete farmer-ownership of the banks for cooperatives. Farmer-ownership of capital stock in the banks for cooperatives increased from $20.6 million to $45.9 million during the period 1955-60.

2. India

The Reserve Bank of India issues a number of publications which give detailed information on the cooperatives. "Statistical Statements Relating to the Cooperative Movement in India" (21) issued annually contains information on the number, membership, amount of loans advanced and outstanding, overdues, assets and liabilities, etc. of the primary agricultural credit societies, central cooperative banks and the state cooperative banks. The loans issued by the primary societies are further classified according to purpose and security.

"Review of the Cooperative Movement in India" (17) is issued every two years. It assesses the progress made by the cooperatives during the period under review.

Since their organization in 1904, farm credit cooperatives in India came under study of various committees of inquiry. In recent years, a comprehensive and nationwide fact-finding inquiry is the All India Rural Credit Survey. The All-India Rural Credit Survey (16) was conducted in 1951-52 by a Committee of Direction appointed by the Reserve Bank of India. The main object of the survey was to collect such information as would enable the Reserve Bank of India, the government of India and the State Governments in the formulation of long-term rural credit policies. The investigations extended over nearly 130,000 families resident in 600 villages and all the various types of credit agencies in 75 selected districts spread all over the country. The data collected covered all important aspects of the working of the system of rural credit in 75 districts. On the demand aspect of credit, information was obtained on indebtedness, borrowings and repayments, estimated credit requirements of farm families, etc. The supply aspect dealt with the agencies of credit such as moneylenders, cooperative institutions and government (the extent of financing done by each, and the character of the operations, including the terms and conditions attached to loans, etc.). As one of the main objects of the survey was to study the working of cooperative credit, half the number of villages selected for investigation were those in which primary cooperative credit societies existed, and the other half were those where such societies did not exist. The Report of the Committee of Direction has been published in three volumes. Volume I, the Survey Report, contains discussions on the results of the Survey. Volume II, the General Report, contains the recommendations of the committee. Volume III, the Technical Report, contains a description of the technique of the Survey and the various statistical statements prepared from the data.

After a thorough examination of the working of the cooperatives and the alternative solutions to the problem of rural credit in India, the All-India Rural Credit Survey

Report concluded, "Cooperation has failed; but cooperation must succeed." The report attributed the failure of cooperative credit to socio-economic factors, functional, structural, and administrative defects in the cooperatives, dearth of suitable personnel, lack of training, a background of illiteracy, competition from moneylenders, etc. The recommendations of the report covered an integrated scheme based on three principles, namely: (1) state partnership in credit cooperatives; (2) coordination of credit with other economic activities such as marketing and processing; and (3) administration through properly trained personnel.

In pursuance of the recommendation of the All-India Rural Credit Survey Report, the Reserve Bank of India has planned annual Rural Credit Follow-up Surveys (19, 20). The annual surveys have two main objects. The first is the collection of statistical data relating to changes in the "demand" side of credit. The second is the assessment of the performance of cooperatives, the "supply" side of credit. Two follow-up surveys have been completed so far. The first survey was conducted in eleven districts, with May, 1956, to April, 1957, as the period of reference. The second survey was conducted in twelve districts, with May, 1957, to April, 1958, as the period of reference.

The two surveys throw light on the comparative position of the cooperatives in 1956-57 and 1957-58 with 1951-52. The surveys reveal that the development of the cooperatives is uneven in the selected districts. For instance the proportion of families which were members of the cooperatives to the total cultivating families in 1957-58 ranged between 7 and 77 per cent (20, p. 118) in the selected districts. In regard to state partnership in share capital of the cooperatives, the surveys reveal that in most districts the targets fixed were not achieved.

Murray (10) in an article entitled "Evaluation of India's Rural Credit Problem" critically examines the strong case which the All-India Rural Credit Survey Report makes for cooperation as the eventual solution of India's rural credit difficulties. His analysis concentrates on the weaknesses of the cooperatives pointed out by the Survey Report and the early experience of the United States in the working of cooperatives. He agrees with the authors of the Report that cooperation provides a solution to India's rural credit problem but holds that all rural credit should not be cooperative. He questions the exclusion of moneylenders, the largest suppliers of credit, from the pattern of future rural credit. Accordingly, he suggests a modification to the cooperative solution to use private bankers and moneylenders in some manner because their experience and knowledge of the cultivators will be hard to replace. He further suggests:

> In fact it might be desirable to have a few of the more socially minded bankers and moneylenders, if there are such, in the cooperatives because their influence might provide a stability which would prevent unwise lending sprees.

B. Historical Development of Farm Credit Cooperatives

In order to have a proper perspective of the study, a brief account of the historical development of farm credit cooperatives in India and the U. S. A. is given below.

1. U. S. A.

a. Land bank system The Federal Farm Loan Act of 1916 marked the beginning of the cooperative farm credit system in the U. S. A. The act authorized the establishment of the 12 Federal land banks (the country was divided into 12 Federal land bank districts) to make farm mortgage loans to farmers through cooperative national farm loan associations (the name of the associations was changed to Federal land bank associations effective December 31, 1959). The government provided financial aid to the land bank system, both directly and indirectly. Practically all the initial capital was provided by the government. The Federal Farm Loan Board in the Treasury department provided general supervision at public expense. In addition, the bonds of the land banks were exempted from taxation until 1941 (9, p. 14).

The land banks retired all government-owned capital by 1947 and since then the banks have operated without using any government funds. The number of the Federal land bank associations during the period 1917-1960 is given in Table 1.

Table 1 indicates that the number of the Federal land bank associations decreased considerably during the period 1917-1960. This is due to consolidation of the territories of the associations. The consolidation program was started in 1934 to develop the associations into sound economic units.

Table 1. Number of Federal land bank associations in the U. S. A., 1917-1960

Year	Number of associations
As of Nov. 30	
1918[a]	3,365
As of Dec. 31	
1928	4,670
1938	4,205
1948	1,241
1959[b]	856
1960	817

[a]Source: U. S. Farm Credit Administration (34, p. 44).

[b]Source: U. S. Farm Credit Administration (35, p. 1).

b. Farm Credit Administration The Farm Credit Administration created by Executive Order of the President effective May 27, 1933, brought together under one administrative agency all the government-sponsored farm credit agencies existing at that time. A month later, the Congress passed the Farm Credit Act of 1933 providing for the organization of production credit corporations, production credit associations and the banks for cooperatives. This rounded out the foundation for what is now the cooperative farm credit system operating under the supervision of the Farm Credit Administration. The Farm Credit Administration headed by a Governor was created an independent agency of the Federal Government, responsible to the President. In 1939, it was placed in the Department of Agriculture where it remained until 1953. The Farm Credit Act of 1953 re-established the Farm Credit Administration as an independent agency which now operates under the policies established by a 13-member Federal Farm Credit Board.

c. Production credit system The 12 production credit corporations were organized in 1933 to assist farmers in organizing production credit associations, to supervise their operations and to provide a part of the initial capital of the associations. To capitalize the production credit corporations, the Congress provided a revolving fund of $120 million (2, p. 69).

The production credit associations are local cooperative organizations. The number of production credit associations chartered during 1933-36 was 663. The consolidation or liquidation of the associations in subsequent years reduced the number to 448 as of December 31, 1960. The membership of the associations increased from 242,616 to 514,790 during the period 1936-1960.

The production credit associations obtain funds for short-term and intermediate loans for their members from the Federal intermediate credit banks. These banks established in 1923 were wholly capitalized by the government with no provision for retirement of government-owned capital. In 1957, the production corporation was merged in the Federal intermediate credit bank in each farm credit district. The Federal Intermediate banks now assist and supervise the production credit associations.

d. Banks for cooperatives   The 12 district banks for cooperatives and a central bank for cooperatives were organized in 1933 to make loans to farmers' cooperative business associations. These associations are engaged in marketing of farm products, purchasing of farm supplies, and furnishing farm business services. The Congress provided $110 million (32, p. 51) to purchase capital stock in the banks for cooperatives. Farmer-membership in cooperatives numbered nearly 8 million in 1958 compared to 3 million in 1933. The cooperatives in the marketing year 1957-58 did a gross business volume of about $14 billion a year, compared with $1.3 billion in 1932-33.

e. Farmer participation in the management and control of the cooperative farm credit system The Farm Credit Act of 1953 provided for increased farmer participation in the management and control of the cooperative farm credit system. It was envisaged through (1) establishment of the Federal Farm Credit Board; and (2) an increase in the elected members of the district Farm Credit Boards.

f. Member ownership of the cooperative farm credit system The Farm Credit Act of 1953 established Congressional policy of increasing borrower participation in ownership of the cooperative farm credit system. The Federal Farm Credit Board was required by the Farm Credit Act of 1953 to devise ways and means of carrying out the policy of Congress of farmer ownership of the cooperative credit institutions. The recommendations of the Board were implemented by subsequent acts passed by the Congress.

The Farm Credit Act of 1955 provided for cooperatives, that use the banks for cooperatives, to build up their ownership stock in the banks and to repay gradually government capital. The banks will be completely owned ultimately by the cooperatives which use them. The ownership stock of the cooperatives in the banks for cooperatives increased from

$18.3 million as of June 30, 1955, to $45.9 million (32, p. 51) as of June 30, 1960.

The Farm Credit Act of 1956 provided for the merger of production credit corporation in the Federal intermediate credit bank in each farm credit district. The act provided for the purchase of capital stock of the banks by production credit associations and retirement of all government-owned stock in the banks. As a result, the production credit associations have acquired capital stock of the banks amounting to $23.6 million (29, p. 40) as of June 30, 1960.

g. Developments and improvements in the system Many improvements in the operation of the cooperative farm credit system resulted partly from the above-mentioned legislative changes and partly from administrative action. The volume of loans outstanding of all the banks and associations increased from $2.2 billion as of December 31, 1953, to $4.4 billion (36, p. 4) as of December 31, 1959. While substantial amounts of government capital in the banks and associations (PCAs, FLBAs, FLBs, FICBs, Banks for cooperatives) were repaid to the Treasury, their total net worth increased during the period 1953-59 as shown in Table 2.

2. India

a. Short-term and intermediate-term cooperative credit system The cooperative farm credit system in India was

Table 2. Net worth of the cooperative banks and associations, 1953-1959[a]

	Dec. 31, 1953	Dec. 31, 1959	Change
Government capital	277.2[b]	219.2	- 58.0
Farmer capital	185.4	336.4	+151.0
Surplus and reserves	531.9	650.2	+118.3
Total net worth	994.5	1,205.8	+211.3

[a]Source: U. S. Farm Credit Administration (36, p. 5).

[b]Millions of dollars.

introduced with the passing of the Cooperative Credit Societies' Act of 1904. The act provided for the organization of primary agricultural credit societies to supply credit to farmers. The societies were to raise funds through member deposits and loanable funds from non-members. The act also authorized the State Governments to appoint Registrar Cooperative Societies to assist in organizing primary societies, to supervise their operations, and to audit their accounts.

The working of the 1904 act revealed certain defects. In the first place, it did not provide for the organization of central institutions such as central cooperative banks which were needed to finance the primary societies. Secondly, the act did not provide legal basis for noncredit societies such as marketing and supply societies. The act of 1904 was, therefore, amended in 1912. The amended act gave recognition to central financing institutions and extended the scope of the cooperatives to spheres other than credit.

The government appointed the Maclagon Committee in 1914 to review the working of the cooperative credit system. The committee recommended the establishment of a State Cooperative Bank to control and coordinate the activities of the central cooperative banks in each state. The State Cooperative Banks were, thus, established in most of the states.

b. Opposition to cooperatives In the initial stages, the cooperatives met with serious opposition from vested interests. The moneylender in particular realized that the success of the cooperatives would mean his displacement. In addition, the persons who administered civil law mainly came from nonagricultural classes. They had a bias in favor of the moneylender and against the cooperatives. L. Langley, the Registrar of Cooperative Societies, Punjab, refering to this opposition in the Annual Report of 1912 (37, p. 8) observed:

> The Munsifs (Judges), as a body, are recruited largely from the moneylending or small shop owner classes so that many of them have a class prejudice against the village banks. This is shown in the way of vexatious and even illegal action towards parties who happen to be members of cooperative societies and by insulting treatment of them in court. It is not an uncommon practice for a

> moneylender to put some members of a newly started bank into court with the object of frightening the other members who are also on his books from joining a society. Once the client is in court, many and various are the ways in which a hostile Munsif (Judge) can persecute him.

c. Growth of cooperatives With the passing of the government of India Act 1919, cooperation became a state subject in the charge of a Minister responsible to the State legislature. Committees were constituted to inquire into the position of the cooperatives in the various states. Many States passed their own acts suiting their requirements and replaced the All India Act of 1912. This gave impetus to the cooperatives. In addition the economic prosperity between 1920 and 1929 facilitated expansion of the cooperatives. There was thus a rapid increase in the number, membership and working capital of the societies as shown in Table 3.

Table 3 indicates rapid increase in the number, membership and working capital of credit and noncredit primary societies during the period 1916 to 1930. The progress of the societies was, however, retarded during the depression of the 1930's.

d. Long-term cooperative credit system The first land mortgage bank to advance long-term credit to farmers was organized in 1920 in the Punjab. In the following years, a few more banks came into existence. The depression of the

Table 3. Progress of all types of cooperative societies in India, 1915-1958

End of June	All societies: Number (in thousands)	All societies: Working capital (in thousands of rupees)	Membership of primary societies (in thousands)
1915[a]	12	50000	500
1920	28	150000	1100
1925	58	360000	2200
1930	94	750000	3700
1935	106	950000	4300
1940	117	1050000	5100
1945	150	1240000	7200
1950	173	2330000	12600
1955	219	3910000	16000
1958[b]	257	6960000	21000

[a]Source: Reserve Bank of India (17, p. 2).

[b]Source: Reserve Bank of India (21, p. 3).

1930's and the resultant fall in land values adversely effected the financial position of these banks.

The lead given by the Punjab was followed by other States. In Madras, the progress of the land banks was slow till the establishment of a central land mortgage bank in 1929. The bank centralized the issue of debentures of the primary land mortgage banks in the State. The structure of the land mortgage banks in the Madras was followed by other States.

3. India and the U. S. A. compared

To sum up the historical development, it may be noted that the cooperative farm credit system in India began earlier than the U. S. A. The systems in both the countries were, also, completed through various stages. The order of development of the various cooperatives constituting the cooperative system is, however, different in the two countries. In India, the production credit cooperatives and the marketing cooperatives were started earlier than the farm mortgage credit cooperatives. In the U. S. A. the latter preceded the former. The reason for the different order of development of the various cooperatives may be traced back to the agricultural credit situations in the two countries. In India, production credit facilities available to farmers before the organization of primary agricultural credit societies were inadequate. The private moneylenders and traders, who supplied the bulk of credit to farmers were very exacting in their terms. These conditions, therefore, provided an incentive to organize primary credit societies. In the U. S. A., the commercial banks supplied a relatively large proportion of the credit required by farmers. The need for the organization of production credit associations and banks for cooperatives was not felt until after the breakdown of commercial bank credit and the crash in agricultural prices during the depression of the 1930's. The farm mortgage credit cooperatives were, however, organized at about the same time in both the countries. These cooperatives also came about largely as a result of the lack of long-term credit facilities. In India, there was no institutional source of long-term credit except the agency of the State Governments. In the U. S. A., farmers had no long-term credit system specifically adapted to meet their needs. Interest rates on long-term loans were high and the loan period rarely exceeded three to five years. In times of financial stringency renewals often were refused.

Another important feature in the historical development of the cooperatives is the role played by the governments, both in India and the U. S. A. This feature will be further elaborated later.

C. The Extent of Cooperative Finance to Agriculture and the Relative Importance of Farm Credit Cooperatives

As a preliminary to the present study, the extent of cooperative finance to agriculture and the relative importance of farm credit cooperatives in the overall farm credit picture of India and the U. S. A. is discussed below.

It is evident from Tables 4 and 5 that the farm credit cooperatives both in India and the U. S. A. have been providing credit to farmers on an increasing scale during the last few years.

The relative importance of farm credit cooperatives in the overall farm credit picture of India and the U. S. A. may be indicated by the share furnished by them in the total farm indebtedness.

Table 4. Loans held by farm credit cooperatives in the United States, January 1, 1955-1961[a]

Year	Production credit associations	Federal land banks	Banks for cooperatives
	(In thousands of dollars)		
1955	576,997	1,279,787	361,615
1956	644,449	1,480,204	370,683
1957	699,283	1,722,381	457,108
1958	885,918	1,897,187	454,452
1959	1,114,693	2,065,372	509,829
1960	1,361,198	2,334,795	622,433
1961	1,479,805	2,538,425	648,859

[a]Source: American Bankers Associations (1, pp. 30-33).

Table 5. Loans advanced by farm credit cooperatives in India, 1953-58

Year	Primary agricultural credit societies	Primary land mortgage banks	Primary marketing societies
	(In thousands of rupees)		
1953-54[a]	296400	19200	74300
1954-55	354800	24300	68100
1955-56	496200	28300	88400
1956-57[b]	673300	N.A.	N.A.
1957-58	960800	25166	93202

[a]Source: Reserve Bank of India (17, pp. 17-18, 45, 82).

[b]Source: Reserve Bank of India (21, pp. 1, 115, 126).

1. U. S. A.

In the U. S. A., the major lenders financing agriculture are commercial banks, insurance companies, merchants and dealers, the cooperative farm credit system and the Farmers Home Administration. The volume of outstanding loans held by various lenders is shown in Table 6.

Table 6 indicates that the cooperative farm credit system accounts for 16.6 per cent of the total farm indebtedness as of January 1, 1960. In the farm real estate lending, individuals and miscellaneous lenders as a group hold the largest proportion of the outstanding loans. As of January 1, 1960, they held 41.3 per cent of the total. Insurance companies are the second most important source of long-term credit with 22.9 per cent of the total. The Federal land banks occupy third place with 19.0 per cent and the commercial banks are fourth with 13.2 per cent of the total. Farmers Home Administration held relatively small proportion of the farm real estate loans. In the long-run the relative position of the various lenders is not static. As Murray and Nelson (12, p. 267) put it:

> The relative importance of the various groups has changed in the past and probably will change in the future as economic conditions and alternative investment opportunities change.

Table 6. Amount of loans to farmers and per cent of total held by lenders, January 1, 1960[a]

Lender[b]	Amount (millions)	Per cent of total
Real estate loans		
Federal land banks	$ 2,335	19.0
Insurance companies	2,820	22.9
Commercial banks	1,625	13.2
Farmers Home Administration	437	3.6
Individuals and others	5,072	41.3
Total real estate loans	12,289	100.0
Non-real estate loans		
Production credit associations[c]	1,361	12.9
Federal intermediate credit banks[d]	90	.9
Commercial banks	4,814	45.6
Farmers Home Administration	396	3.7
Individuals and others	3,900	36.9
Total non-real estate loans	10,561	100.0
Total loans to farmers		
Held by cooperative farm credit system	3,786	16.6
Held by other lenders	19,064	83.4
Total farm indebtedness	22,850	100.0

[a]Source: U. S. Farm Credit Administration (29, p. 6).

[b]Data do not include Alaska, Hawaii or Puerto Rico.

[c]Excludes loans guaranteed by Commodity Credit Corporation.

[d]Loans to and discounts for financing institutions other than production credit associations.

Citing Table 6 again, the commercial banks predominate the non-real estate financing of agriculture. As of January 1, 1960, they held 45.6 per cent of the total loans outstanding. Individuals and miscellaneous lenders are second with 36.9 per cent and the production credit associations rank third with 12.9 per cent of the total.

2. India

In India, the main farm credit agencies are government, cooperatives, professional moneylenders, landlords, traders and commission agents, and relatives. The role played by these agencies in supplying loans to farmers is brought out in Table 7.

Table 7 indicates that the private creditors--professional moneylenders, agriculturist moneylenders, relatives, traders and landlords--supplied about 93 per cent of the total amount borrowed by farmers during the year 1951-52. The government supplied as little as 3.3 per cent and the cooperatives the equally insignificant proportion of 3.1 per cent.

A more detailed break-up of the loans according to purpose, period and credit agency is given in Table 8.

Table 8 brings out the same pattern as noted in Table 7--the contribution of the cooperatives is small in the total context. Cooperatives role was somewhat significant in the

Table 7. Proportion of farm loans from different agencies in India, 1951-52[a]

Agencies		Per cent of loans from each agency to total loans
Government		3.3
Cooperatives		3.1
Relatives		14.2
Landlords		1.5
Agriculturist moneylenders		24.9
Professional moneylenders		44.8
Traders and commission agents		5.5
Commercial banks		0.9
Others		1.8
	Total	100.0

[a]Source: Reserve Bank of India (16, p. 167).

case of loans for short term agricultural purposes and for repayment of old debts. Consumption loans from the cooperatives are relatively small.

The implementation of the recommendations of the All-India Rural Credit Survey Report gave a fillip to the development of farm credit cooperatives. Consequently, the contribution of the cooperatives in the total credit used in agriculture has been estimated at about 10 per cent (6, p. 71) for the year 1956-57.

3. India and the U. S. A. compared

In summary, farm credit cooperatives in the U. S. A. meet a relatively large proportion of the credit requirement

Table 8. Farm loans classified according to purpose duration and credit agency, 1951-52[a]

Purpose-duration	Loans from this agency as percentage of total loans					
	Government	Cooperatives	Agri-moneylenders and landlords	Professional moneylenders and traders and commission agents	Others (Commercial banks, relatives and other)	Total
Agricultural						
Short-term	2.8	11.3	36.2	35.2	14.5	100.0
Long-term	6.0	2.4	41.5	31.9	18.2	100.0
Non-agricultural						
Short-term	-	0.5	26.9	38.6	34.0	100.0
Long-term	0.6	-	6.2	85.8	7.4	100.0
Consumption						
Short-term	2.1	2.2	32.7	43.5	19.5	100.0
Long-term	1.0	0.9	38.7	37.2	22.2	100.0
Repayment of old debts	0.8	8.7	52.3	23.2	15.0	100.0
Others	0.8	2.4	25.0	59.9	11.9	100.0

[a]Source: Jakhade (8, p. 265).

in agriculture compared with the cooperatives in India. In the U. S. A. the proportion of loans from cooperatives to total farm loans was 16.6 per cent as of January 1, 1960. In India, the comparable proportion was about 10 per cent for the year 1956-57. It may, thus, be concluded that the farm credit cooperatives in the U. S. A. have reached a higher stage of development than the cooperatives in India.

D. Farmers' Propensity to Cooperate

Cooperation is a voluntary association of individuals to ameliorate their economic and moral condition. Cooperation emphasizes local initiative, self-help, and collective responsibility. The success of cooperative institutions, therefore, depends ultimately on voluntary participation and active interest of the individual members.

Farmers in India and the U. S. A. greatly differ in their propensity to cooperate for social and economic benefits. A number of socio-economic factors account for this difference. Voluntary association is a unique characteristic of the American society. Where did it come from? It is both psychic and historic. Tocqueville (23, p. 196) refering to the evolution of voluntary association in the U. S. A. observed:

> Men attend to the interests of the public, first by necessity, afterwards by choice: what was intentional becomes an instinct; and by dint of

> working for the good of one's fellow citizen, the habit and the taste for serving them is at length acquired.

The voluntary assumption of responsibility is deep-driven in the American personality. It is so proliferated throughout the society that there are, at present, in the U. S. A. a vast number of voluntary groups for constructive purposes--social and economic. Each of these groups is self-perpetuating, self-controlled and totally voluntary. To name only a few of the voluntary groups are the Grange, Farm Bureaus, Fair Groups, Future Farmers of America, the Kiwanis, the Lions, etc.

It is this habit of voluntary assumption which may be a significant factor contributing to the development of farmers' credit cooperatives. There were in the U. S. A. 817 (35, p. 27) Federal land bank associations and 494 (29, p. 31) production credit associations as of June 30, 1960.

In India, religion, caste system, party factions, and social status act as an impediment to voluntary association. The fatalistic outlook of the village masses inhibits to a certain extent initiative to improve their economic condition through individual and cooperative effort. The caste system and the existing disparity in social and economic status has led to a lack of mutual understanding basic to cooperation. In recent years, however, farm credit cooperatives have made steady progress. For instance, the number of primary agricultural credit societies in India rose from 105,000 to 183,000 (7, p. 163) during the period 1950-51 to 1958-59.

In conclusion, the diverse socio-economic setting in India and the U. S. A. which conditions farmers' propensity to cooperate may partly explain the different record of the cooperatives in the two countries.

E. Government Financial Participation in Farm Credit Cooperatives

Government in India and the U. S. A. has been instrumental in the development of farm credit cooperatives. The government in both the countries initiated the cooperatives; provided a regulatory and supervisory mechanism; and gave financial assistance to them. Government financial assistance to the cooperatives in the two countries is discussed below.

1. U. S. A.

a. Federal land banks   The U. S. Federal Government first financial assistance to the Federal land banks took the form of interest-free subscription to their capital stock. The Federal Farm Loan Act of 1916 authorized the establishment of 12 Federal land banks with a subscribed capital stock of not less than $750,000 each. Any part not subscribed by the public within 30 days was to be subscribed by the Secretary of the Treasury. The investing public subscribed a total of $107,870 (34, p. 14) only. The Secretary of the Treasury, as required by law, subscribed $8,892,130 to make the required capital stock of $9,000,000 of the 12 Federal land banks. After capital stock subscriptions by associations and borrowers equalled $750,000, the capital stock held by the government was to be retired.

An amendment to the 1916 act in 1932 authorized the Secretary of the Treasury again to subscribe $125,000,000 (34, p. 31) in capital of the 12 Federal land banks. Out of this amount $25,000,000 was to be used in place of amounts which the banks might be deprived of by granting extension in loan repayments.

In addition to the capital stock subscription, the U. S. Federal Government has contributed to the paid-in surplus account of the land banks. The Emergency Farm Mortgage Act of 1933 authorized to grant extensions of time to worthy Federal land bank borrowers who through no fault of their own were unable to meet the payments on their loans. The Secretary of the Treasury was required to subscribe to paid-in surplus of the banks in amounts equal to principal payments deferred and loan installments, tax, insurance, and other advances extended. A total of $189 million (34, p. 31) was subscribed to paid-in surplus which the land banks used during the years 1933-1947. The government-owned stock in the total stock of the 12 Federal land banks during the period 1917-46 is shown in Table 9.

Table 9 indicates that the Federal land banks retired all government-owned capital by 1947. Since then the banks have operated without using any government funds.

Table 9. Government-owned stock in the total stock of the Federal land banks, 1917-46[a]

As of Dec. 31	U. S. Government	Total	Percent of total owned by government
1917	$ 8,892,130	$ 10,938,303	81.3
1922	4,264,880	37,002,915	11.5
1927	710,651	62,126,861	1.1
1932	125,046,410	189,047,843	66.1
1937	124,121,595	237,965,510	52.2
1942	117,176,065	217,506,258	53.9
1947	-	56,954,515	0

[a]Source: U. S. Farm Credit Administration (34, p. 47).

In addition to the capital stock and paid-in surplus subscriptions, the Federal Government also made contribution to the income of the banks in the form of a reimbursement to carry out a credit policy instituted as part of a public program to assist agricultural debtors. The Emergency Farm Mortgage Act of 1933 provided for a reduction in the interest rate payable on Federal land bank loans to 4 1/2 per cent regardless of the contract rate. A subsequent amendment to the act in 1935 reduced the interest rate payable still further to 3 1/2 per cent on loans through the national farm loan associations which remained in effect until June 30, 1945. The U. S. Treasury reimbursed the land banks for such interest reductions which constituted an indirect help to the banks. The amounts of reimbursements to the banks by the Treasury during the period 1933-45 is shown in Table 10.

The Federal government also participated in the marketing of land bank bonds. The bonds of the banks were exempted from taxation until 1941. The banks encountered difficulties in the marketing of the bonds in the early period of their operations. To relieve this situation, the U. S. Treasury purchased $183,035,000 (34, p. 21) of bonds until 1921 which were later redeemed by the land banks. The banks again encountered difficulties in the marketing of their bonds during the depression of the 1930's. The Federal Farm Mortgage Corporation established in 1934 provided a market for the land bank bonds. The Federal land bank bonds outstanding held by the Federal Farm Mortgage corporation amounted to $781,129,840 (9, p. 16) as of December 31, 1940. The land banks later redeemed these bonds.

<u>b. Production credit system</u> The Farm Credit Act of 1933 provided a revolving fund of $120 million to be used in capitalizing the production credit system. By March, 1935, the entire $120 million was invested in capital stock

Table 10. Interest reduction granted borrowers, for which the U. S. Treasury reimbursed the Federal land banks, 1933 through June 30, 1945[a]

Federal land bank of--	Interest reduction granted borrowers 1933 through June 30, 1945
Springfield	$ 10,368,204
Baltimore	12,039,525
Columbia	11,202,002
Louisville	27,361,168
New Orleans	14,175,954
St. Louis	24,452,673
St. Paul	40,766,297
Omaha	49,423,377
Wichita	22,331,524
Houston	31,504,382
Berkeley	16,476,681
Spokane	17,020,902
Total	$277,122,689

[a]Source: U. S. Farm Credit Administration (26, p. 95).

of the 12 production credit corporations. The production credit corporations, in turn, purchased capital stock in the production credit associations. By 1944, as the associations were growing in capital strength owned by members, a voluntary program of returning capital to the revolving fund of the Treasury was begun. A total of $90,765,000 (2, p. 70) out of the $120 million revolving fund was returned from the production system to the U. S. Treasury at the end of June, 1956. The 12 production credit corporations were merged in the 12 Federal intermediate credit banks as of January 1,

1957. The paid-in capital of the Federal intermediate credit banks on December 31, 1956, amounted to $60 million. The merger of the production credit corporations into the Federal intermediate credit banks added $27.4 million of capital to the banks making a total of $87.4 million (29, p. 39) as of January 1, 1957. From January 1, 1957, to June 30, 1958, the banks paid $9.2 million (27, p. 37) in retirement of government capital. In subsequent years, the government again subscribed to the capital stock of the Federal intermediate credit banks. This was due to continued large increase in borrowings by the banks to meet the loan and discount demands of production credit associations and other financing institutions. As a result the government-owned capital in the banks was $92 million (29, p. 39) as of June 30, 1960.

c. Banks for cooperatives As in the case of the other parts of the cooperative farm credit system, the Federal Government provided $110 million (32, p. 51) to capitalize the 13 banks for cooperatives. As the business of the banks expanded which necessitated more capital stock, the government made additional subscriptions to their capital stock. The government-owned capital in the banks for cooperatives for different intervals is shown in Table 11.

Table 11 indicates that the government-owned stock in the banks for cooperatives decreased from a peak level of $178.5 million in 1945 to 118.3 million in 1960 as farmers'

Table 11. Government-owned capital in the banks for cooperatives, 1935-1960[a]

June 30	Government-owned stock (millions)	Farmers' cooperative-owned stock (millions)
1935	$ 125	$ 1.4
1940	149.0	3.4
1945	178.5	5.5
1950	178.5	14.1
1955	150.0	18.3
1960	118.3	45.9

[a]Source: U. S. Farm Credit Administration (32, p. 51).

cooperatives-owned stock increased.

2. India

Farm credit cooperatives in India were started in 1904 without financial assistance from the government. The government, however, allocated substantial financial assistance to the cooperatives in the Second Five Year Plan (1956-61). The plan provided for contribution by State Governments to the share-capital of the cooperative institutions such as State cooperative banks, central cooperative banks, agricultural credit societies, central land mortgage banks and marketing societies. The contribution to the share capital of the cooperatives amounted to rupees 16,49,06,000 (17, p. 10) as of June 30, 1958. In addition to the share capital contribution, the plan also provided for rupees 422500000 for the development of cooperatives. The cooperative development plans included subsidies to larged sized cooperative societies for employing paid secretaries; promotion of warehousing facilities on cooperative basis; and training of cooperative personnel. Provision was also made in the plans for the creation of relief and guarantee funds by the State Governments to be employed for writing off irrecoverable debts due to cooperative credit institutions arising from natural calamities.

3. India and the U. S. A. compared

In summary, a comparison of government investment in farm credit cooperatives in India and the U. S. A. is shown in Table 12.

Table 12 indicates that the government in the U. S. A. provided original capital to the financing agencies of the farm credit cooperatives viz., the Federal land banks, the Federal intermediate credit banks and the Banks for Cooperatives. The production credit associations also were capitalized partly with government funds. The government again put money into the financing agencies as necessitated by economic conditions in the country. For example, government-owned funds into the Federal land banks and production credit associations were at a maximum level during the depression of the 1930's. Another noteworthy feature of the government

Table 12. Government investment in farm credit cooperatives in India and the U. S. A.

Organization	Date of organization	Original government investment	High point of government investment: Amount	High point of government investment: Date	Government investment Year--1960
	U. S. A. (Thousands of dollars)				
Federal land banks	1916	$ 8,892	$125,046	1932	Nil
Federal intermediate credit banks	1923	60,000	92,000	1960	$ 92,000
13 Banks for cooperatives	1933	110,000	178,500	1945	118,300
Production credit associations	1933	N. A.	90,000	1934	895
	India (Thousands of rupees)				Years--1956-61
Primary agricultural credit societies	1904	Nil	Nil	Nil	
Primary marketing societies	1912	Nil	Nil	Nil	
Central cooperative banks	1912	Nil	Nil	Nil	Rs164906
State cooperative banks	1915	Nil	Nil	Nil	
Central land mortgage banks	1920	Nil	Nil	Nil	
Cooperative development schemes					422500

financial participation is the length of time for which the various cooperative organizations in the U. S. A. made use of government funds. The Federal land banks used government funds for 30 years. The Federal intermediate credit banks, the banks for cooperatives and the production credit associations are still using government funds since their organization. In India, the financing agencies of the farm credit cooperatives and the local cooperative societies were organized without financial assistance from the government. The government financial participation in the cooperative institutions began in 1956--over fifty years after the beginning of the cooperative farm credit system in the country.

In conclusion, government financial participation from the very beginning in the farm credit cooperatives in the U. S. A. has contributed to their development. In India, the relatively low level of development of the cooperatives may be attributed partly to the belated government financial participation.

F. Farm Credit Cooperatives and Central Reserve Bank

The primary function of the central banks all over the world is to regulate the short-term money market with a view to insuring sound monetary and banking conditions. Some of the central banks have, however, extended the scope of their operations beyond the sphere of pure regulation. Thus central banking institutions of certain countries have been taking a direct or indirect part in the financing of agriculture. This trend is more visible in underdeveloped countries where agriculture suffers from a glaring inadequacy of credit facilities. The role of central bank in India and the U. S. A. in the supply of credit to agriculture through farm credit cooperatives is discussed below.

1. U. S. A.

The U. S. Federal Reserve system is not at present a direct lender to agriculture through farm credit cooperatives. When the Federal Reserve system was established in 1913, the Federal Reserve Act authorized the Federal Reserve Banks to rediscount agricultural paper. Later on, the Federal Reserve Board accepted for rediscount drafts drawn by farmers on cooperative marketing associations which had been discounted by member banks[1]. Farmers cooperative marketing associations also were allowed to rediscount their notes directly for obtaining funds to lend to their members. They were also permitted to draw drafts based on readily marketable agricultural staples, which were accepted for rediscount when offered by a member bank. In 1922, the

---

[1]Separate figures relating to the amount of cooperatives paper rediscounted by the Federal Reserve Banks are not available.

Federal Reserve Board empowered the Federal Reserve Banks to purchase in the open market bankers' acceptances drawn by cooperative marketing associations with or without the endorsement of member banks. These acceptances had to be secured by warehouse receipts evidencing the storage of readily marketable products. Thus the cooperative marketing of farm products was aided by both rediscount and open market transactions of the part of the Federal Reserve Banks. The open market purchases of bankers' acceptances by the Reserve banks amounted to $247,000,000 (22, p. 321) during March and April of 1925.

The Federal intermediate credit banks which provided rediscounting facilities to farmers' cooperatives had access to the Federal Reserve Banks for loanable funds. The Federal Reserve Banks were authorized to buy and sell the debentures of the Federal intermediate credit banks. The debentures of the intermediate credit banks held by the Federal Reserve Banks during the period 1923 to 1932 are shown in Table 13.

The Federal Reserve Banks were also authorized to discount the paper of the intermediate credit banks and to buy their acceptances in the open market. Agricultural paper discounted by the Federal Reserve Banks for the intermediate credit banks during the period 1928-32 is shown in Table 14.

As discussed earlier, the financing agencies of farm credit cooperatives were established in 1933 with substantial

Table 13. Intermediate credit bank debentures held by Federal Reserve Banks, 1923-32[a]

Dec. 31	Total debentures outstanding	Debentures held by Federal Reserve Banks	
		Amount	Per cent of total
	(In thousands of dollars)		
1923	30,500	-	-
1924	49,710	2050	4.1
1925	58,699	3150	5.4
1926	68,580	2500	3.6
1927	51,150	760	1.5
1928	44,875	9825	21.9
1929	49,510	2650	5.3
1930	102,475	6300	6.1
1931	78,840	26185	33.2
1932	68,960	-	

[a]Source: Baird (3, p. 298).

Table 14. Agricultural paper discounted by Federal Reserve Banks for intermediate credit banks, 1928-1932[a]

Year	Amount
	(In thousands of dollars)
1928	48260
1929	77371
1930	8186
1931	32063
1932	34984

[a]Source: Baird (3, p. 302).

financial assistance from the U. S. Federal Government. This relieved, to a large extent, the Federal Reserve Banks from the financing of agriculture.

2. India

As the central bank of the country, the Reserve Bank of India was charged, from its inception in 1935, with certain special responsibilities in regard to agricultural finance. The present activities of the Reserve Bank of India in the financing of agriculture through farm credit cooperatives is discussed below.

a. Short-term farm loans through cooperatives The Reserve Bank makes loans for seasonal agricultural operations and marketing of crops to farmers through State Cooperative banks, central cooperative banks and primary agricultural credit societies. The loans are made for a maximum period of 15 months at a concessional rate of 2 per cent below the Bank rate. Table 15 gives the volume of short-term loans for seasonal agricultural operations provided by the Reserve Bank to the State Cooperative banks during the period 1950-58.

b. Medium-term farm loans through cooperatives The Reserve Bank advances medium-term loans for agricultural purposes to the State Cooperative banks. Such loans are fully guaranteed by the State Government concerned as to the repayment of the principal and the payment of the interest

Table 15. Short-term loans to State Cooperative Banks made by the Reserve Bank of India, 1950-58[a]

Year	Amount drawn by the cooperative banks
	(Thousands of rupees)
1950-51	53780
1951-52	121133
1952-53	119037
1953-54	147195
1954-55	180438
1955-56	256109
1956-57	348122
1957-58	613849

[a]Source: Reserve Bank of India (18, pp. 35-38).

thereon. The loans are for a maximum period of 5 years. The rate of interest charged on the loans is the concessional rate of 2 per cent below the Bank rate.

Table 16 gives the volume of medium-term loans issued by the Reserve Bank to the State Cooperative banks during the period 1954-58.

c. Long-term finance for agriculture The Reserve Bank takes part in long-term financing of agriculture indirectly by contributing to the debentures floated by central land mortgage banks. The debentures are guaranteed by the State Government concerned regarding the repayment of the principal and the payment of the interest thereon.

With a view to enhance the marketability of the

Table 16. Medium-term loans to the State Cooperative Banks made by the Reserve Bank of India, 1954-58[a]

Year	Amount drawn (Thousands of rupees)
1954-55	2700
1955-56	9000
1956-57	10600
1957-58	28000

[a]Source: Reserve Bank of India (18, p. 20).

debentures of the land mortgage banks, the Reserve bank treats their debentures at par with government securities for the purpose of advances from the Bank. In addition the Reserve Bank also advises the central land mortgage banks regarding the time, terms and conditions of the issue of any particular series of debentures.

The estimate of the Reserve Banks' contribution to the debentures of central land mortgage banks during the period 1951-58 is given in Table 17.

d. Long-term loans to State Governments An essential feature of the integrated credit scheme recommended by the Rural Credit Survey is the State partnership in the cooperative. Pursuant to this recommendation, the Reserve Bank constituted in 1956 the National Agricultural Credit (Long-term Operations) Fund. The Reserve Bank makes loans out of this fund to State Governments for a maximum period

Table 17. Subscription to the debentures of the land mortgage banks made by the Reserve Bank, 1951-58[a]

Year	Subscription (Amount in thousands of rupees)
1951-52	1300
1952-53	1689
1953-54	1556
1954-55	Nil
1955-56	950
1956-57	150
1957-58	1486

[a]Source: Reserve Bank of India (18, p. 21).

of 20 years to enable them to contribute directly or indirectly to the share capital of cooperative credit institutions. The total long-term loans drawn by the State Governments during the period 1956-58 is given in Table 18.

Table 18. Long-term loans to State Governments made by the Reserve Bank of India, 1956-58[a]

Year	Total amount drawn (Amount in thousands of rupees)
1956-57	16046
1957-58	58339

[a]Source: Reserve Bank of India (18, p. 27).

e. National Agricultural Credit (Stabilization) Fund The Reserve Bank has also established the National Agricultural Credit (Stabilization) Fund since 1956 to make medium-term loans to State cooperative banks. The object of the fund is to provide relief to State Cooperative banks by the extension of time for repayment of their dues on short-term loans during natural calamities.

f. Remittance facilities to Cooperatives The Reserve Bank provides remittance facilities to cooperatives. Such facilities relate to the transfer of funds at concessional rates between the accounts of State Cooperative Banks maintained with the Reserve Bank and also the remittance of funds between all types of cooperatives.

g. Inspection of Cooperative Banks As a compliment to the provision of financial assistance to the cooperatives, a system of inspection of the cooperative banks on voluntary basis has been evolved by the Reserve Bank of India. The object of the inspection is to insure the proper use of the Reserve Bank's funds and the development of sound and efficient methods of accounting and working of the cooperatives.

h. Training of Cooperative personnel A serious limitation to the expansion of the cooperatives is the paucity of trained cooperative personnel. In order to meet this difficulty the Reserve Bank and the Government of India jointly constituted in 1953 a Central Committee for

Cooperative Training. The Committee formulates plans, and organizes and directs arrangements for the training of Cooperative personnel. Various cooperative training centres have since been established in the country.

3. India and the U. S. A. compared

It is evident from the foregoing discussion that the U. S. Federal Reserve Banks and the Reserve Bank of India represent varied experience in the financing of agriculture through cooperatives. The Federal Reserve Banks provided financial assistance to the cooperative directly and indirectly during the early stages of their development. The Reserve Bank of India is now taking a significantly direct part in the supply of funds and direction of farm credit cooperatives. Thus, the Reserve Bank provides liberal short-term and medium-term loans to cooperatives at a concessional rate of interest, and takes part in long-term financing of agriculture indirectly by contributing to the debentures floated by the Central land mortgage banks. The Reserve Bank also grants loans to State Governments to enable them to contribute to the share capital of the cooperative institutions. In addition, the Reserve Bank undertakes the inspection of the cooperative institutions and provides funds for the training of cooperative personnel.

In conclusion, the recent progress made by the farm credit cooperatives in India may be partly attributed to the assistance provided by the Reserve Bank of India.

G. Organization of Cooperative Farm Credit System

The form of organization of cooperative farm credit system in a country has an important bearing on the development of farm credit cooperatives. A "streamlined" organization of cooperative system is a prerequisite to the success of the cooperatives. The organization of cooperative farm credit system in India and the U. S. A. is examined below.

1. U. S. A.[1]

The Farm Credit Administration, an independent agency of the U. S. Federal Government, supervises and coordinates the activities of the Federal land banks, Federal intermediate credit banks, the banks for cooperatives, the Federal land bank associations, the production credit associations, and farmers' cooperatives. The Farm Credit Administration located in Washington, D. C., operates under the policies established by a 13-member parttime policy making Federal Farm Credit Board. Twelve of these Board members are appointed (on a staggered basis--two each year) for 6-year terms by the President of the United States, one from each

---

[1]Source: U. S. Farm Credit Administration (33, pp. 1-14).

of the 12 Farm Credit districts. In making the appointment from each district, the President considers persons who are nominated--one each by the Federal land bank associations, the production credit associations, and the cooperatives which are borrowers from the banks for cooperatives. The thirteenth member of the Board is appointed by the Secretary of Agriculture as his representative.

a. Washington office[1] The Farm Credit Board appoints a Governor to administer the affairs of the Farm Credit Administration in accordance with its policies. The Farm Credit Administration is divided into three major operating divisions called the "services". The land bank service has the responsibility for supervision of the Federal land banks and Federal land bank associations; the Short-term Credit Service supervises the Federal Intermediate credit banks and the production credit associations; and the Cooperative Bank Service supervises the banks for cooperatives. These divisions maintain a continuous review of the fiscal, financial, and credit operations of the respective banks and associations to advise them on major phases of operations and to coordinate their activities for a sustained growth of the cooperative system as a whole.

The Washington office includes a number of other service

[1]Source: Murray and Nelson (12, pp. 366-368).

divisions to assist with carrying out supervisory functions of the Farm Credit Administration for a proper administration of the law under which the banks and associations are chartered. One of these divisions is the Examination Division which is responsible for examination of the banks and associations. The annual examination of these institutions is made to determine whether they are operating in accordance with the law and the established policies and procedures. The examination is also intended to determine the operational weaknesses, if any, in the various cooperative institutions.

b. District organization[1] In each of the 12 Farm Credit districts into which the United States is divided, a Federal Land Bank, a Federal Intermediate Credit Bank and a district Bank for Cooperatives is located in one city. Throughout each district are located Federal land bank associations, production credit associations and farmers' cooperatives, which are the local cooperative organizations. In addition, there is a Central Bank for Cooperatives in Washington, D. C.

Each of the 12 Farm Credit districts has a part-time policy making Board made up of seven members. The law provides that six of the directors shall be elected, two by

---

[1]Source: Murray and Nelson (12, pp. 370-371).

borrowers from the Federal land bank associations, two by borrowers from the production credit associations and two by borrowers from the banks for cooperatives; provided, however, that two-thirds of the capital, surplus and reserves of these institutions is farmer-owned. At present, the Federal land bank associations and the production credit associations elect two members each to the district Board. The cooperatives that use the bank for cooperatives elect one member as they are not two-thirds member-owned (12, p. 370). The law provides for the seventh director and any of the six directors which are not eligible for election, to be appointed by the Governor of the Farm Credit Administration with the advice and consent of the Federal Board.

The District Credit Board also appoints a General Agent who acts as a coordinator. It is his duty to develop and maintain a close coordination of the policies and operations of the three units in a district.

2. India[1]

In India, the cooperative farm credit system has a separate organization for each State. The primary agricultural credit society is the base of the cooperative farm credit organization for short-term and medium-term credit.

---

[1]Source: Narayanaswamy and Narasimhan (13, pp. 146-183).

The primary societies are affiliated to the central cooperative bank at the district level. The central cooperative banks are, in turn, affiliated to the State Cooperative bank in each State. The organization of cooperative farm credit system for long-term credit is similar to the organization for short-term and medium-term cooperative credit in each State. The later organization only is, therefore, detailed below.

a. District organization   Each central cooperative bank in a district has a part-time policy making Board of Directors. The Board appoints a Manager to administer the affairs of the Bank. The individual share-holders of the bank and the affiliated primary agricultural credit societies of the district are represented on the Board of Directors of the bank.

The functions of the central banks are: (1) to finance the primary agricultural credit societies; and (2) to supervise their operations. In addition some central cooperative banks have undertaken commercial business.

b. State organization   Each state cooperative bank has a part-time policy making Board of Directors. The Board appoints a Manager to administer the affairs of the bank. The composition of the Board varies from State to State. Generally, individual share-holders of the bank, the affiliated central cooperative banks, and the primary agricultural credit societies in the State are represented on the Board of Directors of the bank.

The functions of the state cooperatives banks are: (1) to coordinate the policies and operations of the central cooperative banks; and (2) to finance the central cooperative banks. The state cooperative bank is thus the last link in the chain between the primary agricultural credit society and the money market.

In some States, the state cooperative banks deal only with the central cooperative banks and have no direct dealings with the primary agricultural credit societies. In Bombay and Mysore States, the state cooperative banks finance the primary societies directly as well.

The administration of the law under which the various cooperative institutions are organized is the responsibility of the Registrar of Cooperative Societies in each State. The Registrar maintains a staff for supervision and audit of the various cooperative institutions.

3. India and the U. S. A. compared

The foregoing reveals important differences in the organization of cooperative farm credit system in India and the U. S. A. In the U. S. A., National Central Organization--Farm Credit Administration--supervises, coordinates and directs the cooperative farm credit system in the country.

In India, a comparable national organization for the supervision, coordination and direction of the cooperative farm credit system does not exist.

At the district level both in India and the U. S. A., cooperative institutions for separate purposes have grown up in the course of development of the cooperative farm credit system. The need to unify the control and direction of the separate cooperative institutions at the district level was recognized in the U. S. A. as far back as 1933. So that today even though there are three different sets of cooperative institutions in each farm credit district, they are all located in the same town, housed in the same building, and operate under policies established by the same District Farm Credit Board. As a result, the farm credit institutions at the district level operate as a complete and coordinated system. In India, the various cooperative institutions are not so well coordinated. For example, the central cooperative banks and the central land mortgage bank at the district level have separate Boards of Directors and operate as two unrelated institutions.

Another distinguishing feature of the organization of the cooperative farm credit system in the U. S. A. is the borrower participation in the ownership and control of the cooperatives at the various levels of the cooperative system. In India, individual shareholders are represented on the

Boards of Director of the central and state cooperative banks. Some of these institutions undertake commercial business to the neglect of their primary duty to finance the primary societies. The All-India Rural Credit Survey Report ascribes this tendency to the preponderance of individual share holders representing urban interests in the Directorate of these banks.

In conclusion, the organization of cooperative farm credit system in the U. S. A. is more conducive to the growth of the cooperatives than the organization of cooperative credit system in India. The relatively defective organization of the cooperative farm credit system in India may be a factor hindering the growth of the cooperatives there.

H. Purposes of Loans from Farm Credit Cooperatives

To be an effective agency of farm credit, the cooperatives should advance loans to farmers for all such purposes which would contribute to increased farm production. The purposes of loans from farm credit cooperatives in India and the U. S. A. are discussed below.

1. Production credit cooperatives[1]

The production credit associations in the U. S. A. provide short-term and intermedium-term loans to farmers for purposes ranging from operating expenses, farm machinery and equipment to college education of their children, payment of medical bills, insurance and taxes. In short, farmers use their production credit associations for practically every need around their farm and home. The primary agricultural credit societies in India make short-term and intermediate-term loans to farmers for a relatively less number of purposes--mostly for seasonal agricultural operations such as seed, feed, etc. A purpose-wise classification of loans issued by the agricultural credit societies in India during the year 1957-58 is shown in Table 19.

2. Farm mortgage credit cooperatives

The Federal land bank associations in the U. S. A. advance long-term loans to farmers for various purposes such as purchase of land for agricultural uses, refinancing debts, improvement of farm land, construction or repair of farm buildings, purchase of equipment, etc. In essence, the

---

[1]The author had the opportunity to discuss working of the PCAs with W. H. Youngclass, President, and R. Lehmann, Manager, of the Production Credit Association, Webster City.

Table 19. Primary agricultural credit societies--a purpose-wise classification of loans issued during 1957-58[a]

Purpose	Amount (Thousands of rupees)
Short-term	
Seasonal agricultural operations	Rs630208
Purchase of agricultural implements	34460
Marketing of crops	28838
Industrial purposes	4937
Consumption loans	35817
Other purposes	91622
Intermediate-term	
Sinking or repairs to wells	6583
Purchase of machinery	6069
Purchase of cattle	67097
Minor improvements to land	24403
Other purposes	30468

[a]Source: Reserve Bank of India (21, p. 121).

association serve all the loan purposes which may in the long-run help establish an individual farmer in his farm business. The primary land mortgage banks in India make long-term loans to farmers mostly for repayments of old debts. The primary land mortgage loan data classified according to purpose as available from five Indian states is given in Table 20.

It may be seen from Table 20 that the number and amount of loans for the improvement of land issued by the primary

Table 20. Primary land mortgage bank loans classified according to purpose, 1956-57[a]

State	1 Repayment of old debts	2 Improvement of land	3 Purchase of land	4 Purchase of implements	5 Composite purchases
	Proportion of loans for the purpose to total number of loans (per cent)				
Broach	57	9	25	7	2
East Khandesh	58	10	19	3	10
Dharwar	44	28	22	-	6
Coimbatore	64	32[b]	-	3	1
West Godawari	5	82[c]	-	-	13
	Proportion of amount advanced for the purpose to total advances (per cent)				
Broach	53	7	25	13	2
East Khandesh	61	7	19	2	11
Dharwar	39	27	28	-	6
Coimbatore	66	28[b]	-	3	3
West Godawari	4	81[c]	-	-	15

[a]Source: Reserve Bank of India (19, p. 519).

[b]Eight per cent each of the number of loans and amount was advanced for indirect land improvements, i.e., discharge of prior debts incurred to effect land improvements.

[c]Twenty-three per cent of the number of loans and 20 per cent of the amount was advanced for indirect land improvements, i. e., discharge of prior debts incurred to effect land improvements.

land mortgage banks in four states is relatively small. A large proportion of the total number and amount of loans accounts is for the repayment of old debts. It may be attributed to the heavy agricultural indebtedness in India which has been reported from time to time by various committees of enquiry. In recent years, there has, however, been an increase in the issue of loans for the improvement of land as is evident from the primary land mortgage loans in Madras State shown in Table 21.

Table 21. Purpose-wise classification of primary land mortgage loans in Madras State, 1953-1956[a]

	1953-54	1954-55	1955-56
Land improvement	Rs 718	Rs 539	Rs 1695
Purchase of land	148	45	104
Discharge of prior debts	3941	3173	3748

[a]Source: Narayanaswamy and Narasimhan (13, p. 180).

3. Farmers' business cooperatives

The farmers' business cooperatives in the U. S. A. obtain three types of short-term and long-term loans from the banks for cooperatives to carry on their business. Facility loans enable the cooperatives to finance or refinance the purchase of land, buildings and equipments used in the business activities of the cooperatives. Operating capital loans supplement the operating capital of the cooperatives for the orderly marketing and effective merchandising of their products. Commodity loans enable the cooperatives to make immediate payments to members on commodities delivered to the association and to cover expenses involved in marketing such commodities. The cooperative marketing societies in India obtain only short-term loans from the central cooperative banks for the marketing of members' produce and purchase of household and farm supplies.

4. India and the U. S. A. compared

In summary, the farm credit cooperatives in the U. S. A. serve a wider range of loan purposes compared with the cooperatives in India. The different stage of development of the cooperatives in India and the U. S. A. may partly account for the difference in the range of loan purposes served. It may further be stated that the relatively small range of loan purposes served by the cooperatives in India has probably forced the farmers to seek loans from the moneylenders.

I. Security Against Loans from Farm Credit Cooperatives

Mortgage security is almost universally required for long-term loans by practically all types of lenders.

Short-term cooperative credit is often personal credit based upon chattel mortgages and the character and repaying capacity of the member. The security requirement for short-term and long-term loans from farm credit cooperatives in India and the U. S. A. is examined below.

1. Farm mortgage credit cooperatives

The Federal land bank associations in the U. S. A. and the land mortgage banks in India advance long-term loans to members against the security of farm or ranch units. The Federal land banks advance loans up to 65 per cent of the normal value of land and the land mortgage banks up to 50 per cent of the market value of land. There are dangers inherent in specifying the amount of security as a fixed ratio or percentage of loan amount. As Murray and Nelson (12, pp. 253-254) point out: "Any fixed proportion will later be recognized as too liberal during prosperous high price periods and too conservative during depressed low price periods...." They further suggest, "A more reasonable plan is for lenders to require less equity in low price periods and more in high price period."

Nevertheless, the Federal land bank associations give a careful consideration that the use of credit will produce sufficient earnings to pay farm operating expenses and maintenance, family living expenses and loan installments. The land mortgage banks in India do not give due consideration to this basic criteria in granting loans and place relatively more emphasis on the ratio of the loan amount to the appraised value of land offered as security.

2. Production credit cooperatives

The production credit associations in the U. S. A. advance short-term and intermediate-term loans against the security of chattel mortgages, crop liens and other personal property of the borrowing member. The major emphasis in granting loans is the repaying capacity of the borrowing member than on the value of tangible security. Loans are, therefore, sometimes advanced without any tangible security if the circumstances so warrant. In India, the primary agricultural credit societies rely more on the value of tangible security than the repaying capacity of the members. A security-wise analysis of credit society loans outstanding in India as of June 30, 1958, is given in Table 22.

Table 22 indicates that a large proportion of the short-term loans from primary credit societies is based on immovable property; that is to say, in this context, land. The credit worthiness as judged by the value of land possessed instead of the repaying capacity and character of the member is a departure from cooperative principle. It deprives the benefit of cooperative credit to those farmers who

Table 22. Primary agricultural credit societies--security-wise classifications of loans outstanding in India, June 30, 1958[a]

Security	Loans outstanding (thousands of rupees)
Fixed deposits	Rs 3024
Government securities	68
Agricultural produce	88948
Merchandise	3691
Gold and silver	9017
Immovable property	514963
Guarantee	244943
Others	205294

[a]Source: Reserve Bank of India (21, p. 124).

have no alienable rights in land even if they are otherwise capable of making a profitable use of credit. In addition this form of security is unsuitable for production loans as the farmers need quick servicing of such loans.

The All-India Rural Credit Survey Report referring to the defects in the operation of the cooperatives mentions that the cooperative credit is predominantly in favor of the big cultivators. Part of the explanation of this tendency may be the nature of security demanded for cooperative credit which the small farmers and tenants may not be able to offer.

In conclusion, the repaying capacity as the basis of credit worthiness used by the production credit associations in the U. S. A. is conducive to the growth of the cooperatives. In India, inappropriate basis to judge credit worthiness for cooperative loans has to some extent run counter to the growth of the cooperatives.

III. OPERATIONS OF PRODUCTION CREDIT COOPERATIVES

A. Number, Membership, and Geographical Coverage of Production Credit Cooperatives

The growth of production credit cooperatives can be judged partly by their number, membership and geographical coverage. In terms of these criteria the growth of production credit cooperatives in India and the U. S. A. is examined below.

1. U. S. A.

As regards geographical coverage the production credit associations cover each county in the U. S. A. The number and membership of the production credit associations during the period 1936-1960 and the total number of farms in the U. S. A. during the period 1925-1960 is given in Table 23.

Table 23 indicates that the membership of the production credit associations has increased steadily although the total number of farms has decreased consistently during the period 1925-1960. The farmers using PCA credit constituted 9 per cent (1, p. 12) of the total number of farmers in the U. S. A. during the year 1960. It is also worth noting that the increase in the membership of the production credit associations took place in the face of competition from commercial banks who lend to farmers on almost the same terms as the PCAs. The decrease in the number of production credit

Table 23. Number, membership of production credit associations and the total number of farms in the U. S. A., 1936-1960[a]

As of Dec. 31	Number of PCAs	Membership of PCAs	Number of farms[b] Year	Number
1936[a]	549	242,616	1925	6,371,640
1940	529	290,787	1950	5,382,162
1944	515	355,994	1954	4,782,416
1948	503	334,676	1959	3,703,642
1952	499	476,864		
1956	498	477,063		
1957	497	482,244		
1958[c]	496	492,291		
1959	494	508,500		
1960	488	514,790		

[a]Source: Arnold (2, p. 77).

[b]Source: U. S. Department of Commerce (25, p. 1).

[c]Source: U. S. Farm Credit Administration (31, p. 1).

associations (Table 23) is due to consolidation or liquidation of the PCAs as shown in Table 24. The consolidation or liquidation of the associations was carried out to increase the volume of loans in the territorial jurisdiction of each association. This was to enable the associations to meet expenses and to accumulate reserves so that they may become self-supporting organizations.

Table 24. Total number of production credit associations organized through June 30, 1958, and their status as of that date[a]

District	Number chartered	Number consolidated or liquidated[b]	Number liquidated[c]	Number in operation June 30, 1958
Springfield	37	3	1	33
Baltimore	55	17	2	36
Columbia	117	30	-	87
Louisville	44	4	-	40
New Orleans	30	4	-	26
St. Louis	111	65	1	45
St. Paul	88	34	-	54
Omaha	42	2	-	40
Wichita	42	1	-	41
Houston	52	16	-	36
Berkeley	36	6	1	29
Spokane	35	2	3	30
Total	689	184	8	497

[a]Source: Arnold (2, p. 33).

[b]Primarily for the purpose of consolidating territory or whose charters were cancelled before operations began.

[c]Primarily because of loan losses or anticipated losses.

2. India

In India the geographical coverage of primary agricultural credit societies increased from 45.6 per cent (17, p. 188) of the total number of villages in 1956 to 50.2 per cent (24, p. 16) in 1958. During the period 1950-1951 to 1958-1959, the number of primary agricultural credit societies in India has increased from 105,000 to 183,000 and their membership has gone up from 4.4 million to about 12 million (7, p. 163). By the end of the second plan (1956-1961) it is estimated that there will be about 200,000 primary agricultural credit societies with a membership of about 17 million, serving about 33 per cent of the agricultural population (7, p. 163). These developments may be attributed to the planned development of the farm credit cooperatives undertaken by the government and the Reserve Bank of India during the last few years.

3. India and the U. S. A. compared

The number, membership and the geographical coverage of the primary agricultural credit societies has increased during the period 1951-1959. The membership of the societies covers about 33 per cent of the agricultural population and the geographical coverage extends to about 50 per cent of the total number of villages in India. The number of the production credit associations in the U. S. A. has decreased during the period 1936-1960. However, the membership of the PCA has increased and covers 9 per cent of the total number of farmers in the U. S. A. The geographical coverage of the production credit associations already extends to the whole of the country.

B. Financial Position of Production Credit Cooperatives

The financial strength and progress of production credit cooperatives is determined by their paid-up share capital, accumulated reserves, working capital, and the volume of loans. The operation of production credit cooperatives in India and the U. S. A. in regard to the above factors over a period of time is examined below.

1. U. S. A.

The capital stock, accumulated earnings, and the volume of loans of the production credit associations in the U. S. A. during the period 1949-1959 is given in Table 25.

Citing Table 25, a noteworthy feature of the production credit associations is the $134.7 million (93.4 per cent) increase in their net worth during the period 1949-1959. The increased net worth resulted from an increase of $92.3 million in member-owned stock and an increase of $61.9 million (109 per cent) from net earnings during the period. The increase in net earnings was due mainly to the rapid increase in the volume of loans because of the growth of individual operations and increasing operating costs. The increased volume of loans also accounts for the increase in member-owned stock as the members are required to own class B stock equal to five per cent of their loans. The increase in member-owned stock and net earnings, in turn, enabled the

Table 25. Capital stock, accumulated earnings and the volume of loans business of the PCAs in the U. S. A., 1949-1959[a]

As of Dec. 31	Gov't.-owned stock	Member-owned stock Amount	Member-owned stock % of total stock	Accumulated earnings	Net worth	Loans advanced
		(In millions of dollars)				
1949	$22.3	$ 64.9	74.4%	$ 57.0	$144.2	$ 956
1954	3.2	96.6	96.8	91.2	189.0	1273
1959	2.8	157.2	98.2	118.9	278.9	2515

[a]Source: U. S. Farm Credit Administration (29, p. 32).

associations to reduce government-owned stock from $22.3 million in 1949 to $2.8 million in 1959.

The foregoing discussion gives an overall picture of the financial progress of the production credit associations in the U. S. A. To further illustrate the financial progress of the PCAs, it would be interesting to note the results of a comparable regional study. The financial progress of the 16 Iowa PCAs has been brought out in study made by Murray (11, p. 16) over a number of years. Some of the important results of this study are summarized in Table 26.

Table 26 indicates a large increase in the PCA's net worth and volume of loans during the period 1956-1959. The sharp increase in expenses and decline in earnings in 1959

Table 26. Important balance sheet and income items for 16 Iowa PCAs for year and year ending Dec. 31, 1956, 1957, 1958, 1959[a]

	1956	1957	1958	1959	Per cent increase 1957/1956	1958/1957	1959/1958
	(In thousands of dollars)						
Total assets	$25,223	$26,602	$29,678	$46,906	5.4	49.5	18.2
Total expenses	878	941	1,281	2,237	7.1	36.1	74.4
Loans, members	20,073	24,867	33,902	40,202	23.0	36.3	18.6
Net worth	5,074	5,196	5,841	6,754	2.4	12.4	15.6
Net earnings	129	95	441	221	-26	364	-49.9

[a]Source: Murray and Associates (11, p. 16).

resulted largely from the high interest rates which the PCAs had to pay for the funds they borrowed to relend to farmers.

2. India

The paid-up share capital, reserves, working capital and the volume of loans of the primary agricultural credit societies in India during the period 1952 to 1958 are given in Table 27.

Table 27 indicates big increases in paid-up share capital, working capital and the volume of loans of the primary

Table 27. Paid-up share capital, reserves, working capital and the volume of loans business of the primary agri-societies in India, 1952-1958

		June 30, 1952[a]	June 30, 1958[b]	Per cent increase
		(In thousands of rupees)		
1.	Paid-up share capital	Rs 89200	Rs 282227	216.3
2.	Reserves	87500	141503	61.7
3.	Working capital	452200	1337515	195.3
4.	Loans advanced	242100	960800	296.7
5.	Loans outstanding	336600	1071038	
6.	Overdues	83200	227865	
7.	Owned funds as % of loans outstanding	52.4%	39.5%	-12.9
8.	Owned funds as % of working capital	39.0%	31.6%	- 7.4
9.	Overdues as % of loans outstanding	24.7%	21.3%	- 3.4

[a]Source: Reserve Bank of India (16, p. 215).

[b]Source: Reserve Bank of India (21, p. 20).

agricultural credit societies during the period 1952-1958. However, the increase in reserves is relatively small. The increase in the paid-up share capital of the societies is due partly to the increase in number and membership of the societies and due partly to the government participation in the share-capital of the societies during the period. The increase in the working capital and the loan operation of the societies is to a great extent due to the increase in financial accommodation made available by the Reserve Bank of India for seasonal agricultural operations during the period 1950-1951 to 1957-1958. The borrowings, thus, constituted the main source of working capital of the societies. As a result, though the owned funds (share capital and reserves) increased, percentage of owned funds to working capital fell from 39.0 in 1952 to 31.6 in 1958. Even so the decrease in the percentage of overdues to loans outstanding from 24.7 in 1952 to 21.4 in 1958 shows an improvement in the financial position of the societies. A further indication of the financial progress of the societies may be seen from the audit classification of all the primary societies (non-credit and credit) for the year 1952 and 1957 given in Table 28.

Table 28 indicates that the percentage of A and B class societies is almost the same in 1952 and 1957. The percentage of D and E class societies has decreased during the period. It may be noted that the audited classification is made by the Registrar of Cooperative societies in each State. Broadly, model societies are supposed to be classed as "A"; societies in a fairly sound condition as "B"; the mediocre ones as "C"; societies functioning in a bad way as "D"; and the utterly hopeless ones as "E". On the basis of the above-mentioned criteria of classification and the changes in the different classes of societies during the period, a moderate improvement in the financial position of the societies is

Table 28. Audit classification of the primary societies, 1952 and 1957

Class	Percentage to total number of societies for which audit classification is available 1952[a]	1957[b]
A	3.5	3.5
B	16.4	15.8
C	59.5	63.5
D	17.0	15.2
E	3.6	2.0
	100.0	100.0

[a]Source: Reserve Bank of India (16, p. 216).

[b]Source: Reserve Bank of India (21, p. 155).

discernible. The improvement in the financial position of the primary agricultural credit societies may be attributed to the government financial participation and the increased financial and technical assistance provided by the Reserve Bank of India during the last few years.

3. India and the U. S. A. compared

The production credit associations in the U. S. A. and the primary agricultural credit societies in India have shown financial progress during the last decade or so. The net worth of the production credit associations increased by 93.4 per cent and the accumulated earnings by 109 per cent during the period 1949-1959. The reserves of the primary agricultural credit societies increased by 61.7 per cent during the period 1952-1958. It may thus be concluded that the production credit associations have made more progress compared with the primary agricultural credit societies.

C. Function of Production Credit Cooperatives

The production credit cooperatives in India and the U. S. A. differ in the range of functions undertaken by them. The production credit associations in the U. S. A. have confined themselves to advancing short-term and medium-term loans to farmers. On the other hand, some of the primary agricultural credit societies in India have extended the sphere of their activities beyond the provision of short-term and medium-term loans to include noncredit activities such as distribution of consumer and agricultural goods, marketing of members' produce, etc. When a primary agricultural credit society performs one or more functions besides the disbursement of credit, it is called multi-purpose society.

An enlargement in the function of the primary agricultural credit society was in recognition of the idea that the success of cooperative credit depends on the integration of credit with other economic needs of the farmer. It was under the influence of such ideology that the organization of multi-purpose societies in preference to single purpose societies became the accepted policy in several States in

India. Another contributory factor in the organization of multi-purpose societies was the war-time distribution of controlled goods such as food and clothing. In the discharge of this task, cooperatives were one of the distributive agencies selected by the State governments.

The growth of the multi-purpose societies in India during the period 1947-1956 is shown in Table 29.

Table 29 indicates that the number, membership and working capital of the multi-purpose societies have registered a significant increase during the period 1946-1956. The All-India Rural Credit Survey Report examining the working of the multi-purpose societies has, however, cautioned in interpreting the statistical expansion of the multi-purpose societies. The Report observed, "Broadly speaking, enlargement of function (where this has actually taken place and not just remained on paper) has tended to remain at or near simplest stage...." (16, p. 219). The Committee concluded that the instances of actual working of the multi-purpose societies from the point of view of credit development has not achieved significant success.

D. Size of Production Credit Cooperatives

From the operational point of view, economic efficiency and convenient service to members are the major consideration in the size of production credit cooperative. The size of

Table 29. Growth of multi-purpose societies in India, 1946-1956

Year	No. of multi-purpose societies	Membership	Working capital	Outstandings	Amount in thousands of rupees: Purchases	Amount in thousands of rupees: Sales
1946-47[a]	9,650	3,44,512	178,43	N.A.	79,13	212008
1951-52	39,930	21,42,905	1333,71	N.A.	2260,96	2785096
1953-54[b]	49,000	25,00,000	1691,00	98100	81700	108800
1954-55	58,000	22,00,000	1743,00	112300	47000	49300
1955-56	65,000	24,00,000	2063,00	138100	40000	38800

[a]Source: Reserve Bank of India (16, p. 219).

[b]Source: Reserve Bank of India (17, p. 21).

production credit cooperative should be such as to provide it with adequate business and convenient service to its members.

In the U. S. A. the area of operation of production credit association on the average consists of 5 to 6 counties whereas in India primary agricultural credit society generally operates in one village. In both the cases the area of operation generally affords convenient service to members. The economic efficiency of the production credit cooperatives _vis-a-vis_ their area of operation may now be examined.

The All-India and All-U. S. averages in respect of membership, capital stock and loans of production credit cooperatives are some of the indicators of economic efficiency given in Table 30.

Table 30 indicates that the average membership, capital stock, and loans of the production credit associations are considerably large compared to the corresponding figures of the primary agricultural credit societies. This may be attributed partly to the big difference in the area of operation of production credit association and primary agricultural credit society. The area of operation of production credit association is large enough to give adequate business to association to meet expenses and to accumulate reserves. For example, 95.2% of the total number of associations operated within member income during 1957. As of December 31, 1960, 350 associations (31, p. 2) out of a total of 488

Table 30. Membership, capital stock and loans of production credit cooperatives in India and the U. S. A. (Average per association or society)

	U. S. A.[a] (1959-60) (Amount in dollars)	India[b] (1957-58) (Amount in rupees)
1. Membership per association or society	1050	61
2. Capital stock per association or society	$ 359342	Rs 1695
3. Loans advanced		
(a) Per association or society	$5321223	Rs 6000
(b) Per member	$ 5065	Rs 98

[a]Source: U. S. Farm Credit Administration (30, p. 2).

[b]Source: Reserve Bank of India (21, p. iv).

declared dividends. The area of operation of primary agricultural credit society is small to bring adequate business to the society. The small size of the primary society in India has been advocated to promote cooperative spirit among members. The past performance of the societies has not, however, provided any evidence that mere smallness of their size is responsible for the development of cooperative spirit. On the contrary, the promotion of cooperative spirit seems to depend largely on the economic viability of the cooperatives rather than the small area of their operation. The experience of the production credit associations in the U. S. A. having a larger area of operation is a point in reference. The All-India Rural Credit Survey Report (16, p. 450) examining the size of the primary agricultural credit society observed: "It is our considered view that the formula, 'one society to one village and one village to one society' has failed in India...." The report recommended that the future line of development of cooperative credit at the village level should be unhesitatingly in the direction of bigger societies covering larger areas.

In conclusion, the economic viability of production credit cooperatives, as evidenced by the experience of production credit associations in the U. S. A., depends largely on their area of operation. The small size of the primary agricultural credit societies in India may be a factor retarding their growth.

E. Disbursement of Loans by Production Credit Cooperatives

The primary agricultural credit societies in India advance loans to their members in one lump sum. The loans are repayable in one installment after the expiration of fixed period. The production credit associations in the U. S. A. make budgeted loans whereby the borrowing member and the PCA Manager together work out a financial plan for the farm covering the entire season. The money is advanced as the farmer needs it and it repaid as he sells his crops and livestock. The typical example of a budgeted PCA loan is illustrated in Table 31.

A budgeted loan serves the farmer in many ways. It sets up a program in which a farmer is sure that the funds will be available when needed. In addition, he does not pay interest on any part of a loan until he receives the money. When he repays any part of his loan, interest charges cease on the amount he repays. Thus he pays interest on each dollar for only the number of days he uses it. This greatly reduces interest costs on such loans. In the example given in Table 31, the cost is only $2.96 per $100 borrowed.

The procedure adopted by the primary agricultural credit societies to disburse loans in one lump sum has many disadvantages. It is expensive for the farmer as he pays interest on the full amount for the entire period of loan. If the need for additional funds arises a farmer may be uncertain to receive the needed money in time. In the context of socio-economic conditions in India, a section of the farmers are sometimes imprudent in their expenditure. The loan funds received in one lump sum may in certain cases put a temptation on a farmer to use the funds for non-productive purposes.

In conclusion, the procedure of budgeted loans as practiced by the production credit associations is more advantageous for the farmers as compared to the procedure of advancing loans in one lump sum practiced by the primary

Table 31. Typical example of a budget PCA loan[a]

Date	Purpose of advance or source of repayment	Amount advanced	Amount paid	Balance out-standing	Days out-standing	Interest at 6 1/2%
Jan. 10	Fertilizer	$ 225	-	-	-	-
	Interest on real estate mortgage	250	-	$ 475	85	$ 7.19
Apr. 5	Seed	215	-	-	-	-
	Fuel	200	-	-	-	-
	Hired labor	325	-	1,215	101	21.85
July 15	Purchase 4 cows	625	-	-	-	-
	Feed	360	-	-	-	-
	Fencing	350	-	-	-	-
	Interest on real estate mortgage	250	-	2,800	5	2.49
July 20	Sale of 15 hogs	-	$ 515	2,285	26	10.59
Aug. 15	Taxes	250	-	2,535	21	9.48
Sept. 5	Hired labor	450	-	2,985	96	51.04
Dec. 10	Sale of 15 cattle	-	2,550	435	10	.78
Dec. 20	Sale of wheat	-	435	-	-	-
	Total	$3,500	$3,500	-	-	-
Dec. 20	Total amount of interest paid					$103.42

[a]Source: U. S. Farm Credit Administration (33, p. 6).

agricultural credit societies.

F. Liability in Production Credit Cooperatives

In the U. S. A. production credit associations require limited liability of their members. The members are liable only for the stock they own in the associations. In India agricultural credit societies are both of limited and unlimited liability type. The members' liability in the former type of societies is generally limited to the value of their stock in the societies. In the latter type, members are liable to the full extent of their property.

Before discussing limited versus unlimited liability in its bearing on the record of agricultural credit societies in India, the distribution of the societies between the two types of liability should be noted in Table 32.

It may be observed from Table 32 that 58.6% of the agricultural credit societies in 1955-1956 were of unlimited liability type. However, the recent trend is towards the organization of limited liability societies. The percentage of unlimited liability societies fell from 72.9 per cent in 1949-1950 to 58.6 per cent in 1955-1956.

Unlimited liability in the agricultural credit societies in India has been advocated on many grounds. In the first place, unlimited liability has educative and moral values, and reinforces the basic cooperative principle of "each for

Table 32. Distribution of agricultural credit societies by nature of liability in India, 1949-1956[a]

Year	No. of agri-credit societies with limited liability	No. of agri-credit societies with unlimited liability
1949-50	28,126	75,953
1950-51	29,189	75,809
1951-52	30,904	77,021
1952-53	N.A.[b]	N.A.
1953-54	45,628	81,326
1954-55	55,138	88,182
1955-56	66,146	93,793

[a]Source: Reserve Bank of India (17, p. 16).

[b]Not available.

all and all for each". Secondly, it creates a sense of collective responsibility, mutual watchfulness and mutual supervision. Finally, unlimited liability enables the societies to attract funds at cheap rates.

The arguments in favor on unlimited liability in the agricultural credit societies are of course strong in theory. But the advantages claimed for unlimited liability have not been much in evidence in the societies in India. The All-India Rural Credit Survey Report (16, p. 220) examining the advantages of unlimited liability in the societies observed, "In practice, little of this has materialized."

Unlimited liability has practical disadvantages for the agricultural credit societies in India. It has deprived the societies of the moral and material support of the solvent classes of farmers who do not join the societies due to unlimited liability nature of the societies. Unlimited liability also seems unsuitable when the jurisdiction of a society is extended to a group of villages.

Well managed societies normally can raise sufficient funds to meet the prospective needs of their members. Poorly managed societies will not be able to attract funds even if they have unlimited liability. It is therefore efficient management rather than unlimited liability that induces confidence among the financing agencies of the societies.

G. Management of Production Credit Cooperatives

The success of production credit cooperatives depends ultimately on the quality of their management. The role of efficient management in the growth and development of production credit cooperatives hardly needs any emphasis. The comparative management efficiency of the production credit cooperatives in India and the U. S. A. may be considered in terms of their accumulated reserves, net worth, reserves set aside for losses, losses on loans, and overdues.

1. U. S. A.

As noted earlier, the production credit associations have built up sizeable reserves and net worth and returned almost all the government-owned capital. In addition, most of the associations operate within member income and also declare dividends on their stock. However, in keeping with sound business practices and to maintain a strong financial position, the associations set aside each year adequate reserves to cover losses on loans. For example, the associations made a total charge of $6.8 million (29, p. 34) against their earnings for the calendar year 1959 to cover actual losses and to provide for estimated future losses. Actual losses of the associations during their entire period of operation, plus provision for estimated future losses on loans outstanding on December 31, 1959, was only .24 per cent (29, p. 34) of total cash advanced to members during their 27 years of operation.

2. India

The primary agricultural credit societies have accumulated relatively small reserves. The audit classification of the societies as given in Table 28 reflect an overall poor financial position of the societies. The societies in a sound financial position are only 19.3 per cent of the total societies. The societies functioning in a bad way constitute 15.2 per cent and the utterly hopeless societies 2 per cent of the total number of societies. The overdues of all the primary societies formed 21.3 per cent (21, p. iii) of the total loans outstanding as of June 30, 1958. The proportion of overdues to outstandings in primary societies in some of the states is very high as shown in Table 33.

Rural Credit Follow-up Survey Report (19, p. 453) ascribes the high position of overdues in the societies to the following:

1. Bad management of societies by honourary secretaries or by the chairman in the absence of a secretary;

2. Lethargy on the part of Managing Committees to run the institutions as business-like concerns;

3. Undue delay in taking action against defaulters; and

4. Domination over societies by one or two individuals who did not follow the rules and procedures regarding loan operations.

In summary, the production credit associations who employ paid managers to run their business have a relatively efficient management. The management of the primary

Table 33. Proportion of overdues to loans outstandings, June 30, 1957[a]

State	Overdues as percentage of outstandings
Mysore	29%
Bihar	51
West Bengal	62
Bombay	24
Punjab	23

[a]Source: Reserve Bank of India (19, p. 291).

agricultural credit societies is in the hands of honourary secretaries which has resulted in inefficient management. The inefficient management of the primary societies may be an important factor hindering their progress.

IV. CONCLUSIONS AND SUMMARY

This study attempted to evaluate farm credit cooperatives in India and the U. S. A. The evaluation is based on a comparative analysis of selected features of the cooperatives. The comparative analysis brings out the factors which promote or otherwise retard development of the cooperatives.

The main results of the study are summarized below:

1. The farm credit cooperatives in the U. S. A. furnished 16.6 per cent of the total farm indebtedness as of January 1, 1960. The comparable proportion in India had been estimated at about 10 per cent for the year 1956-1957.

2. Farmers in the U. S. A. have a greater propensity to cooperate than the farmers in India which explains partly the different record of the cooperatives in the two countries.

3. The U. S. Federal Government provided practically all the original capital to the financing agencies of the farm credit cooperatives. The production credit associations also were partly capitalized with government funds. In addition to this initial contribution, the government also provided financial assistance in various forms when necessitated by economic conditions in the country. In India, the financing agencies of the farm credit cooperatives and the local cooperative societies were started without any

financial assistance from the government. The government financial participation in the cooperative institutions began in 1956--over fifty years after the beginning of the cooperative farm credit system in India.

4. The U. S. Federal Reserve System provided some financial assistance to the farm credit cooperatives during the early stages of their development. The Reserve Bank of India has, in recent years, taken a significantly direct part in the supply of funds and the direction of farm credit cooperatives which has contributed to the development of the cooperatives.

5. A National Organization--Farm Credit Administration--supervises, coordinates, and directs the cooperative farm credit system in the U. S. A. In India, a comparable national organization for the purpose does not exist. The cooperative institutions at the district level are well coordinated in the U. S. A. whereas they are not so well coordinated in India.

6. Farmers in the U. S. A. have a greater participation in the control and management of the cooperatives than the farmers in India. The management of the financing agencies of the farm credit cooperatives in India is dominated by urban element.

7. The farm credit cooperatives in the U. S. A. serve a wider range of loan purposes compared to the cooperatives

in India.

8. The farm credit cooperatives in the U. S. A. judge the credit worthiness of members on the basis of their repaying capacity. The farm credit cooperatives in India place more emphasis on the amount of security rather than the repaying capacity of the members.

9. The geographical coverage of the production credit associations extends to the whole of the U. S. A. The coverage of the primary agricultural credit societies extends to about 50 per cent of the total number of villages in India.

10. The membership of the production credit associations covers 9 per cent of the total number of farms in the U. S. A. The membership of the primary agricultural credit societies covers about 33 per cent of the agricultural population in India.

11. The production credit associations have shown more financial progress compared with the primary agricultural credit societies. The net worth of the production credit associations increased by 93.4 per cent and the accumulated earnings by 109 per cent during the period 1949-1959. The reserves (accumulated earnings) of the primary agricultural credit societies increased by 61.7 per cent during the period 1952-1958.

12. The production credit associations have confined their activities to the provision of credit to farmers. Some

of the primary agricultural credit societies have extended the sphere of their operation to include non-credit activities such as distribution of consumer and agricultural goods. The enlargement in the function of the primary agricultural credit societies have not achieved significant success.

13. The area of operation of the production credit associations is large enough to give them adequate business to meet expenses and to accumulate reserves. The area of operation of the primary agricultural credit societies is too? small to bring adequate business to the societies.

14. The procedure of advancing loans on a budgeted basis adopted by the production credit associations is more advantageous to the farmers compared to advancing loans in one lump sum practiced by the primary agricultural societies.

15. The production credit associations have limited liability of the members. Most of the primary agricultural credit societies require unlimited liability of the members. The unlimited liability in the societies has not proved conducive to their growth.

16. Management of the production credit associations is more efficient compared to the management of the primary agricultural credit societies. The management of the primary agricultural credit societies is in the hands of honourary secretaries whereas the production credit associations employ paid managers to handle the day-to-day work of the

associations.

To conclude, the farm credit cooperatives in the U. S. A. have reached a higher stage of development compared with the cooperatives in India. The cooperatives in India have, however, made steady progress in recent years. The factors which still seem to retard the development of the cooperatives in India are (1) unfavorable socio-economic environment; (2) defective organization of the cooperatives; (3) inappropriate criterion for judging the credit worthiness of members; (4) small size of the primary agricultural credit societies; (5) defective procedure of the primary societies for advancing loans; (6) unlimited liability in the primary societies; and (7) inefficient management of the primary societies.

V. LITERATURE CITED

1. American Bankers Association. Agricultural Committee. Agricultural credit and related data. New York, Author. 1961.

2. Arnold, C. R. 1933-1958. Farmers build their own production credit system. Farm Credit Administration Circular E-45. 1958.

3. Baird, Frieda and Benner, C. L. Ten years of federal intermediate credits. Washington, D. C., The Brookings Institution. 1933.

4. Butz, Earl L. The production credit system for farmers. Washington, D. C., The Brookings Institution. 1944.

5. International Monetary Fund. Fifth annual report on exchange restrictions, 1954. Washington, D. C., Author. 1955.

6. India. Ministry of Food and Agriculture and Ministry of Community Development and Cooperation. India's food crisis and steps to meet it. The Agricultural Production Team. Author. New Dehli, Times of India Press. 1959.

7. India. Planning Commission. Third five year plan. A draft outline. New Dehli, Government of India Press. 1960.

8. Jakhade, V. M. Rural credit in India. Studies in Indian agricultural economics. Souvenir volume. Indian Society of Agricultural Economics, Mysore. 1958.

9. Larsen, H. C. Government participation in financing of Federal Land Bank operations. Agricultural Finance Review 4(1): 12-20. March, 1941.

10. Murray, William G. Evaluation of India's rural credit problem. The Indian Journal of Agricultural Economics XI(4): 25-30. October-December, 1956.

11. ________ and Associates. Important changes in Iowa rural banking picture in 1959. Iowa Agricultural Experiment Station. Project 1069. 1959.

12. Murray, William G. and Nelson, Aaron G. Agricultural finance. 4th ed. Ames, Iowa, The Iowa State University Press. 1960.

13. Narayanaswamy, B. V. and Narasimhan, P. S. The economics of Indian agriculture. Part I. 7th Revised ed. Madras, Rochouse and Sons Private Ltd. 1959.

14. Rangnekar, D. K. Agricultural finance in India. Bombay, Cooperators Book Depot. 1952.

15. Reserve Bank of India. Report of the Committee of Direction. All-India Rural Credit Survey, Volume I. The survey report. Summary. Bombay, Author. 1955.

16. ________. Report of the Committee of Direction. All-India Rural Credit Survey. Volume II. The general report. Bombay, Author. 1954.

17. ________. Review of the cooperative movement in India, 1954-56. Bombay, Author. 1955.

18. ________. Role of the Reserve Bank of India in the sphere of rural credit. (Mimeograph). Bombay, Author. 1959.

19. ________. Rural credit follow-up survey, 1956-57. General Review Report. Bombay, Author. 1960.

20. ________. Rural credit follow-up survey, 1957-58. General Review Report. Bombay, Author. 1961.

21. ________. Statistical statements relating to the cooperative movement in India, 1957-58. Author. Bombay, Examiner Press. 1959.

22. Sparks, Earl Sylvester. History and theory of agricultural credit in the United States. New York, Thomas Y. Crowell Company. 1932.

23. Tocquevillee, Alexis De. Democracy in America. Abridged ed. New York, The New American Library of World Literature. 1956.

24. Troelston, Emil Samuel. The principles of farm finance. Saint Louis, Educational Publisher, Inc. 1951.

25. U. S. Department of Commerce. Bureau of the Census. 1959 census of agriculture. Preliminary. 1960.

26. U. S. Farm Credit Administration. Annual Report, 12th, 1944-45. 1946.

27. ________. Annual Report, 25th, 1957-58. 1959.

28. ________. Annual Report, 26th, 1958-59. 1960.

29. ________. Annual Report, 27th, 1959-60. 1961.

30. ________. Annual summary of operations, 26th, 1959. Production Credit Associations. 1959.

31. ________. Annual summary of operations, 27th, 1960. Production Credit Associations. 1960.

32. ________. Banks for cooperatives a quarter century of progress. 1960.

33. ________. The cooperative farm credit system. Functions and organization. Circular 36A. 1959.

34. ________. 1917-1957. Years of progress with the Cooperative Land Bank System. Circular E-43. 1957.

35. ________. Report to the Federal Land Bank Associations, 1960. 1960.

36. ________. Summary of major accomplishments in the Cooperative Farm Credit System, 1953-60. (Mimeograph). 1960.

37. West Pakistan. The cooperative inquiry committee report, 1955. Lahore, Superintendent Government Printing. 1956.

VI. ACKNOWLEDGMENTS

This study was conducted under the able and inspiring guidance of Dr. William G. Murray, Professor of Economics, Iowa State University. The author expresses his sincere appreciation to him for offering helpful criticisms and invaluable advice throughout the preparation of the study. The author is also grateful to the Council on Economic and Cultural Affairs for a fellowship for the completion of the study.

The author is also indebted to Dr. Frank Robotka, Marketing Economics, Iowa State University; R. C. Engberg, Chief, Research Division, Farm Credit Administration; William H. Youngclass, President, and R. Lehmann, Manager, Production Credit Association, Webster City; and L. A. Hansen, Manager, Federal Land Bank Association, Nevada; for their invaluable assistance and suggestions.

The author also acknowledges the benefit from discussions with his co-students, N. S. Randhawa and Dwight M. Gadsby.

VII. APPENDIX

Table 34. Currency exchange rates between India and the U. S. A., 1945-1960[a]

Year	Exchange rates	
	India	U. S. A.
1945	Rupees 3.30852	$1
1950[b]	Rupees 4.76190	$1
1955	Rupees 4.76190	$1
1960	Rupees 4.76190	$1

[a]Source: International Monetary Fund (5, pp. 181, 259).

[b]India devaluated her currency in September, 1949.