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PRODUCTION CREDIT AND FERTILIZER CONSUMPTION

A REVIEW OF LITERATURE

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PRODUCTION CREDIT AND FERTILIZER CONSUMPTION:

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I. INTRODUCTION

Problems of short-term agricultural production credit have received considerable attention in recent months. A recent review by an expert committee, headed by K. C. Bankiwala, of the recovery of agricultural advances by commercial banks and the protection afforded to them by the State agricultural credit Acts has brought out a dismal picture. In its view, the State enactments which are "in all material respects non-starters" have totally failed to help the commercial banks recover their agricultural loans and to protect them against "willful and influential borrowers determined to delay or defraud banks". While the banks, following the official policy, had to move deeper into the rural economy and to make increasingly larger advances to the agricultural sector, the low rate of recovery was making the entire banking sector increasingly vulnerable.[1/]

The Shivaraman Committee which recently submitted its report to the Union government on all aspects of agricultural financing system has recommended far-reaching changes. The Committee has reportedly urged the setting up of a National Agricultural and Rural Development Bank in which the Agricultural Refinance and Development Corporation (ARDC), the Agricultural Finance Corporation (AFC), the Agricultural Credit Division of the Reserve Bank of India and the Regional Rural Banks (RRB) should be merged. In effect, the

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1/ The Financial Express, New Delhi, May 27, 1980

Committee has asked for nothing short of a revolutionary change in the current system of agricultural credit in which the responsibility for short and long-term credit is divided among separate institutions and has sought to integrate the different activities and different institutions at the national level.[2/]

Government officials charged with the responsibility of maintaining the momentum of fertilizer consumption are concerned about the adequacy of short-term credit supplied in relation to potential demand. Since a large proportion of fertilizer (over 70 percent) is purchased by farmers on credit, the expansion of fertilizer consumption at a rate of about 12 to 15 percent per year would lead to an increasing demand for short-term credit. Further, legal restrictions on the operations of noninstitutional lending agencies (particularly moneylenders) and debt reliefs granted by some state governments would have the effect of drying up the flow of credit from noninstitutional source and generate a considerably larger demand for credit from institutional sources.

These concerns have led to the suggestion that AID should finance a study of the existing system and agencies dealing with agricultural production credit in different states with a view to determining the adequacy or otherwise of the quantum of short-term production credit. However, the Reserve Bank of India (RBI) has been conducting studies precisely in this area since 1976[3/] and has set up a number of committees and expert groups to look into several aspects of agricultural finance including short-term

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2/ The Sunday Standard, New Delhi, June 8, 1980. Understandably, the cooperative sector is not happy about such an integration; it fears that its powers would be curtailed considerably under the new system.

3/ Reports for eight states are now available. These include: Maharashtra, Madhya Pradesh, Gujarat, Kerala, Tamil Nadu, Punjab, Assam and Haryana.

credit. It would therefore seem prudent first to make an assessment of the situation on the basis of the existing state of knowledge. Such an overview would also serve to acquaint those with a somewhat peripheral interest in the subject with the current situation. Both goals have influenced the organization and the substance of this paper.

II. OVERVIEW OF THE AGRICULTURAL PRODUCTION CREDIT SYSTEM

The relative share of institutional agencies in the total cash-debt owned by rural cultivating households has shown substantial increase over the years. In 1951-52, for instance, this share of the institutional credit agencies was barely 7.3 percent; it rose to 18.4 percent in 1961-62 and to 31.7 percent in 1971-72.[4/] While it would be rated as an impressive performance by any standard, it is a sobering thought that about 68 percent of all borrowings of cultivating households in rural India came from non-institutional sources comprising professional moneylenders, agricultural moneylenders, traders, landlords, friends and relatives, even as late as in 1971-72. Although there has been an impressive upsurge since then the quantum of agricultural credit supplied by the institutional agencies, it is unlikely that there has been any substantial decline in the relative share of the traditional, noninstitutional credit sources in the total borrowings of agricultural households.

It is, however, important to set the role of the institutional credit agencies in their proper perspective. Not all borrowings of the farm household is for productive purposes; household consumption

4/ See, Reserve Bank of India (RBI), Report of the All India Rural Credit Review Committee, 1969; and RBI, Report of the All India Debt and Investment Survey, 1977

and other non-farm expenses consitute 48 percent of total borrowings. Comparison of the relative share of the institutional and traditional sources of credit in the total borrowings tends to understate the relative importance of the institutional credit agencies in providing credit for productive purposes. A carefully done study has indicated that traditional sources of credit are most important in respect of borrowing for 'household consumption and other non-farm expenses', providing for about 93.4 percent of the borrowing on this count by the farm households. They are less so in respect of borrowing for the purposes of meeting capital expenses; providing about 63 percent. In respect of borrowing for short-term operational expenses, their importance is the least, providing only about 13 percent. Viewed in this perspective, the role of the institutional agencies, particularly in the area of short-term production credit, would not appear to be as dismal as it is often made out to be. 5/

The institutional credit system for agriculture consists of two wings, one dealing with long-term credit and the other with short and medium-term credit. Historically, the two wings have developed as separate organizational entitites based on functional specialization. The long-term credit system has at its apex level the Agricultural Refinance and Development Corporation (ARDC) providing refinance to State Land Development Banks and commercial banks at the state level; at the local level long-term credit is provided by the primary Land Development Banks (having access to the State Land Development banks) and by the rural branches of the commercial banks,

5/ National Council of Applied Economic Research (NCAER), Credit Requirements for Agriculture, 1974. It seems, therefore, that debt reliefs and limitations imposed on moneylenders would likely contract the supply of long-term and consumption credit from noninstitutional agencies and would generate a substantially greater demand for long-term credit from institutional sources. The effect on short-term institutional credit, if any, would be minimal.

the Regional Rural Banks and the Farmers Service Societies.[6/]

Four institutional agencies are involved in short-term -- often called "agricultural production credit", or "seasonal agricultural finance", or "crop loans" -- and medium-term credit. These are the cooperatives, the commercial banks, the Regional Rural Banks (RRB) and the Farmers Service Societies (FSS). The last two, having been established only in the mid-seventies, are as yet relatively minor sources of short-term credit. Although the two credit wings are separate, overall coordination and guidance at the national level is provided by the Reserve Bank of India (RBI) as part of its statutory obligation.[7/]

Of the institutional agencies providing short-term agricultural credit,[8/] the cooperatives, however, are by far the most important agency, accounting approximately 68 percent of the total production credit provided by institutions in 1978-79. They are organized as a three-tier structure for short-term credit, consisting of the state cooperative bank (SCB) at the apex level, central cooperative

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6/ See Annex 1 for a chart showing institutional channels of long-term credit in India.

7/ See chart in Annext II showing the short-term agricultural credit system. Often the same agency is involved in the distribution of both short/medium and long-term credit. Since this review is confined to the short-term productic credit only, the mechanics or the functioning of the medium and long-term credit will not be outlined here.

8/ In addition, we should note that the State governments also provide what is called "taccavi loans" directly to farmers. These loans are provided under the provisions of (a) the Improvement Loans Act of 1883 and (b) the Agriculturists Act of 1884, through the agency of Community Development and the Revenue and Agricultural Departments. While these loans were quite significant in the past in several states, their relative importance has now declined; they accounted for only about 4 percent of the total short-term institutional finance in 1978.

banks (CCB) at the intermediate (district) level and the primary agricultural cooperative societies (PACS) at the base serving a village or a group of villages. There are about 135 thousand PACS in the country covering about 90 percent of the villages. Each one of 22 States and 9 Union Territories is served by a State Cooperative bank and there are 341 central cooperative banks serving the 388 districts in the country.

The primary agricultural cooperative societies are administered by a managing committee composed of 5 to 9 members elected by its general body of members at the annual meeting; their internal sources of capital include share capital contributed by the members, the entrance fees, reserve funds and members' deposits; the external sources of funds consist of deposits of non-members, loans from the central cooperative bank and the government. To improve the borrowing power of the PACS, following the recommendations of the All India Rural Credit Survey Committee (1954), the government contributes to the share capital of the PACS.

The membership of the central cooperative bank (CCB) is composed of PACS and individuals and others (about 60,000) including local bodies and quasi-government institutions; its working capital consists of owned funds -- that is, share capital, deposits of members -- and borrowings from the apex bank, the state government and the RBI. The membership of the state cooperative bank (SCB) is similarly composed of the cooperative societies and individuals and others including the state government. The working capital of the SCB consists of owned funds comprising share capital, statutory

and other reserves, receipt of grants and aid from the government under the Agricultural Credit Stabilization Fund, and deposits and borrowings from the RBI, state government, ARDC and the IDBI.

The flow of short-term credit through the cooperative system is governed by the lending policies laid down from time to time by the RBI. Generally, a fieldworkers' conference in which all the key officials and non officials concerned with agricultural credit are represented, is convened by the CCB to recommend the scale of finance in terms of three components: component A in cash to meet the miscellaneous cash outlays of a cultivator, production being assumed to be at the traditional level of technology; component B in kind, such as fertilizer and pesticides, the quantum of which will depend on the extent of adoption of the new agricultural technology; and component C in cash for meeting the additional cash expenses owing to the rise of the new agricultural technology. On the basis of this scale of finance, each PACS prepares a credit limit statement which serves as the loan application both of the society and of the individual members of the society. Once these credit limit statements are approved by the CCB, they are forwarded through the SCB to the RBI which sanctions the credit limit after taking into consideration the ability of the CCB to match the proposed borrowings by non-overdue loans outstanding against its borrowers.

With the nationalization of 14 major commercial banks in 1969, and the adoption of a multi-agency approach to agricultural credit, the commercial banks have become the second major source of short-term credit. After the second dose of nationalization of 6 more

commercial banks in May 1980, there are now about 28 public sector banks (including the State Bank of India and its subsidiaries) which provide both direct and indirect finances to agriculture through a network of more than 8 thousand rural branches (in areas of population of less than 10,000).

While the RBI lays down from time to time the overall framework of operation such as rates of interest that can be charged by the commercial banks, the percentage of aggregate bank deposits to be lent out to agriculture and the priority sectors, the share of the weaker section in the aggregate loans, the percentage of rural savings that must be reinvested in rural areas and the like, by and large, the commercial banks have been free to develop and to work through a variety of credit schemes. While the major proportion of short-term agricultural credit provided by the cooperatives comes from the RBI as loans, most of the credit supplied by the commercial banks to agriculture is provided against their deposits mobilized mainly from urban areas. Generally, the costs incurred by commercial banks in respect of direct short-term advances to farmers are on the high side and the income derived from such lending operations is lower than that in other sectors. In comparison with the cooperatives, they suffer from several disadvantages, one of which is that they are not entitled to the concessional refinance facilities available to the cooperatives from the RBI.

A third and a relatively minor source of short-term agricultural credit is the Regional Rural Bank (RRB). There are now about 56 RRBs

with 1,990 branches covering 102 districts.[9/] The RRBs have been set up under the Regional Rural Banks Act of 1976 "with a view to developing the rural economy by providing, for the purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to the small and marginal farmers, agricultural laborers, artisans and small entrepreneurs and for matters connected therewith and incidental thereto". Sponsored by a scheduled public sector commercial bank, each RRB has jurisdiction generally over a homogenous area varying from one to five districts while each of its branch offices covers up to three blocks. The issued capital of an RRB (Rs. 2.5 million) is subscribed by the Government of India, the sponsoring bank and the concerned state government in the proportion of 50 percent, 35 percent and 15 percent respectively. Managerial and staff assistance is provided by the sponsoring bank initially for the first five years of its existence. The management consist of a nine-member Board of Directors headed by a chairman appointed by the GOI. The status of the RRB is that of a scheduled commercial bank and it has the power to mobilize deposits and to grant short-term and long-term loans directly only to the small and marginal farmers, agricultural laborers, rural artisans, small entrepreneurs, etc. and also indirectly to all types of cooperative societies and the Farmers' Service Societies (FSS) operating within its area of operation.

The Farmers' Service Societies (FSS) constitute the fourth and

9. RBI, Report on Currency and Finance, Vol. I, 1978-79

a relatively unimportant channel of short-term credit. These have been in operation since 1973-74, following the recommendation of the National Commission of Agriculture (NCA). By the end of 1976, there were about 311 FSSs out of which 181 were sponsored by the commercial banks and 130 by the cooperatives. Provision of credit is, however, only one of the many functions assigned to the FSS. It is expected to provide a full package of services and technical guidance to farmers, particularly the small farmers for increasing production and for diversification of farm activities in an integrated manner and at one contact point. The crucial difference between the usual cooperative societies and the FSS is that the control of management of the latter is supposed to rest with the weaker sections; about two-thirds of the elected members of the Board of Directors of the FSS are required to be small farmers. Organized essentially as a cooperative society, the FSS draws its working capital from the following sources: (a) credit lines from the financing bank for all loans to individual members and for the entire gamut of service activities; (b) sales proceeds and service charges collected from members; (c) trade margins on inputs; (d) contributions from financing bank for the salary of the Managing Director and from State governments for the salaries of the entension staff; (e) all subsidies for which individual members are eligible under on-going Small Farmers Development Agency programs; (f) commissions and fees.[10/]

III. PERFORMANCE OF THE INSTITUTIONAL PRODUCTION CREDIT SYSTEM

Judging by aggregative indicators, the progress of the short-term

10/ NCA, Report of the National Commission on Agriculture 1976, Part XII, Supporting Services and Incentives.

agricultural production credit system has been quite impressive in recent years and particularly since 1970 when the single-agency approach to agricultural credit was replaced by a multi-agency approach. The highlights of the performance of the individual components of the system is summarized below.

The Cooperative System

While the number of state cooperative banks has remained static at 26 -- one for each state and one for each of the five union territories -- there has been a slight increase in the number of central cooperative banks (from 341 in 1974 to 344 in 1976). So far as the PACS are concerned their total number declined from 172 thousand in 1967-68 to 134.8 thousand in 1976.[11/] Out of this figure 11,634 PACS were dormant societies.

Although at the base of the primary level the cooperative structure continues to suffer from organizational and financial weaknesses, there has been some progress in quantitative terms in the working of the PACS. They covered about 96 percent of the villages in 1976, and if the dormant societies are excluded, the active societies covered about 92 percent of the total number of villages in the country. The percentage of villages served by active societies to total villages covered was more than 90 percent in Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttar Pradesh and the Union territories, while it was 100 percent in Haryana; the percentage was the lowest in Nagaland (47.4%) followed by Manipur (66.2%).[12/]

11/ This decline was the result of reorganization of weak PACS.
12/ Estimates for Assam are not available.

The total membership of PACS increased from 35 million in 1974 to 39 million in 1976, despite the decline in the number of PACS. The average membership per society increased from 227 to 293 during the same period. The total short-term agricultural production credit issued by the primary cooperative credit societies increased from Rs. 7.5 billion in 1974-75 to Rs. 12.4 billion in 1978-79.[13/]

Commercial Banks

Since the nationalization of 14 commercial banks in 1969, one of the objectives before the commercial banking system has been to extend their branch network to rural areas. The number of rural branches has increased from 1832 in 1969 to 11,520 in 1979 (excluding the branches of the regional rural banks);[14/] expressed as a percentage of all branches, the rural branches of commercial banks constitute about 38 percent. Simultaneously with the expansion of branch network, short-term direct advances to agriculture by the commercial banks increased from Rs. 1.46 billion in 1974-75 to Rs. 3.25 billion in 1978-79[15/] (excluding the quantum channelized through PACS). The share of the commercial banks in total short-term loans issued by all institutional credit agencies (i.e., cooperatives, government, commercial banks and RRBs) went up from 15 percent in 1974-75 to 18 percent in 1978-79.[16/]

Commercial banks have also been financing some PACS under a scheme formulated in 1970. By the end of December 1978, 623 branches

13/ Provisional estimate. See RBI, Report on Currency and Finance, 1978-79.
14/ RBI, Report on Currency and Finance 1978-79
15/ Ibid
16/ Ibid

of 24 commercial banks had taken over 2,894 PACS in 122 districts spread over 12 states. Short-term production loans to agriculture channeled by the commercial banks through these PACS rose from Rs. 123 million in 1974-75 to Rs. 370 million in 1978-79.[17/]

Estimates of Credit Requirement

Supply targets in respect of short-term agricultural credit in the recent five year plan documents as well as the annual plans are based on the estimates of credit requirements prepared by the NCA. The procedure adopted by the NCA involved a four-way classification of the operational land area into (a) irrigated (both already irrigated and likely to be irrigated under various programs of the government), (b) unirrigated, (c) small holdings (up to 2 hectares in size) and (d) medium and large holdings (greater than 2 hectares). Applying a scale of finance at the rates of Rs. 600 per hectare in irrigated areas and Rs. 450 per hectare in unirrigated areas, the NCA estimated the aggregate short-term agricultural credit requirement for 1985 at Rs. 72.30 billion. Adding another Rs. 6.54 billion for short-term credit requirements in allied activities (such as piggery, poultry, sheep rearing, fishery, etc.), the total short-term credit requirement in "agriculture and allied sectors" in 1985 was placed at Rs. 78.84 billion. This is what the NCA called the "full" credit requirement.

To translate this "full" requirement into a realistic financial program that could be met by the credit system, the NCA made the assumptions that (a) the scale of financing for the medium and large

farmers in irrigated areas could be reduced by 50 percent; (b) the program coverage in unirrigated areas would be 50 percent and the scale of financing for the medium and large farmers in this area would be only 60 percent. On this basis, the NCA estimated that the "graduated requirements" of short-term credit in agriculture and allied services would be Rs. 40 billion in 1985. It urged that at least 45 percent of the 1985 level of graduated requirement be met by the end of the fifth Five Year Plan, i.e., by 1979.[18/]

In some respects, the NCA estimates would seem to be unsatisfactory. Application of a standard scale of financing regardless of differences in agro-climatic conditions would likely lead to an overestimatation of credit needs. Again, as long as self-financing by farmers is ignored, (the NCA assumes 50 percent self-financing in irrigated areas and 60 percent in unirrigated areas by medium and large farmers only), the estimate to short-term credit requirement becomes in effect an estimate of the anticipated use of working capital by all farmers.

In terms of this aggregate estimate of the short-term credit needs, however, the performance of the credit system would seem to have been creditable. The total volume of short-term loans issued during 1978-79 by the PACS, commercial banks, state governments and the RRBs taken together, aggregated to Rs. 18.12 billion - a figure slightly greater than the 45 percent target of the graduated requirement laid down by the NCA for 1979.

Adequacy of the System: Cooperatives

The adequacy or otherwise of a credit system should not perhaps

18/ Report of the National Commission on Agriculture, 1976, Part XII, Supporting Services and Incentives

be judged solely on the basis of the quantum of credit issued. The channels of credit may for instance be blocked in some areas and credit flow may stop short of the farm or village level. Then, although at the aggregate level the system might appear to be adequate, in terms of credit issued from the point of view of the ultimate users of credit in some areas, the system would be inadequate ·much as it does not make the needed credit available to them. The question, therefore, needs to be viewed at a disaggregated level -- that is at the village or primary level -- to determine whether the system is adequate or not.

The data at the primary level suggest large gaps in coverage of farm households by PACS. By the end of June 1976, for instance, the total membership of the primary societies was 40 million, but the number of borrowing members was only 15 million or about 38 percent of the total. To put it d:fferently, barely 19 percent of rural households are affectively covered by the cooperative system. As it has been pointed out by Dantwala Committee, nothing is known about the non-borrowing members, or why they choose not to borrow.[19/] Another study noted that nearly 60 percent of the farmers who did not borrow were those with h)ldings of less than 2 hectares and about 11 percent of the non-bor:owers had holdings over 6 hectares;. it went on to warn that it would be 'simplistic' to conclude that such a large proportion of farmers did not need credit for production purposes, and thought that this aspect needed an in-depth study.[20/] There is, of course, a good deal of evidence that a substantial proportion of farmers finance their inputs from their own resources and reference would be made

19/ RBI, Regional Rural Banks: Report of the Review Committee, 1978
20/ National Council of Applied Economic Research (NCAER), Credit Requirements for Agriculture, 1974

to this aspect in a later section of this review. Self-financing of inputs may at best explain only a part of the problem; other factors could be discrimination practiced by the PACS management, or that these members are considered ineligible for loans as they are not "credit-worthy". There is also evidence that there is multiple membership from the same families.[21/] In any event, the result is that the coverage of individual households by the cooperatives is partial; the membership is not universal. Further, the recent increase in the quantum of credit supplied by the cooperative system seems to have been achieved more through the increase in the scale of finance provided to the existing borrowing members than by covering other enrolled members. In some states the number of borrowing members has declined while in some membership has remained stagnant though the quantum of loans issued has increased.[22/]

Although the proportion of villages covered is reportedly 92 percent, in reality the effective geographical coverage by cooperatives is poor. As the Banking Commission observed, poor coverage is generally associated with a weak organization or with a weak financial position of the societies.[23/] In many areas the cooperatives virtually do not exist. Information about the state-wise or district-wise distribution of PACS classified as financially weak is not available, but for the country as a whole they formed about 80 percent of all PAC societies in 1974-75.[24/] Given the procedural guidelines evolved by the RBI for loans it follows that

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21/ GOI, Report of the Banking Commission, 1972

22/ RBI, Regional Rural Banks, op. cit

23/ GOI, Report of the Banking Commission, 1972

24/ Included PACS with credit classification of C, D, and E, and those which are dormant. RBI, Review of the Cooperative Movement, 1974-76

credit does not flow in many parts of the country simply because the primary societies themselves are ineligible for fresh credit from the system.

The geographical credit gap in fact extends beyond the limits of a group of villages to the entire districts and in some instances may cover the entire state. About 53 percent of the District Central Cooperative Banks, on whose "strength and vitality depends the efficacy of the primary societies", have been declared to be weak and 182 of these DCCBs (out of a total of 344) have had to be brought under the RBI program for rehabilitation. Viewed in the context of the preponderance of organizationally and financially weak PACS and CCBs in several states, the achievement of the short-term credit target laid down by the NCA seems to suggest that the cooperative system must be overfinancing some areas while delivering little or no credit in others. From the viewpoint of farmers -- the ultimate users of credit -- in the latter areas, the system therefore would not appear to be adequate at all.

The question whether the extension of commercial banking systems to the rural areas, following the multi-agency approach adopted in 1970, has helped to fill the gap left by the cooperative credit system has been examined in some details by the Dantwala Committee.[25/] Ranking the states according to the contribution of the cooperative and the commercial bank credit in terms of three criteria, mainly, agricultural credit per hectare issued in 1975-76, agricultural credit per hectare outstanding in June 1976 and agricultural credit for rural

25/ RBI, Regional Rural Banks, op. cit.

household outstanding in June 1976, the Committee concluded that the commercial banks' agricultural credit had been additive. It held that the commercial banks had not filled the geographical gap in the availability of credit that was not covered by the cooperative system.

Problem of Overdues

One of the factors responsible for the creation of the geographical gap in credit supply is default and large overdues. From the procedural steps related to loan processing outlined in an earlier section of this review, it should have been amply clear that the actual flow of short-term credit through the system would critically depend on timely repayment of previous loans. The credit limit sanctioned by the RBI merely signifies the upper limit up to which a CCB may borrow from the RBI. The actual drawal on the limit is subject to the CCB establishing its eligibility; a major condition stipulated by the RBI is that its refinancing facility would not be available to a CCB with overdues of 60 percent or above of their total demand.

In turn, the CCB follows a similar procedure regarding loans to PACS. The credit limit statement approved by the CCB simply signifies the upper limit up to which a PACS attached to it may borrow; it also indicates at the same time the maximum limit up to which an individual member of the concerned PACS could borrow. The actual drawals are subject to the PACS establishing its eligibility with the CCB and the individual borrower establishing his eligibility with his PACS. One of the conditions which must be satisifed to establish eligibility in the case of the society is that it has repaid the

prescribed proportion of the demand; in the case of an individual the condition for eligibility is that he is not a defaulter.[26/]

Overdues as a percentage of outstanding loans of PACS have been rising continuously since 1967-68. From 32 percent in 1967-68, they rose to 44 percent in 1971-72 and were only slightly lower at 43.1 percent in 1976. In 8 states the ratio of overdues to outstanding loans of the PACS ranged between 50 and 80 percent.[27/] So far as the CCBs are concerned in Assam, Bihar and Punjab, the ratio of overdues to outstanding loans was between 67 and 95 percent, though in the aggregate it was about 32.19 percent in 1976.[28/] The position is not very different in respect of the commercial banks. The recovery rate of direct finance to agriculture shows a change from 50.70 percent in 1974 to 51.94 percent in 1976, while the percentage overdues to outstanding loans has changed from 26.6 percent in 1974 to 25.3 percent in 1976.[29/]

26/ The fact that drawals are often less than sanctioned credit limits is sometimes taken to be indicative of the adequacy of credit. Clearly, this is an incorrect view. The fact is rather indicative of the inadequacy of the system from the point of view of credit delivery.

27/ The overdues reported by cooperatives do not represent the real recovery position. The Study Team on Overdues found that many cooperatives resorted to a variety of book adjustments to camouflage the real position in respect of loan recovery. The Team held that overdues at both primary and district levels had crippled the cooperative credit structure to such an extent that it was not in a position to absorb credit from the higher financing agencies. See, RBI, Report of the Study Team on Overdues of Cooperative Credit Insitutions, 1974.

28/ RBI, Review of the Cooperative Movement 1974-76

29/ RBI, Report of the Expert Group

A variety of factors often held responsible for the mounting overdues in the agricultural credit system have been thoroughly examined by a Study Team appointed by the RBI.[30/] It found that a positive relationship between natural calamities and overdues could not be established; overdues increased even in areas not affected (or marginally affected) by natural calamities. Even when external factors (over which the lending institutions have no control) were favorable, the levels and trends of overdues has been moving upward. There was some evidence of an inverse relationship between overdues and certain internal factors such as the size of business and existence of full-time paid secretaries.

The Team found that while default was universal and prompt repayment exceptional in any of the farm size categories, the small farmers with holdings less than 3 acres accounted for the single largest group of defaulters (33 percent of all defaulters). The Team concluded that "lack of will and discipline among cultivators to repay were the principal factors responsible for the prevalance of overdues in the cooperatives. Defaults were, by and large, willful". Among other factors, the Team identified defective lending policies, managerial apathy toward prompt action against defaulters and the absence of a favorable climate as the most important.

Among the deficiencies in lending policies leading to the increasing overdues, the Team identified inadequate apportioning of credit, untimely supply of credit, overfinancing, lack of

30/ RBI, Report of the Study Team on Overdues of Cooperative Credit Institutions, 1974

supervision over the end-use of credit, fixation of unrealistic due-dates and financing of defaulters as having encouraged defaults.[31/] For the unfavorable climate for repayment of cooperative dues, the Team held politics, the attitudes and certain policies pursued by the State governments to be primarily responsible. In some states government taccavi loans are provided to defaulters of the cooperatives; while in others taccavi loans are frequently written off on a large scale generating an impression among defaulters in general that their loans too need not be repaid. Some state governments have delayed or deferred execution proceedings against defaulters or issued blanket stay orders on awards pending execution. The Team found that representatives of state governments often "had given the impression to the borrowers, explicit or implicit, that cooperative dues need not be repaid", and went on to conclude that "the overall effect of all these has been to place a premium on default and violate the climate for prompt repayments".[32/]

Regional Disparities

A number of studies have shown that all institutional credit (including production credit) is concentrated in a few relatively well-to-do states. In an earlier section of this review, it was pointed out that in many states (particularly those that are economically backward) cooperatives were virtually non-existent. Existence of organizationally poor and financially weak PACS and

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31/ Unfortunately, no study has been made in regard to the problem of overdues facing the commercial banks.

32/ It is interesting to note that the Governments of Maharashtra and Tamil Nadu have recently decided to write off the debts owed by small and marginal farmers to the cooperatives amounting to Rs 490 million (Maharashtra) and Rs 620 million (Tamil Nadu). The Governments of Kerala, Tripura and Orissa are reported to have tentative plans to follow suit. Understandably, recovery of loans has already slowed down to about 50% of the normal in all states.

CCBs prevent the flow of credit towards certain states. The expectation that the commercial banks would be able to fill the gap in geographical coverage of credit by channeling greater volumes towards these states or regions has not yet been fulfilled. In general, the flow of credit from both the systems --- cooperatives and commercial banks -- has been in the same direction and towards the same regions. Analysis of the quantum of short-term credit issued on a per hectare basis in the states suggests no significant difference in the performance of the cooperatives and the commercial banks.[33/] Some studies have attributed this interstate disparity in credit availability to lack of infrastructure facilities in some states and to the lack of integration between different credit agencies.[34/]

Based on their experience with agricultural credit, the spokesmen of some commercial banks have argued that effective demand for credit is lower than the expected demand in the northern and the eastern states; in the former, cultivators are able to meet their production expense from their own resources, while in the latter the predominance of small farm monoculture on the one hand and the unsuitability of the new agricultural technology on the other make the effective demand for credit very small.[35/] This view has also been articulated very strongly by the Dantwala Committe which held that credit would flow where there is demand for it.[36/] Without a stimulation of effective demand for credit in the lagging states or regions through agricultural growth, the regional disparity in credit availability would be likely

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33/ RBI, Regional Rural Banks, op. cit.

34/ See papers published in Indian Journal of Agricultural Economics, Conference Number, Oct-Dec. 1978. Also "Rural-Credit: Structure and Discussion, Indian Journal of Agricultural Economics, Jan-March 1979.

35/ RBI, Report of the Expert Group, op. cit.

36/ RBI, Regional Rural Banks, op. cit. The questions as to which should come first, credit or development, is still open for debate.

to continue.

Other Problems

At the aggregate level several official Committees have so far examined the performance of the agricultural production credit system and have identified a few endemic problems both on the supply and on the demand side. On the supply side, many of these problems have arisen due to the adoption of the multi-agency approach to agricultural financing. The existence of a number of agencies retailing credit in an uncoordinated manner in a common area of operation has led to multiple financing, overfinancing or underfinancing, financial indiscipline and diversion of scarce resources to unproductive purposes. Inevitably, there is competition not only between the cooperatives and the commercial banks, but also among the commercial banks themselves, in the absence of a firm delineation of the respective spheres of operations. Uncoordinated expansion of commercial bank branches in the rural areas implies duplication of effort and avoidable expenditure. Multiple financing has intensified further the problem of credit recovery, since more than one agency may have claims on the same income or security. Another set of problems relates to the characteristics of the different credit systems -- cooperative and commercial banks -- and includes those arising out of the differences in procedures and policies, security norms, service and supervision charges, varying interest rates and the like.[37/]

There is a good deal of confusion regarding the role to be played

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37/ RBI, Multi Agency Approach in Agricultural Finance: Report of the Working Group, 1978. Also, RBI, Report of the Expert Committee.

by various credit agencies. One view appears to be that cooperatives must remain the major agency for credit distribution, supplemented, wherever necessary, by the commercial banks;[38] this view is also reflected in the recommendations of the Working Group set up by the GOI to consider the establishment of rural banks that "the role of the new institution (RRB) would be to supplement and not supplant the other institutional agencies in the field".[39] The other view is that dependence on a single agency is undesirable; it might lead to development of monopolistic tendencies, and to denial of credit to the deserving. In this view, alternative agencies to disburse credit should be provided for.[40]

On the supply side, the high cost of rural lending has not attracted sufficient attention.[41] A recent estimate puts the real direct cost of short-term and medium-term credit to the cooperative system at 19 percent and to the commercial banks at 20 percent.[42]

On the demand side, most of the problems seem to arise out of the procedures adopted by the commercial banks for the processing of loans. Most banks require a number of certificates and documents either with loan applications or at the time of loan agreements. These include extracts from revenue records about ownership or cultivation rights

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38/ RBI, Multi Agency Approach, op. cit.

39/ GOI, Report of the Working Group on Rural Banks (Narasimham Committee) July 1975.

40/ This view of some respondents is summarized in RBI, Multi Agency Approach in Agricultural Finance, op. cit.

41/ The Banking Commission estimated that the cost of lending the agriculturists and small scale entrepreneurs was the highest.

42/ C. D. Datey, The Financial Cost of Agricultural Credit: A Case Study of Indian Experience, World Bank Staff Working Paper No. 296, October 1978.

in land, "No dues or No Objection Certificates" from the local PACS, Demand Promissory notes, Continuing Security Letter, Letter of Lien and Set-off, non-encumbrance certificates and Letter of Guarantee from one or more sureties acceptable to the bank.[43/] The problem is that these certificates and documents are not easily available. The extracts of land revenue records, for instance, are not easy to obtain, either because the land records are not up-to-date, because the revenue officials are unhelpful; futhermore, no records of tenancy rights exist in the eastern states. In regions where there is no rapport between the cooperatives and the commercial banks, "no dues certificates" are not easily available to borrowers.[44/] The result invariably is an enormous delay in loan sanctioning. The time gap between the sanctioning and the disbursement of loans is also quite long often due to factors beyond the control of banks. These include the inability of the borrower to execute loan documents, or provide guarantors acceptable to the banks, and delays in the availability of inputs like fertilizer. The loan policies of the commercial banks therefore have made credit from commercial banks expensive both in monetary and real terms to the borrowers.[45/]

43/ While some banks do not require some of these certificates and documents, some require most of them for crop loans. See RBI, Report of the Expert Group, op. cit.

44/ Overfinancing or multiple financing cannot be entirely eliminated by asking for a "no dues certificate". Cooperatives could give loans after the borrower has obtained credit from the commercial banks, or they could give a false "no dues certificate". This is not a hypothetical possibility. This occurs quite frequently. See, RBI, Report of the Expert Group, op. cit.

45/ See, "Rural Credit: Structure and Flows", Summary of Group Discussion, Indian Journal of Agricultural Economics, Jan-March 1980. Also RBI, Report of the Expert Group, op. cit.

IV. PRODUCTION CREDIT SYSTEM AS SEEN THROUGH MICRO STUDIES

It is widely acknowledged that the share of all institutional credit in the total borrowing of farmers is still relatively small though it has considerably improved since the early fifties. However, the share of institutional credit in the borrowing for operation expenses in farming is quite high -- about 87 percent according to a study made by the NCAER;[46/] about 13 percent of the working capital needed by farmers for crop production is supplied by moneylenders, friends and relatives.

Micro-level studies have drawn attention to a more interesting aspect of the credit problem -- that is nonutilization of the available institutional credit for production purposes. A recent study has pointed out that some farmers, especially small farmers, do not draw on the short-term credit made available to them by the cooperatives in the eastern states.[47/] This problem is not confined, by any means, to the states in the eastern region alone; nor is it limited to the cooperative credit. Underutilization of sanctioned credit has been reported also from the 41 districts, scattered all over the country, covered by the Reserve Bank's Agricultural Credit Intensive Development Program.[48/]

Some of the factors that could partially explain this phenomenon have been noted in the earlier sections of this review. Defaulting,

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46/ National Council of Applied Economic Research, Credit Requirements for Agriculture, 1974

47/ K. Subbaro, "Institutional Credit, Uncertainty and Adoption of HIV Technology: A Comparison of East U.P. with West U.P." Indian Journal of Agricultural Economics, Jan - March 1980.

48/ RBI, Report on Currency and Finance, Vol. I, 1978-79.

for instance, on the repayment of earlier loans, would put a farmer outside the reach of the credit system; likewise, if the farmer is capable of self-financing of production inputs, the credit allocated to him would not be utilized. To what extent these two factors have influenced underutilization is not yet known. The view that the time-consuming procedure of borrowing from credit institutions and the consequent high real cost of borrowing do not make borrowing from credit institutions worthwhile from the viewpoint of the farmers has some merit, though the possibility that the marginal value productivity of working capital including production credit may be higher than marginal credit costs, cannot be ruled out altogether. A carefully conducted study in Gujarat estimated that the marginal value productivity of working capital including credit ranged between Rs. 1.40 and Rs. 1.44,[49] while the marginal cost of credit was taken to be Rs. 1.10. In another study[50] in Karnataka, the real cost of borrowing Rs. 100 from the credit instituions was estimated at Rs. 21.05[51] These location-specific studies do not, of course, permit broad generalizations of universal validity.

A few studies have attributed nonutilization of credit to the relatively small size of holdings operated by the vast majority of farmers which limits the size of working capital that could be profitably employed and weather-induced uncertainties and risks[52];

49/ B.M. Desai and D. K. Desai, Farm Production Credit in Changing Agricultures, Indian Institute of Management, Ahemedabad, 1971

50/ Glenn C.W. Ames and David W. Brown, Cooperative Credit for Farm Production in Mysore State, India. The University of Tennessee, October 1973.

51/ This figure included (a) loan application documents, Rs. 0.30; (b) transportation, Rs. 1.00; (c) share capital, Rs. 10.00; (d) share fee, Rs. 0.25; and (e) interest charges, Rs. 9.50.

52/ K. Subbarao, op. cit. M Schulter and John W. Mellor, op. cit.

some have indicated that inflexibility of institutional credit in comparison with credit from other sources could also explain why some farmers are reluctant to snap their ties with the moneylenders.[53/]

Finally, farmer attitude towards borrowing itself could be an important factor determining the use of available credit. That there is a significant difference between progressive and relatively backward farmers in respect of attitude towards borrowing has been indicated by the Gujarat study. More farmers in the more developed region of the study area were found to entertain progressive views regarding the role of credit whereas more farmers in the less developed region held views that were traditional.[54/] Given the widespread incidence if illiteracy, different norms of behavior associated with different castes and regions, the importance of farmer attitude towards borrowing cannot be ignored.

It was pointed out in an earlier section of this review that only 38 percent of the members of the cooperative societies were borrowing members and that relatively little was known about the 62 percent members of the PACS who did not borrow. An RBI study in twelve selected districts indicates a number of factors that are responsible for the members not taking advantage of the credit facilities available from their cooperative society.[55/] The reasons cited by the small and the large farmers for not borrowing vary a good deal from district to district. Default on earlier loans and ineligibility for fresh loans appeared to be one of the most important reasons both among small and large farmers for not borrowing from the PACS. Equally important for both groups of farmers was the lack of credit needs. In several

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53/ C. Baker and Vinaj K. Bhargara, "Financing Small Farm Development in India, "Australian Journal of Agricultural Economics, August 1974. See also, K. Subbarao, op. cit.

54/ B. M. Desai and D. K. Desai, Farm Production Credit in Changing Agriculture, Indian Institute of Management, 1971.

55/ RBI, The Small Farmers: A Field Study, 1975.

districts the proportion of small farmers citing fear of false accounting as a cause was large; in one district it was as large as 57 percent.

A few studies have stressed the role of power and privilege in the cooperative organizations at the village level which give rise to biasis in the allocation of credit to the members. Rao, for instance has drawn attention to the political power of the larger farmers which enables them to corner a substantial proportion of available credit from the small societies.[56] From Karnataka, Ames and Brown have reported that many PACS are dominated by large farmers.[57]

The 'class bias' in the cooperatives does not usually show up in the data on credit distribution at the aggregate level. But then the correspondence between the distributions of land and credit at the aggregate level might be more apparent than real and could be the result of inaccuracies in the cooperative data. Dantwala Committee referred to the frequent occurrence of *malafide* transactions under which larger farmers borrow in the name of the small.[58]

It would be inappropriate to conclude, however, that cooperatives everywhere discriminate against small operators in their credit allocations, or that the role of case and political power universally distorts credit flows. Dandekar Committee in Maharashtra, for instance, was emphatic in its view that there was no evidence to suggest that smaller farmers did not obtain their due share of total short-term cooperative credit.[59]

56/ C. H. Hanumanta Rao, "Farm Size and Credit Policy", Economic and Political Weekly, Review of Agriculture, 26 December 1970

57/ Glenn C. W. Ames and David W. Brown, op. cit.

58/ RBI, Regional Rural Banks, op. cit

59/ Gov't of Maharashtra, Report of the Committe on Financing of Small and Marginal Farmers through Cooperative Credit Structure.

V. INNOVATIONS AIMED AT IMPROVING THE SYSTEM

From time to time innovations have been suggested and incorporated into the short-term agricultural credit system. What had been a single-agency system once upon a time, was replaced by a multi-agency system in the early seventies. Under this system, cooperatives have continued to function as the leading agency, but supplemented first by the commercial banks, and next by newly created institutions such as the Regional Rural Banks and the Farmers Service Societies, with the expectation that these agencies would extend credit in those areas and to those sections of population not covered by the cooperatives. The commercial banks, though hesitant at first, have adopted a number of innovations in their credit schemes -- area financing, group financing and village adoption schemes -- each of which has a short-term component for meeting current production needs.

To channelize a greater volume of credit to the small and the marginal farmers, two special agencies, called the Small Farmers Development Agency (SFDA) and the Marginal Farmers and Agricultural Laborers Agency (MFAL), were set up following the recommendations of the All India Rural Credit Review Committee.[60/] Subsequently, at the instance of the National Commission on Agriculture MFAL was merged into SFDA. Among its many developmental functions, the SFDA is charged with the responsibility for promoting the flow of short-term credit to small cultivators. In order to encourage credit institutions to increase their short-term advances to the small and marginal farmers, the SFDA provides risk funds at the rate of 6 percent to these institutions.

60/ RBI, Report of the All India Rural Credit Review Committee, 1969

The RBI has been experimenting with several innovative procedures with a view to bringing about a reorientation of lending policies of the cooperatives in favor of the small and the marginal farmers. Till 1974-75, the RBI had stipulated that a prescribed portion of the borrowings by the CCB should be covered by loans outstanding against PACS for the small and the marginal farmers. In order to ensure compliance with this condition, the SCB was not allowed to draw in excess of 70 percent of the limit sanctioned to a CCB unless the requisite proportion of advances to small farmers in the total was maintained. From 1975-76 onwards, the RBI has been stipulating that the SCB must take into account loans issued during the year by a CCB to PACS for financing such farmers, and not the outstandings at the end of the year.

Likewise, the commercial banks have been advised by the RBI, following the recommendation of a Working Group set up by the GOI in 1978, to ensure that at least 50 percent of their total direct agricultural advances would be to the small and marginal farmers by 1982-83[61/] To provide incentive to the commercial banks for lending to the small and marginal farmers, the RBI has recently adopted two innovative measures. First, commercial banks are provided refinance by the RBI against loans granted through FSS for approved purposes at a concessional rate of 5 percent; the scheme has been in operation since 1973. Second, through the Small Farmers' Window created in January 1978, the RBI gives special refinance facility at the Bank

61/ See, RBI, Report on Currency and Finance, Folume I, 1978-79

Rate for all small direct agricultural loans (irrespective of the terms of the loans) individually not exceeding Rs. 2,500 up to 50 percent of the total finance. There is a view, however, which holds that no improvisation would eliminate the biases in the system against the weaker sections in agriculture -- the small and the marginal farmers, and the agricultural laborers. A deliberate rationing of credit to the larger farmers is taken to be a necessary condition in this view for providing a greater volume of credit to the small farmers.[62/] Some authors also urge politicization and unionization of the small and the marginal farmers, and the agricultural laborers to ensure that these groups obtain their due share of agricultural credit.[63/]

Reform and rehabilitation of the cooperative system is another area in which several innovations have been adopted over time. State partnership at all levels of the cooperative system was introduced in the early fifties,[64/] with a view to enlarging the financial resources of the cooperatives. The scheme of rehabilitation of weak central cooperative banks has been in operation since 1970. Another highly innovative scheme providing for linkage of rural-based PACS with urban-oriented commercial banks in areas where the cooperative structure is financially and operationally weak has been in operation since 1970.

Three states (Punjab, Madhya Pradesh and Rajasthan) have sought

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62/ C. H. Hanumant Rao, "Farm Size and Credit Policy", Economic and Political Weekly, Review of Agriculture, 26 December 1970.

63/ Raj Krishna, "Small Farmer Development", Economic and Political Weekly, May 26, 1979.

64/ Following the recommendation of the All India Rural Credit Survey Committee, 1954.

to replace the existing three-tier cooperative structure by a two-tier one, by abolishing the district level CCB in the short-term wing and the Primary Land Development Banks in the long-term wing. The proposed two tier structure will be based on the reorganized PACS at the primary level; the State Cooperative Development Bank (SCDB) will be at the apex level with branches of the SCDB at the district level. Although these proposals have not been accepted by the RBI, the governments of these three states have, on their own, initiated action to bring about this integration in the cooperative structure.[65/]

The integration of the short-term and the long-term credit wings has in fact been suggested by a number of official committees and study groups from time to time.[66/] The case for integration is that it would increase the efficiency of both short-term and long-term credit. Under the present system, the inadequacy of production credit renders full exploitation of the fruits of investment credit while the inadequacy of investment credit tends to restrict efficient utilization of production credit. Despite attempts to ensure a coordination between the two wings, they have grown in a rather mutually exclusive manner.

In the commercial banking sector, efforts have been made to reduce red tape, to simplify paperwork, and thus to improve the performance of the commercial banks. An expert group set up by the GOI has evolved a set of simplified application forms for loans to agriculture and

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65/ RBI, Report on Currency and Finance, 1978-79

66/ See the recommendations of the Banking Commission, the National Commission on Agriculture, the Committee on Integration of Cooperative Credit Institutions. The most recent committee to go into this question is the Sivaraman Committee to which a reference was made in the introductory section of this review.

allied activities to be adopted uniformly by all commercial banks.[67] It has also made a number of recommendations for simplifying the procedures for sanctioning of loans and for speeding up the flow of credit to agriculture.

The cumbersome loan policies pursued by the commercial banks, examined in an earlier section of this review, are in a sense due to the unequal position of the commercial banks vis-a-vis the cooperatives. The State Cooperative Acts offer a number of facilities to the Cooperative which are not available to the commercial banks. Cooperatives are exempt from several fees and duties while the commercial banks have to pay stamp duty on documents, fees for searching the records of Sub-Registrar and for the issue of non-encumbrance certificates, and fees for extracts from revenue records. More importantly, the State laws provide for the recovery of cooperative dues as arrears of land revenue -- a facility that is not available to the commercial banks.

In this context, an Expert Group, recommended that the commercial banks should be placed on par with the cooperatives in all State enactments in matters relating to the financing of agriculture.[68] It developed a model bill and urged the state governments to pass legislation along the lines of the model bill that would help a great deal in improving the commercial banks loan recovery performance. Progress in this direction, however, has been tardy. Some states where cooperatives are active have not passed the legislation yet; some which have, have not incorporated all the recommendations of

67/ GOI, Report of the Working Group on Simplification of Application Forms and Lending Procedures for Loans to Agriculture and Allied Activities, 1978.

68/ RBI, Report of the Expert Group on State Enactments, having a bearing

the Talwar Committee, while still others are yet to frame rules for the effective implementation of the legislation.

An innovation that aims at simplification of the loan procedure is the Agricultural Pass Books. The emphasis here is on having an authoritative record of the cultivator's rights in land so that each credit agency which proposes to lend to him has no need to examine separately particulars of land owned by him, his title to it, etc., and to that extent the time involved in the scrutiny of loan application may be reduced. However, only about half the states have so far introduced this sytem on a voluntary basis and in most cases without any statutory sanction to back it up. From the viewpoint of the credit agencies, the passbook, as it is today, is not an adequate basis for extending financial accommodation.

In order to curb the trend of mounting overdues, the RBI introduced in 1973 a seasonality discipline, under which the CCBs were required to recover a major part of their advances made in the conventional marketing period. With a view to making the discipline more effective, the RBI is now stipulating that the CCB must recover about 40 percent of demand as on 31st March of every year to be able to draw on the sanctioned credit limit after the 1st of April every year.

In retrospect, it would appear that the innovations adopted so far have improved the performance of the short-term credit system. It does meet a very large proportion of the demand for production credit. 69/ At the aggregate level, there may not be any gap between the demand for and the supply of short-term credit. The system has been able to raise the share of credit going to the small farmers quite appreciably in

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69/ See Section II of this review and footnote 5.

the last few years. At the micro level, however, several problems exist, the most important of which is that the flow of credit gets blocked up owing to defaults. Unfortunately, no innovation has so far been able to touch the core of the problem. Streamlining of loan procedures, structural reform of the cooperative system, and the like, do not affect repayment or recovery of dues that block credit flows and render the entire credit system wasteful and inadequate. The system has an Achilles' heel; it has no defense against willful default.

VI. CREDIT AND FERTILIZER CONSUMPTION

Government officials responsible for fertilizer promotion tend to view the question of short-term agricultural production credit from a different perspective. Assuming that a great availability of short-term credit would automatically lead to greater fertilizer consumption, they lay stress on the need for pumping in of more credit through the system. From this point of view, the most important constraint on greater fertilizer use by farmers is the lack of credit.[70/]

The Indian data on short-term agricultural credit and fertilizer consumption per hectare among various states may appear to lend some support to this somewhat oversimplified view. The relevant data are shown in Annex Table 1. By and large, the states where short-term credit disbursal per hectare is relatively high, the consumption of plant nutrients per hectare also appears to be relatively high. One could even go further and take the trouble of calculating the Spearmans

70/ These assumptions are reflected in the proposal for study on agricultural credit forwarded by the Ministry of Agriculture for USAID consideration.

coefficient of rank correlation which would turn out to be fairly high and statistically significant.[71] The test, however, is a test of association rather than a test of causality. It suggests that variations in the disbursement of credit, and therefore, by implication variations, in the availability of credit is associated with the variations in the consumption of plant nutrients. The test cannot say whether greater disbursements of short-term credit causes a greater consumption of fertilizer. The direction of causality may indeed be the other way around. In fact, the test is perfectly compatible with the alternative hypothesis that greater use of fertilizer leads to a greater disbursement of short-term credit. This is the hypothesis that the Dantwala Committee had in view when it pointed to the relation between demand for credit and flow of credit.[72] The demand for fertilizer is ultimately connected with the applicability and use of the new agricultural technology. It is poor in the areas where the new agricultural technology is not suitable owing to adverse physical environment; greater availability of short-term credit in such areas will not "automatically" lead to a greater use of fertilizer. It might instead lead to overfinancing and to a high incidence of defaults and overdues. Dantwala Committee rightly observed that "laying down of an arbitrary quota of credit for agriculture and putting undue pressure on credit institutions to speed up the flow of credit to agriculture is an exercise which may prove self-defeating. As, the experience in the cooperatives has shown, excessive overdues ultimately choke the flow of credit".[73]

71/ For the data in Annex Table 1, Spearman's coefficient of rank correlation is about 0.70 which is statistically significant.

72/ See RBI, Regional Rural Banks, op. cit.

73/ Ibid.

The relationship between the amount of credit used per unit of land and the new technology (irrigation and high yielding crop varieties) has been brought out clearly in a set of elasticity estimates developed by the NCAER.[74/] From cross-section data for 3309 cultivating households, the estimated elasticities of credit (used per hectare) with respect to irrigation and area under high yielding crop varieties were found to be 0.16 and 0.04 respectively. These estimates underscore the role of irrigation as the single most important influencing credit use per hectare.

To judge whether the quantum of fertilizer used per hectare is influenced by credit, it would be useful to turn to another NCAER study.[75/] According to this study, which estimated the quantitative significance of the relative influence of several factors on a crop by crop basis, credit had a positive and significant effect on the rate of fertilizer use only in the case of sugarcane crop; its effect was not statistically significant in the case of crops like rice, wheat, jowar, maize and cotton. It turned out, interestingly, that irrigation had a positive and significant effect on fertilizer use per hectare in the case of rice, wheat, jowar and cotton; and so had the use of high yielding varieties in the case of rice, wheat and maize. Other factors that turned out with positive and statistically significant coefficients were income of the household (in the case of rice and sugarcane only), ownership of land (in the case of rice and maize), and use of organic manures (in the case of rice, wheat and maize). These results seem to support the view that rate of fertilizer use

74/ NCAER, Credit Requirement for Agriculture, 1974
75/ NCAER, Fertilizer Use on Selected Crops in India, 1974

is more closely related to technology factors rather than to availability or supply of credit.

At the farm level too, there is evidence that farmers do not perceive lack of credit as the most important factor constraining fertilizer use. Choudhary and Prasad[76/] found in the command area of Kosi river in Bihar that the availability of credit ranked very low (tenth) among all the problems farmers faced in their decision to use fertilizer. This finding is highly significant in view of the fact that Bihar is not distinguished at all either by a high order of credit availability or by a competent cooperative network; as a matter of fact, Bihar has the distinction of occupying the 16th position among 17 major states in respect of the amount of short-term credit disbursed per hectare. The fact that in such circumstances, farmers do not consider lack of credit to be the major fa tor inhibiting fertilizer use seems to suggest that the role of credit in increasing fertilizer use has been somewhat overstated in the literature. Several other studies[77/] have also indicated that a greater proportion of farmers, regardless of holding size, view the lack of irrigation as the limiting factor to their use of fertilizer.

This does not mean, however, that credit has no relevance to fertilizer sales. As Chaudhary and Prasad's work suggests, the constraints upon fertilizer use may well form a hierarchy in the farmers' view; in this hierarchy of constraints, the most pressing one appears to be irrigation where it is not yet available. Once irrigation is introduced

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76/ B. N. Choudhary and C. Prasad, "Problems of Farmers in Relation to Fertilizer Use - An Investigation in Kosi Command Villages of Bihar", Fertilizer News, February 1980.

77/ See, for instance, Reserve Bank of India, The Small Farmers (1967-69): A Field Study; and NCAER, Fertilizer Demand Study: Interim and Final Reports.

other constraints, of which credit is one, would seem to be most pressing. Viewed in this perspective, there is ample justification for keeping up the pressure on credit supply rather than relaxing it.

NCAER's recent study on fertilizer demand[78/] has raised a few issues that are expecially relevant to this review. First, a large difference seems to exist between the proportion of cultivating households which use fertilizer and the proportion of these households which purchase fertilizer on credit. The two proportions are shown state-by-state in Annex Tables 2 and 3. Table 2 shows the proportion of cultivating households using fertilizer in each state; predictably, the distribution of these households by farm size varies a great deal from state to state. The data in Table 3 show that a very small percentage of these fertilizer-using farm households purchase fertilizer on credit. Even in those states where a very large proportion of all farm households uses fertilizer, such as Punjab, Haryana, Kerala and Tamil Nadu, the proportion of these households buying fertilizer on credit is small (between 15 and 39 percent). The fact that a large majority of farmers finance their fertilizer purchases out of owned resources rather than out of credit provided by the institutional and noninstitutional agencies, raises the question whether it could be due to inadequate supply of credit? Is it because the quantum of credit made available by the institutional agencies is not sufficient enough to cover all fertilizer using farm households?

While the data in Table 2 and 3 might appear to be like an indictment against the short-term credit system, they should be viewed in the context of the evidence in Annex Table 4 which puts together the

78/ NCAER, Fertilizer Demand Study: Interim and Final Reports.

proportions of farm households, which use fertilizer, reporting that credit facilities are available to them. The evidence shows that credit availability is not a problem; that credit is available to a large proportion of fertilizer-using farm households. Comparing Table 4 with Table 3 it will be found that though credit facilities are available to a large number of farmers, few avail themselves of these facilities to purchase fertilizer. Low utilization of credit could perhaps be attributed to the high non-interest (or transaction costs) of credit - a factor to which several observers have already drawn attention. Although this appears to be a plausible explanation, further investigation of the problem may well be rewarding.

VII CONCLUDING OBSERVATIONS

The evidence reviewed here suggests that the short-term agricultural credit system has certain deficiencies at the macro level. The distribution of credit for example, is uneven among states and regions; the share of different groups of farmers is not wholly equitable in all areas. Yet, despite these shortcomings, the system on the whole has performed reasonably well. The quantum of credit disbursed each year has progressively increased; estimated seasonal demand for credit is matched by the aggregate supply of credit. The Reserve Bank's willingness to supply as much short-term credit as needed by the system seems to ensure that the supply of credit would never be inadequate at the aggregate level. The multiagency approach has succeeded in extending the system to areas like dairying, forestry, livestock production - areas which were formerly outside the scope of short-term financing by institutional agencies. Judging by recent trends, there is no reason why the target set by the NCA cannot be reached by 1985. Uneven regional distribution of credit need not be a cause for serious concern since the demand

for credit in these areas is limited by the limited applicability of the new agricultural technology; with expansion of irrigation in these areas demand for credit too would likely increase. As for the inequities in the system, Dantwala Committee has rightly observed: "A credit system cannot be wholly equitous if the structure of rural economy is itself inequitous, nor can credit alone transform a basically inequitous economic structure into an equitous one."79/

At the micro level too there are problems, and these tend to reduce the effectiveness of the system. As this review has pointed out, cooperatives are weak in many states, lacking competent management or forced into inactivity by the sheer burden of overdues. Multiagency system has not succeeded yet in closing the geographical gap in credit supply; the progress of rehabilitation of weak cooperatives has been tardy. Yet, none of these is a major problem. Innovations have been made in the past and are being made in the present to enable the system to perform better at the micro level. The basic problem here is the problem of overdues and loan recovery. In many villages and in many regions served by the cooperatives the system has become clogged with mounting overdues. Once this problem is resolved, there is no reason why the efficiency of the system cannot be improved at the micro level.

The evidence reviewed here regarding fertilizer use seems to suggest that the consumption of fertilizer depends heavily on the applicability or otherwise of the new agricultural technology in a given region. Consequently, as irrigation is further developed, fertilizer consumption will grow. Credit availability may not be the most important constraint upon fertilizer use. Despite the deficiencies of the credit system,

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79/ RBI, Regional Rural Banks.

fertilizer consumption has grown by 18-20 percent since 1965/66. It is, of course, always possible to hold that more fertilizer would have been purchased by farmers had more credit been available; that given greater credit supply, the long-term growth rate in fertilizer consumption would have been higher. But the plausibility of this view now looks questionable in the light of the evidence reviewed here.

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ANNEX TABLE 1

SHORT AND MEDIUM TERM CREDIT ISSUED PER HECTARE BY PACS AND COMMERCIAL BANKS AND PLANT NUTRIENT CONSUMPTION PER HECTARE IN 1975-76

STATES	PACS (Rs)	Commercial Banks (Rs)	Plant Nutrient Consumption (N+P+K) (kg/ha)
Andhra Pradesh	56.72	34.10	29.0
Assam	N.A.	0.28	1.8
Bihar	19.49	3.77	12.0
Gujarat	130.03	12.41	15.6
Haryana	79.80	3.28	18.6
Himachal Pradesh	62.77	7.90	9.9
Jammu & Kashmir	N.A.	1.08	7.1
Karnataka	71.69	28.18	19.6
Kerala	157.33	83.83	21.0
Madhya Pradesh	32.54	1.24	5.4
Maharashtra	86.45	7.79	15.1
Manipur	19.05	0.48	10.5
Orissa	26.77	4.49	7.4
Punjab	119.90	4.56	49.9
Rajasthan	34.72	1.44	4.8
Tamil Nadu	142.09	66.33	37.1
Tripura	13.12	6.04	1.7
Uttar Pradesh	41.17	4.30	21.1
West Bengal	26.64	6.21	18.3

ANNEX TABLE 2

PERCENTAGE OF FARM HOUSEHOLDS USING FERTILIZERS

1976-77

Size of Farms (ha)	Below 1 ha	1-2	2-4	4-10	Above 10	All Households
Madhya Pradesh	9.9	9.8	20.4	19.9	40.6	16.4
Rajasthan	13.8	17.6	36.5	34.3	28.4	26.4
Uttar Pradesh	30.0	44.4	74.4	76.4	98.7	44.6
Assam	3.9	5.5	8.9	8.2	--	5.3
Bihar	29.1	55.7	66.4	72.2	90.6	44.9
Orissa	9.8	26.3	31.9	34.4	--	19.8
West Bengal	61.1	64.8	81.9	75.4	100.0	65.7
Haryana	44.1	57.0	60.5	89.6	95.4	68.6
Himachal Pradesh	22.2	46.0	44.8	47.6	100.0	28.8
Jammu & Kashmir	47.6	35.1	27.1	25.5	--	40.4
Punjab	71.8	94.4	96.9	98.7	100.0	95.3
Andhra Pradesh	44.9	66.5	75.2	76.0	90.0	62.2
Karnataka	34.4	39.7	39.8	41.2	37.5	38.5
Kerala	77.8	96.4	84.6	100.0	--	80.1
Tamil Nadu	67.0	75.1	87.2	89.5	80.6	73.7
Gujarat	53.2	55.9	67.4	71.5	75.3	65.0
Maharashtra	38.7	41.4	38.4	53.0	63.1	43.9

Source: NCAER, Fertilizer Demand Study, vols. 7-11.

ANNEX TABLE 3

PERCENTAGE OF FERTILIZER-USING HOUSEHOLDS PURCHASING FERTILER ON CREDIT, 1975-76

Size of Farms (ha)	Below 1 ha	1-2	2-4	4-10	Above 10	All Households
Madhya Pradesh	36.1	66.0	40.6	44.0	51.7	46.8
Rajasthan	24.8	30.1	33.5	39.2	38.1	33.7
Uttar Pradesh	17.5	20.1	26.4	27.8	11.2	20.4
Assam	--	6.5	--	--	--	2.6
Bihar	26.3	41.5	43.6	48.3	39.6	37.3
Orissa	13.1	20.1	14.6	12.6	5.0	15.2
West Bengal	3.5	5.5	5.1	4.9	--	4.4
Haryana	1.7	8.3	12.1	26.5	13.1	15.0
Himachal Pradesh	9.7	5.8	9.1	33.3	--	9.1
Jammu & Kashmir	24.9	35.0	20.2	50.0	--	26.6
Punjab	16.3	16.1	23.2	36.3	43.9	26.9
Andhra Pradesh	6.2	11.5	8.9	18.2	6.4	10.3
Karnataka	11.9	16.5	25.9	19.8	7.3	17.8
Kerala	20.8	36.4	32.3	100.0	--	23.1
Tamil Nadu	38.6	37.9	41.8	34.9	70.1	38.7
Gujarat	14.9	28.4	35.1	33.5	19.1	29.4
Maharashtra	39.5	42.5	35.8	45.9	74.2	42.5

Source: NCAER, Fertilizer Demand Study, Vols. 7-11

ANNEX TABLE 4

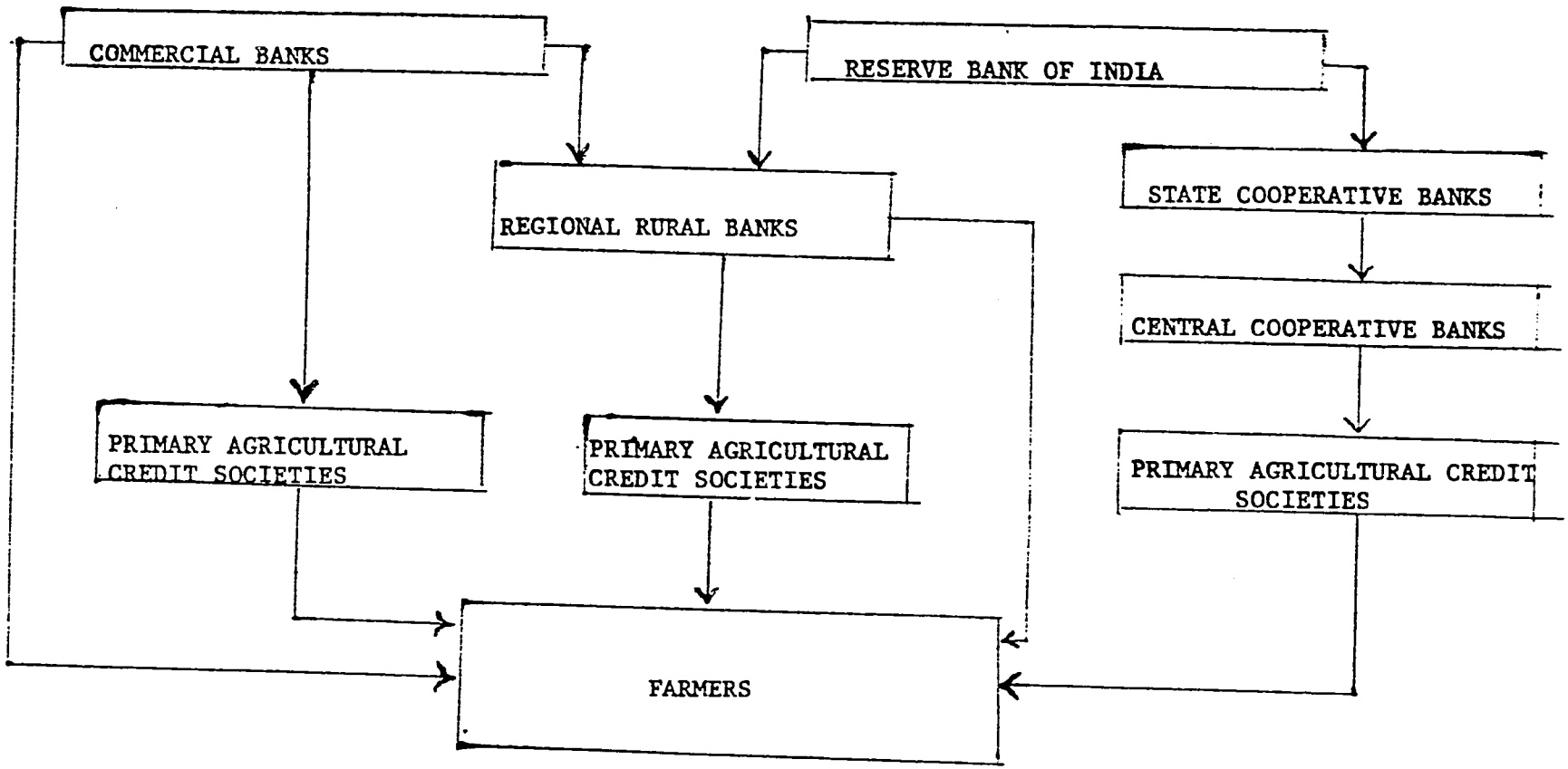
PERCENTAGE OF FERTILIZER-USING HOUSEHOLDS

REPORTING AVAILABILITY OF CREDIT FACILITIES, 1975-76

Size of Farms (ha)	Below 1 ha	1-2	2-4	4-10	Above 10	All Households
Madhya Pradesh	75.0	86.3	67.7	68.8	63.4	73.0
Rajasthan	69.8	66.2	74.6	71.4	78.8	71.7
Uttar Pradesh	65.3	73.4	68.2	74.0	25.3	68.0
Assam	9.1	13.0	5.0	--	50.0	10.4
Bihar	45.7	53.6	56.9	54.6	49.6	51.5
Orissa	41.5	46.3	67.0	56.2	65.0	48.4
West Bengal	44.0	51.5	42.0	39.3	--	45.8
Haryana	55.8	59.2	42.9	81.8	87.3	62.6
Himachal Pradesh	20.7	33.1	29.1	16.7	--	25.4
Jammu & Kashmir	56.3	66.4	40.3	60.0	--	56.5
Punjag	47.9	58.5	66.5	65.3	61.0	63.0
Andhra Pradesh	16.7	23.7	27.4	29.7	19.2	24.5
Karnataka	22.2	25.6	31.4	24.6	4.9	25.5
Kerala	66.6	74.1	100.0	100.0	--	68.1
Tamil Nadu	81.4	78.8	78.5	74.4	59.7	79.7
Gujarat	41.3	59.1	65.6	64.8	51.0	59.8
Maharashtra	95.7	94.1	94.5	89.3	95.0	93.7

Source:

SHORT TERM & MEDIUM TERM
AGRICULTURAL CREDIT SYSTEM



LONG TERM AGRICULTURAL CREDIT SYSTEM