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Vol XXXIII
No. 3

ISSN 0019-5014

CONFERENCE
NUMBER

OCTOBER-
DECEMBER
1978

INDIAN JOURNAL OF AGRICULTURAL ECONOMICS

INDIAN SOCIETY OF
AGRICULTURAL ECONOMICS,
BOMBAY

SUMMARIES

CREDIT REQUIREMENT, AVAILABILITY AND ITS GAP ON THE FARMS IN THE GIRNA COMMAND AREA OF MAHARASHTRA

S. D. Suryawanshi, R. G. Patil and P. M. Kapase*

The paper examines the availability and requirement of credit and assesses the gap existing in agricultural finance in an irrigated tract of Jalgaon district in Maharashtra during the year 1976-77. The data used in the study are based on the survey of 400 farmers spread over in 30 villages. The sampling design adopted was two-stage stratified random sampling. The farmers were classified into four groups as small (upto 2 hectares), semi-medium (2-4 hectares), medium (4-8 hectares) and large (above 8 hectares).

It was observed that the big farmers received a larger share of the loans advanced. Of the total borrowed amount of Rs. 1,790 per farm, the share of co-operative was the maximum (44·02 per cent), followed by moneylenders, land development banks, nationalised banks, friends and relatives and Government agencies, their share being 15·38, 14·54, 13·61, 9·43 and 3·02 per cent respectively. The percentage share in the amount of loan advanced by the co-operative banks was relatively larger (46 to 52 per cent) in the case of small farmers. In the case of nationalised banks, the loans advanced were more to the large cultivators. The private moneylenders were found to be still playing an important role in supplying rural credit and the proportion of borrowings from this source was higher in the case of small farmers. This shows that institutional agencies like the co-operatives and commercial banks have not made much impact on the small and semi-medium cultivators even in the irrigated area.

In Girna irrigation command area, the cash expenditure worked out to Rs. 814·18 per hectare on an average. The per hectare amount borrowed from all sources was Rs. 365·40. This shows that there exists a gap of Rs. 448·78 per hectare. There was a slightly declining trend in the credit gap as the size of holding increased, indicating that the small farmers are in a rather dismal situation.

GROWTH AND PROGRESS OF COMMERCIAL BANKS IN AGRICULTURAL FINANCE

S. D. Suryawanshi, P. M. Kapase and M. P. Dhongade†

This paper attempts to review the progress and growth of commercial banks in providing agricultural finance, with special reference to the period after nationalisation of banks. The data are compiled from the *Reserve Bank of India Bulletin* from the year 1950-51 onwards. While studying the flow of bank credit to the agricultural sector, it was observed that the agricultural sector was almost totally neglected by the commercial banks in their business till 1967-68. However, after 1968-69 when banks were nationalised, the advances to the agricultural sector increased to the extent of 10·49 per cent of the total during 1971-72. After 1972-73, no doubt the total advances for agriculture increased considerably, the share in the total advance decreased and again improved to 10·56 per cent during 1976.

While studying the pattern of agricultural advances, it was seen that before nationalisation, commercial banks used to give agricultural loan in the form of indirect finance to the extent of 70 per cent. However, after nationalisation, commercial banks made excellent progress in providing direct finance to the cultivators. The direct advances increased from 32 per cent in 1967-68 to 75 per cent in 1976, while indirect finance decreased from 68 per cent to 25 per cent of the total advances to agriculture during the same period. It could be said that after nationalisation, the total finance for agriculture increased 19-fold, while direct finance increased by almost 41-fold.

It is evident that public sector banks increased their advances to agriculture almost 44-fold during 1976 over that in 1967-68. The private sector banks increased their advances to agriculture only six-fold during the same period. The percentage share of the public sector in total finance increased from 62·45 per cent in 1967-68 to 91·62 per cent in 1976. In the case of the private sector, the percentage share in total finance decreased from 37·55 per cent in 1967-68 to 7·94 per cent in 1976. This indicates that in financing the agricultural sector, the nationalised banks have made good progress as compared to the private banks.

The above progress was possible only because of opening up of large number of bank branches in the rural and semi-urban areas. In the rural areas about 22 per cent of the total bank branches

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were located upto 1969, while in the subsequent years there was considerable increase in the rural branches, which reached a level of 36·23 per cent, *i.e.*, four-fold increase after nationalisation. It can be concluded that commercial banks have extended their activities to the agricultural sector significantly after nationalisation and made good progress in agricultural financing, particularly in direct financing. Further, the banking industry has successfully transformed itself from the phase of elite banking to that of mass banking.

GROWTH AND DEVELOPMENT OF COMMERCIAL BANKING IN INDIA SINCE NATIONALISATION

S. D. Suryawanshi, M. P. Dhongade and P. M. Kapase*

In this paper an attempt is made to review the progress and growth of commercial banks since nationalisation with special reference to the rural areas. The study covers the period from 1969 to 1977 and the data are taken from the publications of the Reserve Bank of India. It is observed that over one-half of the new offices opened between June 1969 and June 1977 have their locations in the rural areas. In the case of semi-urban areas, the coverage was 40 per cent in 1969 which declined to 29 per cent in 1977. More or less the same trend was observed in the case of urban branch expansion. By 1977 about 67·5 per cent of the total branch network was spread over in the rural and semi-urban areas. It is interesting to note that about 70 per cent of the new branches, *i.e.*, after nationalisation are spread over in the rural and semi-urban areas. This is due to the fact that the banks have recently adopted area concentration programmes, village adoption schemes, group loans, etc.

It is also evident that banks have done equally well in mobilizing deposits. The proportion of rural deposits in the total is also increasing. They are more or less constant in the semi-urban areas while the percentage share has decreased in the urban areas. The proportion of rural and semi-urban credit increased during the period. The credit-deposit ratio in the rural areas was 37·11 per cent at the time of nationalisation; this ratio moved up to 52·08 per cent in 1975. In the case of semi-urban areas the ratio improved from 39·75 to 46·86 per cent during the same period. As against this, there was a slight change in the ratio of credit and deposit in the urban areas. Thus it indicates a definite shift in favour of rural and semi-urban areas. At the overall level, both credit and deposits increased three-fold in 1975 over those in 1969.

IMPACT OF CREDIT GAP ON PRODUCTIVITY IN THE DEVELOPED AND UNDER-DEVELOPED REGIONS OF WESTERN MAHARASHTRA

S. D. Suryawanshi, R. G. Patil and M. P. Dhongade†

The paper examines the availability and requirements of credit and assesses the gap existing in agricultural finance with special reference to farmers and farmers-cum-agricultural labourers. The study covered the south-west region of Maharashtra comprising Pune, Sholapur and Ahmednagar districts. The results are based on the data collected during the year 1975-76 by cost accounting method from a sample of 120 cultivators, equally spread over in the developed and under-developed regions. It was observed that more than 50 per cent of the sown area was irrigated, which resulted in bringing under cultivation a high percentage of area under cash crops and higher cropping intensity in the developed region. The farmers in the under-developed region used relatively larger quantities of inputs, which resulted in higher per hectare costs. As a result of the use of modern technology, the per hectare income was higher on the farms of the developed region. The per hectare net income of farmers and farmers-cum-labourers in the developed region was three-fold and one and half-fold as compared to that of the respective groups in the under-developed region.

The loans advanced by the different agencies to the farmers in the developed region were much larger than those of the respective groups in the under-developed region. Amongst the different agencies, the proportion of loans advanced by the co-operative societies was the highest, followed by nationalised banks, moneylenders and Government agencies. In the under-developed region private moneylenders played an equally important role in the supply of rural credit, whereas the nationalised banks occupied the last position in supplying rural credit and the proportion of loans advanced by them was only 12 per cent in the case of farmers and nil in the case of farmers-cum-

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labourers. This shows that the nationalised banks have not made an effective impact on the small farmers and farmers-cum-labourers, especially in the under-developed region.

The cash expenditure required for the cultivation of crops was worked out and compared with the available credit so as to know the credit gap. It was seen that the per hectare credit gap was in the range of Rs. 110·56 to Rs. 408·12. The percentage of gap to the total requirement in the developed region was 32·52 and 42·40 in the case of farmers and farmers-cum-labourers respectively. The percentage gap in the underdeveloped region was 48·07 and 53·18 for the respective groups. The credit gap has a definite relation with productivity. The per hectare productivity has decreased significantly with the increase in the credit gap on both the categories of farms in the developed and under-developed regions. It indicates that even after nationalisation of banks there exists a considerable gap in the credit requirements of farmers, especially in the under-developed region. This shows that in such regions the requirements of small and marginal farmers are still not adequately met as they should be by the lending institutions.

INSTITUTIONAL CREDIT FOR AGRICULTURE: PROBLEMS AND POLICY

D. V. Kasar and R. G. Patil*

The paper seeks to examine the problems of the institutional credit system and to suggest the broad indications which may be useful for formulating a suitable credit policy favourable for agricultural development in the country. It may be said that the growth of farm credit is insignificant looking to the total credit requirements of the farm sector in the country. The institutional credit system has met only 40 per cent of the total credit needs of the rural population. Even though a series of attempts are made by the institutional agencies, the flow of rural credit has not been able to cover a significantly large proportion of the rural poor in the country. This is especially true in the case of backward and tribal areas where the economic activities of the weaker sections are severely handicapped for want of credit. There is a need to reformulate the agricultural credit policy by taking into account the contribution of agriculture in the total national income.

The organizational structure and the working procedure of the institutional credit agencies need to be modified for lowering the cost of credit as well as removing the anomalies in respect of security, clumsy procedure, interest rate, etc., for uniformity in their functioning. It is better to have an integrated credit service rather than a multi-agency approach in rural financing since the latter has resulted in overlapping of their functions and unhealthy competition. The flow of credit even though encouraging after nationalisation of banks has to be increased furthermore in the rural areas for agricultural development of the country.

REGIONAL DISPARITIES IN FARM FINANCE BY THE COMMERCIAL BANKS IN MAHARASHTRA

M. P. Dhongade and S. B. Dangat†

An attempt is made in this paper to study the development of banking activities, with special reference to commercial banks in different regions of Maharashtra State since nationalisalion. The data published by the Reserve Bank of India from time to time have been used in this study. The State has been divided into seven regions, namely, Coastal, Greater Bombay, Inland Western, Inland Northern, Inland Central, Inland Eastern and Eastern. The Coastal region comprises the coastal districts of Thane, Kolaba and Ratnagiri. The Greater Bombay is the metropolitan city area of Bombay. The Inland Western region includes six districts, *viz.*, Ahmednagar, Pune, Satara, Sangli, Sholapur and Kolhapur. Though it comes under the scarcity zone, it has canal irrigation facilities in some areas and is a developed region. The Inland Northern region comprises three districts *viz.*, Nasik , Dhule and Jalgaon. The Inland Central region consists of five districts of Marathwada, *viz.*, Aurangabad, Bhir, Parbhani, Nanded and Osmanabad. It is a backward region. The Inland Eastern region is composed of six districts of Vidharbha, *viz.*, Buldhana, Akola, Amravati, Yeotmal, Wardha and Nagpur; whereas the Eastern region includes the remaining two districts of Chandrapur and Bhandara which are rather backward.

The study of the distribution of offices, deposit accounts and borrowal accounts of the scheduled commercial banks showed that though there has been a substantial expansion in the number of offices of the commercial banks after nationalisation in all the regions, some disparity existed in their expansion in different regions. The coverage of population per branch in the Greater Bombay is 7,993

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whereas in the Eastern region it is 54,673 and in the Inland Western region 19,751. As far as deposit accounts are concerned, there is a large variation from region to region. The Greater Bombay region topped the list contributing 51·39 per cent of the total deposit accounts in the State. Amongst the rest of the regions, Inland Western region occupied a prominent position having 21·08 per cent of the total deposit accounts. The proportion of deposit accounts in the Eastern region was only 1·36 per cent. The proportion of rural deposit accounts varied from 5·80 per cent of the total accounts in the Inland Eastern region to 29·24 per cent in the Eastern region. A study of distribution of deposit amount indicated that the Greater Bombay region topped the list both before nationalisation and in 1976. The position of deposits per branch (except Greater Bombay) showed that the Inland Western and the Inland Eastern regions occupied a relatively higher position with per branch deposits of Rs. 54·85 lakhs and Rs. 52·93 lakhs while the Inland Central and Eastern regions had per branch deposits of Rs. 23·76 lakhs and Rs. 35·02 lakhs respectively. The proportion of rural deposits to the total in the different regions showed that the Coastal region topped the list having a percentage of 22·05. It may probably be because of the region being closer to the Bombay city, a large section of the population from this region is serving in the Bombay city but having their attachment in the rural areas. The Inland Eastern region has shown a poor performance having rural deposits of only 3·02 per cent of the total deposit amount. This shows that there exists wide variation in the mobilization of rural deposits in different regions.

A large number of borrowal accounts are in the Inland Western region (37·47 per cent) followed by the Greater Bombay region (21·22 per cent). The Eastern region is the last in the list having only 2·25 per cent of the total borrowal accounts in the State. In advances also, the Greater Bombay region topped the list both during 1969 and 1976. Both total as well as average figures per branch for this region are abnormally high as compared to other regions of the State. Per branch advances were relatively quite high in the case of Inland Western region (Rs. 39·99 lakhs) while the Inland Central and the Eastern regions had shown relatively poor performance having per branch advances of Rs. 15·15 lakhs and Rs. 16·83 lakhs respectively.

The study thus showed that though the commercial banks have made good progress in different regions of the State since nationalisation, there still exists some disparity as brought out by the selected indicators. There may be a variety of reasons for this. However, attempts need to be made to reduce this disparity still further.

AGRICULTURAL CREDIT TO BACKWARD REGIONS: NEED FOR A NEW APPROACH

R. P. Kurulkar*

This paper makes an attempt to focus the attention of the policy-makers on two important aspects of co-operative credit to agricultural sector in India. In the first place, it attempts to show the existing imbalance in the flow of co-operative agricultural credit to various States of the Indian Union. And secondly, it explains the necessity to adopt a new policy approach towards "agriculturally backward regions" in various States of the country. There has been a very rapid growth in the supply of short, medium and long-term credit to the agricultural sector between the years 1970-71 and 1978-79. For example, the short-term credit has increased by over 75 per cent (from Rs. 680 crores to Rs. 1,200 crores), medium-term credit by about 500 per cent (from Rs. 58·5 crores to Rs. 350 crores), and long-term credit by 53 per cent (from Rs. 718 crores to Rs. 1,100 crores) during this period. But at the same time there has taken place a grave regional imbalance in the supply of both short and long-term credit over the years. For example, the Working Group on Co-operation (1973) appointed by the Government of India has attempted to measure this regional imbalance in the country. As regards the supply of short-term credit, the all-India average in 1970-71 was observed to be Rs. 32 per hectare. There were 11 States above this average, while the remaining 10 States and Union Territories were below this average. Punjab topped the list with Rs. 96 per hectare while Nagaland received a bare Rs. 2 per hectare. Similarly in the sphere of long-term credit also, the Group has observed a great deal of imbalance. The all-India average for the supply of long-term credit was estimated at Rs. 46 per hectare. There were 7 States above this average, while the remaining 12 States and Union Territories were below this average. Pondicherry (Rs. 154) and Tamil Nadu (Rs. 125) topped the list while Tripura and Assam (Rs. 2 each) were at the bottom.

To remove the imbalances in the supply of short and long-term credit in the agricultural sector, it is suggested that the country should be divided into two categories of districts, *viz.*, (1) agriculturally advanced and (2) agriculturally backward districts. To identify 'agriculturally backward districts', the criterion suggested by the Planning Commission recently may be adopted. It has identified all those districts as 'agriculturally backward' where the average gross value of output per hectare is Rs. 700 or less. The Planning Commission has identified 130 districts in the country as 'agriculturally backward' out of a total of 360 districts. After identifying these 130 districts as 'agriculturally backward', it is suggested that efforts should be made to raise the productivity of

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land per hectare in these districts. For that purpose, the Agricultural Refinance and Development Corporation (ARDC) should adopt a concessionary lending policy specifically meant for the development of backward districts on the lines of the policy adopted by the Industrial Development Bank of India in the industrial sector. Such a policy can be implemented by taking two types of measures. Firstly, the ARDC through the State Co-opeartive Land Development Banks should supply long-term capital to the cultivators in the backward districts at concessional rates of interest. And secondly, it should enhance the period of repayment to a longer period. If these two measures are implemented, the burden of repayment of loans over a longer period and also the annual capital charge on such loans will be ultimately reduced. These two measures will induce the cultivators in the backward regions to undertake productive agricultural projects thereby enhancing the productivity of land per hectare.

For financing agricultural development of backward districts floatation of 'backward regions development debentures' by the State Land Development Banks at a very low rate of interest (preferably at three to four per cent) will prove very much helpful. These debentures carrying a low rate of interest should be fully purchased either by the Reserve Bank of India out of its National Agricultural Long-term Operation's Fund or by the ARDC and other nationalised banks.

FINANCING WELL IRRIGATION IN MAHARASHTRA

B. W. Ashturkar, B. S. Kulkarni and B. S. Deshpande*

Maharashtra, often referred to as a progressive State, has not registered any significant increase in foodgrains production. Irrigation is an important factor which helps to increase agricultural production. Irrigation facilities are very inadequate in the State. During the last 15 years the proportion of net irrigated area to the net cropped area has increased from 6 per cent in 1960-61 to 8·9 per cent in 1975-76. The proportion of gross irrigated area to the gross cropped area has increased from 6·5 per cent to 9·9 per cent only. This shows that most of the cropped area in the State is exposed to the vagaries of nature. It is, therefore, necessary to increase irrigation facilities so as to increase agricultural, and foodgrains, production in the State.

The important sources for irrigation in the State are wells, major and medium surface reservoirs and minor surface source. Out of 16·12 lakh hectares having access to irrigation facilities in Maharashtra, approximately 58 per cent is served by wells, 21 per cent by canals, 14 per cent by tanks and the remaining 7 per cent by minor surface source. Thus wells are an important source of irrigation in the State. Among the existing wells (7·64 lakhs used for irrigation only), the share of tubewells is very negligible (0·10 per cent). Among the remaining wells 0·92 per cent belongs to the Government and about 70 per cent are masonry wells. During the last 15 years both masonry and non-masonry wells have increased significantly. Masonry wells have increased at an annual compound rate of 3·27 per cent while non-masonry at 1·84 per cent. Oil engines and electric pumps are important water lifting devices. During 1968-69 to 1974-75 the demand for electric pumps has significantly increased at an annual compound growth rate of 18·42 per cent while the demand for oil engines has increased by 7·62 per cent.

The expected number of wells to be constructed, the demand for oil engines and electric pumps and additional net area to be irrigated during the years 1975-76 to 1984-85 have been calculated using the best fitting trend curves having a maximum R^2. The total number of masonry and non-masonry wells that need to be constructed is estimated to increase from 5·5 lakhs and 2·3 lakhs in 1975-76 to 6·8 lakhs and 2·7 lakhs in 1984-85 respectively. The demand for oil engines and electric pumps will increase from 2·14 lakhs and 2·08 lakhs to 4·15 lakhs and 3·90 lakhs respectively during the same period. The net irrigated area will increase from 8·9 lakh hectares to 11·3 lakh hectares.

The total investment required for the construction of wells and the purchase of oil engines and electric pumps per year varies from Rs. 24·15 crores in 1975-76 to Rs. 66·66 crores in 1984-85. The additional net area irrigated will increase from 23·2 thousand hectares to 29·8 thousand hectares. The estimated value of the product produced from the increased area by well irrigation is estimated to increase from Rs. 14·22 crores to Rs. 18·32 crores during the same period. The value of the product is considered as income due to the investment in the form of construction of wells and purchase of water lifting appliances. This being a long-term investment, per year expenditure has been calculated (taking into account depreciation and interest on capital). The expenditure-income ratio is estimated to decline from1: 6·43 in 1975-76 to 1: 2·66 in 1984-85. This is mainly because of increasing demand for electric pumps and oil engines, and not due to any decline in the proportionate area under well irrigation or per hectare production. To conclude, among the different irrigation sources, well irrigation is an important source in Maharashtra, which can be tapped easily at a comparatively less time and investment. The study shows that well irrigation project can be undertaken in Maharashtra with great benefit.

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FINANCING FERTILIZER DEMAND FOR JOWAR IN MARATHWADA

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The study examines the performance of jowar (*kharif* and *rabi*) with reference to area, production and productivity for the period 1956-57 to 1975-76, and separately for the pre-hybrid (1956-57 to 1964-65) and post-hybrid (1964-65 to 1975-76) periods in Marathwada. Secondly, the study examines the gap in the use of chemical fertilizer between the recommended and actual doses and the yield obtained by the cultivators against the expected yield. Lastly, an attempt has been made to estimate the finance required in the coming nineties for chemical fertilizers based on the projections of area and recommended quantities. The performance of *kharif* hybrid jowar as examined from the annual compound growth rates indicated no significant improvement in either production, productivity or area.

As regards the use of fertilizers N, P and K, there was considerable gap between the actual and the recommended. Relatively more nitrogen and phosphorous were used for the *kharif* hybrid jowar than for *rabi, i.e.*, 65·46 per cent of the recommended N in *kharif* as against 28·32 per cent in *rabi*; 15·29 per cent of the recommended P in *kharif* as compared to 15·53 per cent in *rabi*. The use of potash was almost nil. Thus the low level of use of fertilizers led to lower production and productivity than the expected. The percentage of actual to the expected yield was 30·12 in *kharif* and 39·10 in *rabi*. The increased use of fertilizers upto the recommended level would increase the productivity as expected. The ratio between the cost of additional use of fertilizers to the additional income gained was 1: 2·50 and 1: 3·63 in *rabi* and *kharif* respectively.

The area under hybrid jowar has significantly increased (from 1970-71 to 1976-77) at an annual linear rate which is more pronounced in *rabi* (32·73 per cent) than in *kharif* (10·5 per cent), though the proportionate area under *kharif* is more. Assuming that the area under hybrid jowar will increase at the same rate in the next 13 years and taking into account the recommended level of fertilizer use, the expenditure on fertilizers during the period 1977-78 to 1989-90 is estimated to increase from Rs. 2·11 crores to Rs. 5 crores, while the income is expected to increase from Rs. 76·3 crores to Rs. 179·56 crores. The per annum expenditure-income ratio is 1: 36. In the context of agricultural development in general and foodgrain production in particular in the region financing for additional fertilizer is not only important but essential.

DEMAND FOR CROP LOAN IN PARBHANI DISTRICT (MAHARASHTRA STATE)

P. R. Waghmare, S. N. Kulkarni and B. W. Ashturkar†

A study was undertaken to assess the short-term loans advanced by the Parbhani District Central Co-operative Bank for agricultural and non-agricultural purposes, the extent of bad debts with changing total capital and the credit requirements for agriculture in Parbhani district of Maharashtara using functional analysis. The study covered the 11-year period 1966-67 to 1976-77.

It was observed that the loans advanced for agricultural purposes decreased at a linear rate of 3·42 per cent, whereas loans for non-agriculture and bad debts significantly increased at a rate of 13·60 per cent and 21·28 per cent respectively with an increase in total capital at the rate of 12·77 per cent. The functional relationship between total deposits, loans for agriculture, loans for non-agriculture and bad debts in linear form as well as in logarithmic form (Cobb-Douglas) showed that the coefficient of multiple regression for bad debts was significant. The linear and Cobb-Douglas functions gave high values of the coefficient of multiple determination R^2, *i.e.*, 68 per cent and 74 per cent respectively, showing the preciseness of the specification of the variables.

Assuming the same growth rates based on the last eleven years and the rate of growth of irrigated area at 7·28 per cent per annum, the availability and requirements of agricultural credit were estimated for the period 1977-78 to 1984-85. The study revealed that there was a large gap between loans supplied by the financing agency and the estimated requirements of the cultivators.

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NORMATIVE DEMAND FUNCTIONS FOR WORKING CAPITAL IN AGRICULTURE—A CASE STUDY OF AHMEDNAGAR DISTRICT

K. D. Rajmane and V. C. Kale*

A study was undertaken to determine the normative demand functions for working capital in agriculture in Ahmednagar district (Maharashtra). In all 143 cultivators from 15 villages were selected with multi-stage stratified random sampling design. Linear programming model with resource variable programme was used to fulfil the objectives of the study. In all 28 production activities and 22 resource constraints were considered. The input-output coefficients were developed for the ten farm situations (five each) for existing technology and improved technology of production. The data were collected for the year 1970-71. The study revealed that the amount required by the smaller farms was comparatively lesser than that of the bigger ones. Hence, with the increase in the size of holding at existing as well as at improved production technology, the fluctuations increased. Further, it was noted that the amount required to adopt the improved production technology was much higher. The coefficients of elasticity of working capital in respect of interest rates were worked out for all the situations and found that the demand is inelastic. It is concluded that an interest rate of 19 to 20 per cent would be more effective for the proper use of scarce capital. However, at this level the small farms would continue to remain unviable units till they accept the improved level of technology. Hence, the differential rate of interest for these farms should be 13·5 per cent which would enable these units to become economically viable.

FINANCING AGRICULTURE THROUGH LAND DEVELOPMENT BANKS IN MAHARASHTRA STATE

T. G. Satpute, S. R. Kshirsagar, V. C. Kale and K. D. Rajmane*

In Maharashtra there are 25 Land Development Banks (LDBs) which are working to cater to the long-term needs of the farmers. In this paper an attempt is made to examine and compare the districtwise structure of advances, recoveries and dues. The data were collected from the annual reports of the LDBs for four years (1973-77). Growth rates of advances, recoveries and dues are estimated by fitting the linear regression function. The analysis revealed that 17 districts in respect of advances, 2 in respect of recoveries and 15 in case of dues were found to be significant. On this basis, the ranking of the districts was made in the descending order of their growths. In general it gave a picture that the advances and dues were more in the scarcity districts where the recoveries were the lowest, which may be due to the relaxation given by the Government in years of crop failure. The purposewise classification of the loans revealed that the tractors and machinery claimed the highest share of 76 per cent, followed by construction of new wells (15 per cent) and the shares of the rest of the activities showed a decline. It means that the LDBs are concentrating more on financing for tractors, machinery and new wells by releasing proportionately more loan each year which is in consonance with the growing technological needs.

DYNAMICS OF AGRICULTURAL FINANCE IN PARBHANI DISTRICT (A CASE STUDY OF CENTRAL CO-OPERATIVE BANK AND LAND DEVELOPMENT BANK)

V. C. Kale, S. R. Kshirsagar, T. G. Satpute and K. D. Rajmane*

The paper makes an attempt to examine the pattern of advances made by the District Central Co-operative Bank (DCCB) and the Land Development Bank (LDB) for agricultural purposes in Parbhani district of Maharashtra, to estimate the growth in credit advance and to project the demand for credit for different activities connected with the improvement of land and of production for the period 1978-83. Time-series data for both the institutions were collected from the annual reports. The growth rates were worked out in respect of each activitity undertaken by the institution by fitting linear and semi-log functions. The result revealed that the DCCB is operating in tune with the needs of the small and medium farmers attaching more importance to the short-term loans which formed 80 per cent of the growth in total advances, followed by advances for 'other' needs. The growth in medium-term advances was negligible. In the case of LDBs the compound growth rate in advances for new wells is estimated at 12 per cent and Rs. 3·36 lakh per annum, followed by renovation of old wells with a growth rate of 11 per cent and Rs. 0·17 lakh per annum. The growth rate in advances for electric motor is found to be constant whereas for oil engines and tractors it declined.

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CAPITAL AND CREDIT REQUIREMENTS OF SMALL FARMERS IN NANDED DISTRICT OF MAHARASHTRA STATE

C. D. Deole and S. P. Kalyankar*

This paper examines the capital and credit needs of the small farmers in Nanded district of Maharashtra State, based on a survey of a sample of 60 farm holdings selected from four villages of the district and classified as rainfed and irrigated holdings. An attempt is also made to examine the cropping pattern on the selected holdings with a view to ascertaining the cost of production of different crops and the relative profitability of existing and improved methods of cultivation. The study revealed that at the existing level of technology the irrigated holdings yielded a profit of Rs. 325·28, while the rainfed holdings incurred a loss of Rs. 26·42, which was attributed to lack of irrigation facility resulting in lower intensity of cropping and comparatively big size of family.

The working capital needs of farmers for meeting the day to day farm expenses at the existing level of technology amounted to Rs. 841 and Rs. 2,075 in the case of rainfed and irrigated holdings respectively. The requirement of working capital with the improved methods of cultivation is estimated at Rs. 1,785 and Rs. 3,982 in both these categories of holdings respectively, indicating an increase of 119 per cent and 65 per cent over the existing level of technology. Thus the small farmers in both the categories under study required substantially more credit to come up to a viable level. The study also revealed that the share of co-operative agencies in the total loan advanced by all agencies was as high as 77 per cent. It is concluded that the banks should take a bold step in financing the small farmers to improve their repaying capacity and help them in realising high returns.

PROJECTIONS OF SHORT-TERM CREDIT REQUIREMENTS FOR DIFFERENT DISTRICTS OF VIDARBHA REGION FOR THE PERIOD OF 1978-1983

N. S. Gandhi Prasad and B. G. Sapate†

With the adoption of new technology in agriculture, the capital requirements of farmers have shot up considerably and it is now an undisputed fact that the farming community should be assisted by a wide network of financial institutions. A well-conceived plan for meeting the huge demand of rural credit necessitates proper assessment of the total requirements. In the present study, an attempt is made to estimate the short-term credit requirements for the different districts of the Vidarbha region of Maharashtra. In this context, short-term credit is defined to mean in a limited sense that it is a kind of lump sum accommodation to fill up the gaps in the outlay which cannot be met by the cultivators from their own resources during the production process. This study revealed that the Vidarbha region would require a minimum of Rs. 780·50 crores if it is proposed to assist the farmers to the extent of 25 per cent of total farm expenses for the next five years whereas it would amount to Rs. 1,560·91 crores and Rs. 2,497·45 crores, if the farming community is financed to the extent of 50 per cent and 80 per cent of the total farm expenses respectively. On enquiry it was revealed that the District Co-operative Central Banks of Wardha and Bhandara districts had advanced Rs. 4·43 crores and Rs. 1·58 crores as short-term loans during the year 1976-77 whereas these districts require a minimum of Rs. 15·70 crores and Rs. 10·20 crores respectively. This indicates that there exists a wide gap between the requirement and the actual supply of credit. Hence it is hoped that policy-makers in future will give priority to rural credit.

STRUCTURE OF RURAL CREDIT IN AKOLA DISTRICT (MAHARASHTRA STATE)

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This paper examines the structure of rural credit in Akola district of Maharashtra State covering a period of 12 years from 1965 to 1977 and the changes in the quantum of borrowings as also the pattern

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of rural credit. It also makes an attempt to project the supply of and demand for credit during 1977-78 to 1981-82 and to assess the credit gap in the agricultural economy of the districts. The data have been collected from the different credit agencies like the District Central Co-operative Bank, the Land Development Bank, the *Zilla Parishad* and the Government offices and the lead bank for the district. As regards the flow of credit by different credit institutions in Akola district, it is observed that the total credit available has risen from Rs. 365·04 lakhs in 1965-66 to 1,560·44 lakhs in 1976-77, the major increase being in short-term loan. Viewed from the source angle, the co-operative sector has made quite a dent in credit supply and continues to be contributing 80·25 per cent of the total credit supply. The supply of short-term credit showed an increasing trend though at a lower pace in the initial years; on the contrary, the medium-term loan showed a phenomenal increase. The long-term loan advances showed a declining trend in general except in a few years. The purposes for which the loans were advanced mostly remain the same but the increase in the quantum of advances was observed mainly because of the introduction of hybrid and high-yielding varieties and rural electrification. Considerable change in the rate of interest was noticed from 1977-78 season.

With a view to ascertain the mis-utilization of loans, a detailed study was undertaken in respect of one primary credit co-operative society. It is revealed that the percentage of misappropriation to the borrowed amount has shown a decreasing tendency with an increase in the size of holdings and was maximum to the extent of 62·5 per cent in the case of marginal farmers.

An attempt has been made to find out the rate of growth of the flow of different types of credit by fitting time-series data to non-linear regression model. It is estimated that with the present rate of supply of credit, the total supply in the district by 1981-82 would be Rs 2,469·50 lakhs of which Rs. 2,375·92 lakhs will be short-term loan. Considering the requirement of credit taking into account the cropping pattern of the district and the variable expenditure involved (based on cost studies conducted in the area), this supply would be a little less than 50 per cent of the requirement, even after presuming that 20 per cent of the variable expenses involved would come from owned resources.

DISTRICTWISE DISTRIBUTION OF SCHEDULED COMMERCIAL BANK CREDIT IN MAHARASHTRA AFTER NATIONALISATION—A PERUSAL

S. D. Kulkarni, L. V. Ambegaonkar and S. C. Sharma*

Nationalisation of major scheduled commercial banks was expected to channelise the bank credit into the needful direction. Keeping this in view, an attempt is made in this paper to examine to what extent credit is taking this course. Principally the method consists of a comparison of the relative position of a district in overall development and in credit allocation. The position of a district in overall development is determined by its average standing in different fields of developments like education, agriculture, industry and urbanisation. We have employed the data on scheduled commercial bank credit to various districts of Maharashtra; aggregate credit advanced and the credit advanced to agriculture, over the years 1972, 1973 and 1974.

The volume of credit outstanding varies from district to district, and, more often than not, it is commensurate with the position of a district in the process of development. Our results showed that there have been quite a few marginal alterations in the relative position of districts in terms of the volume of credit generally in favour of less developed districts. A statistically significant negative rank correlation, *ipso facto*, speaks of the trend going in favour of less developed districts. This correlation was calculated between the ranks of districts according to their position in overall development and their position in the per cent increase in credit. Considering total credit and the per cent increase together, it is observed that in many of the cases where the change in ranks of absolute credit favours a more developed district, the per cent increase has favoured the less developed one, but the difference in the absolute amount was so high that the per cent increase could not help it in taking a favourable course to the less developed districts. Thus as long as either of the ways the credit is favouring a poor district we can't say the tendency is not what it ideally should be. An examination reveals that the allocation of credit to agriculture and allied activities sectors of various districts does not display any systematic behaviour in relation to our criterion. Hence we find a correlation between the relative position of a district in overall development and in the allocation of total credit. But there is no such relationship in the credit given to agriculture and allied activities and the relative position in agricultural development of a district.

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CROP LOAN SYSTEM—A FARM LEVEL FLOW ANALYSIS

Raghuvir S. Mehta†

The paper seeks to examine the performance of crop loan system at the micro level and pose problems the system confronts. In all, ten villages and 250 co-operative member cultivators of different land holding groups in Surat district of Gujarat, which was one of the pioneer IADP districts, were studied. The rural credit frame consisted of the primary credit and other co-operatives. The loan policy of the Surat District Co-operative Bank was adjusted from time to time to provide liberal finance. The rates prescribed were *ad hoc* and altered arbitrarily without systematic cost of cultivation data base. Surat has also evolved various types of marketing co-operatives. In addition to their principal activity of sale of produce, they provide production finance. They are financially sound and extend finance adequately, promptly and at reasonable rates. The marketing finance is oriented to the marketable surplus and there are no overdues, defaults or disloyalty of members. All the villages selected for study are representative of some of the best and the worst features of the region. Even though small farmers predominate, the selected families represent a cross-section. The membership is broad-based and diversified between credit and marketing co-operatives. Big farmers enjoy facilities to a greater extent from both the types.

There is greater interest in multiple membership among all size-groups, but the proportion is higher as the size of land holding increases. Moreover, membership is spread over more than one person in the family. About 70 per cent of the members are borrowers. Amongst them, 53 per cent have holdings below ten acres. As the size of land holding increases, the proportion of borrowers in excess of Rs. 1,000 increases. The big farmers have relatively greater need of funds. Out of 175 borrowing members, only a few (9 per cent) preferred cash but the majority (69 per cent) preferred both cash and kind loan. The tribal agriculturists did not favour more liberal loans. The respondents favoured the continuance of the present system. There was no competition or rivalry between credit and marketing societies. The marketing co-operative has achieved a more perfect linkage of crop loan. The system has worked satisfactorily. In view of the fact that the traditional integrated credit scheme has made limited headway, we have to draw lessons from the integration of marketing and finance from the marketing end, and in which, the small and needy is not by-passed. The study revealed that the credit extended by the marketing institutions has neither been improvident nor unproductively employed. There have almost been no defaulters. The growth of credit co-operatives has not been throttled. It seems there is scope for both the types. The need is to supervise the use of credit and vital inputs in agriculture till the farmer is put on his own. This alone would be rewarding to the tribal and backward weak peasantry as well as agriculture generally.

CONSTRAINTS IN CO-OPERATIVE CREDIT—AN IN-DEPTH STUDY OF A TAMIL NADU VILLAGE

K. Thiruvenkatachari*

Tamil Nadu is one of the few States where the co-operatives have made good progress in meeting the credit needs of agriculture. But the overdues of the co-operatives in the State formed 29·8 per cent of the total advances at the end of June 1975, according to a survey by the Reserve Bank of India. An attempt is made in this paper to examine the problem of overdues and to find out the real causes for the increasing overdues based on an analysis of data collected from a sample of 25 farmers in Nerinjilakudi village coming under the jurisdiction of Thirumanamedu Village Co-operative Agricultural Credit Society in 1977-78. A linear production function was fitted to the data. The study has sought to test the following four hypotheses: (*i*) The overall credit requirements of the farmers were not taken into account in providing credit. (*ii*) The unrealistic nature of rules of co-operative societies made the needy poor to suffer. (*iii*) Co-operative assistance particularly that in kind was not available in time. (*iv*) Because of the failure of co-operatives to meet the demand of agriculturists credit from private sources emerged as a source of finance.

The results of the study proved all the hypotheses. There was negative correlation between the size of holdings, the cropping intensity and the technical intensity, on the one hand, and the income of the farmers, on the other. This broadly suggests the excessive dependence of our agriculture on nature. By implication, it also proved that costs have increased and prices are low for the produce.

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The defaulters are not only small farmers but also they belong to all categories. The political and other considerations do not by and large weigh with the farmers in the non-repayment of loan. A policy frame along the following lines is suggested. In granting loans the overall credit requirements of the farmers must be taken into account. The same basis should not be adopted for all farmers. The marginal and small farmers should be given more assistance than the rich. The productivity of the farm can also be taken as a criterion for lending and not its size. In the matter of conversion of short-term loans into medium-term loans no distinction should be made between the defaulters. Credit should be linked with marketing.

AN ECONOMIC APPRAISAL OF THE FLOW AND STRUCTURE OF FARM CREDIT IN NILGIRIS DISTRICT, TAMIL NADU

V. Balakrishnan and V. Puhazhendhi*

Based on data collected from a sample of 40 farms selected randomly from four development blocks in Nilgiris district, Tamil Nadu, this paper examines the changes, if any, in the structural pattern of farm credit and the temporal variations in the flow of farm credit and analyses the impact of these changes. The data related to the year 1976-77. The selected four blocks are Coonoor, Ootacamund, Kotagiri and Gudalur. The results indicated that the commercial banks accounted for only 5·58 per cent of the total supply of credit to the farms. Co-operative institutions and private sources provided the bulk of farm credit (93·29 per cent). Cultivation expenses accounted for the largest share in all blocks except in Gudalur where plantation crops took the lead. The share of credit that went for investment in durable assets was very small, explaining the reason for continuous dependence of farmers on borrowed finance to carry on their farm business. Compared with the requirement, the supply of credit was inadequate. The credit gap was a pointer to the social loss because a profitable investment opportunity went unexploited.

Low operating leverage indicated that farms were operationally efficient. The financial leverage was 0·3559 and indicated that farmers depended for a third of their total investment on borrowed finance. Self-finance met 19·28 per cent of their needs, borrowed finance met 38·08 per cent and other sources provided 42·64 per cent. The last source consisted of leasing out lands, advance sale of crops, and a sort of hedging. It attracted equity capital from outside investors and minimized the risk in farm income by providing an assured market for farm products, at fixed prices. The fact that this finance had a large share in the total outlay indicated a healthy management practice. Farm produced seeds, particularly in potato, manures and family labour reduced the need for cash.

The analysis of flow of credit particularly with necessary correction for the pressure of inflation, indicated that the flow of credit had just kept pace with the inflationary pressure on demand for credit and had failed to make any qualitative improvement to reduce the credit gap in real terms. It is pointed out that a change in the structure of credit to increase the share of credit for capital accumulation would help solve the problem of volume because it would promote the share of self-finance from the growing retained earnings.

CO-ORDINATION IN THE FLOW OF TERM LOANS WITH LOW COST IS *A SINE QUA NON* IN AGRICULTURAL PRODUCTION

C. Arputharaj, R. Rajagopalan and B. Anuradha*

The paper examines (*i*) the co-ordination between investment loans and production loans and (*ii*) the cost of production credit. Using the data relating to Tamil Nadu, available in the Statistical Statments Relating to the Co-operative Movement in India, issued by the Reserve Bank of India, correlation coefficients have been worked out between long-term, medium-term and short-term loans for pre-high-yielding variety (HYV) and post-HYV periods. The correlations between medium and short-term loans do not indicate proper co-ordination between investment credit and production credit. However, a better co-ordination is found between long-term and short-term credit. In short, short-term credit and medium-term credit have not increased simultaneously and uniformly and the co-ordination between long-term and short-term credit could be improved.

From a study on the High-Yielding Varieties Programme conducted by the Agricultural Economics Research Centre, University of Madras, the data of 30 homogeneous farms cultivating HYV paddy in the first season were used to assess the cost of production of credit to the farmer. With the help

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of the data, a linear equation has been fitted, connecting output with irrigation charges, human labour and production credit. The estimated values of the coefficients of the three input factors are significant. The farmers borrowing from the co-operative societies are getting 13 per cent as marginal return to credit which is slightly more than the interest they are paying. Farmers borrowing from other sources are paying more as interest than the return they are getting. The low returns, the farmers are getting, may be due to the low price for paddy and the high cost of inputs like fertilizers, pesticides, etc. The above results call for a policy to co-ordinate the issue of investment loans and production loans. A policy should be developed to increase the net profit of the farmer by reducing the cost of loan or by increasing the price of the output or by reducing the cost of inputs.

CHANGES IN CREDIT USE ON SMALL FARMS IN WEST GODAVARI DISTRICT

V. T. Raju*

The adoption of new technology requires more capital investment and hence one can except a shift to the right in the demand for rural credit. In order to sustain and accelerate technological change in the farm sector, the availability of adequate amount of credit and its proper use is of crucial importance. The empirical knowledge of changes in rural credit and the productivity of capital is important and is particularly needed in the case of small farmers who face acute capital scarcity. An attempt has been made in this paper to examine the level and changes in the use of credit by small farmers adopting new farm technology and by non-adopters in West Godavari district of Andhra Pradesh during the years 1967-68 and 1970-71. The data used for this study were taken from the bench mark and assessment surveys of the IADP district West Godavari conducted in 1967-68 and 1970-71. In the selected stratified multi-stage random sample of 400 farmers in each year, the number of small farmers was 177 in 1967-68 and 170 in 1970-71. Multiple regression analysis was used for economic analysis of credit use.

The results of this study indicated significant changes in the supply and utilization of credit among the small farmers adopting new farm technology and non-adopters during the period of study. As both farm productivity and the volume of credit were significantly and positively affected by the level of investment on different farm inputs by the adopters, it could be inferred that they were conscious of using the credit in the right direction. The rate of adoption of new technology by the small farmers increased from 1967-68 to 1970-71 and the small farmers who adopted new technology were economically better off as compared to the non-adopters. It is suggested that through the adoption of new technology the small farmers may use the credit in a proper direction and improve their economic position. But before advocating the adoption of new technology, the provision of irrigation, fertilizers, improved seeds, timely and adequate availability of credit should be assured especially for small farmers.

REORGANIZATION OF RURAL CREDIT

V. Venkata Ramana†

The history of rural banking in India is noted for various experiments with different types of measures adopted in regard to credit and finance, starting from the passing of the Land Improvements Loans Act, 1883, upto the establishment of Regional Rural Banks. Though over time, the contribution of these institutional agencies to total rural credit requirements has increased considerably, their avowed purpose of replacing the usurious moneylender of the village has not yet been achieved. Both the co-operatives and commercial banks have not yet been successful in evolving a suitable credit pattern. Agricultural credit should be production-oriented and must be related to the cropping pattern and rural development. The crux of the problem of rural finance is not the inherent unsuitability of the co-operative organization as such but the weakness of rural economy characterized by low productivity, under-employment and consequent poverty of the people. The basic problem of majority of the rural households is not mere finance, but under-employment and low income. The ultimate solution of their problems lies in creating more employment opportunities through overall development of the rural economy, and in orienting the rural credit system to the needs of such development.

The existing policy of creating multiple institutional credit agencies is neither desirable nor necessary, since it is resulting in duplication of financing; and several dis-economies that follow.

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In view of the integrated nature of agricultural as well as non-agricultural economic activities in the rural areas, institutional credit is assuming an added importance. From the viewpoint of optimum utilization of financial resources in the rural areas, it is desirable to bring about the integration of these different credit agencies. In the meantime it is necessary that the rural banks, commercial banks and other agencies should lend only through co-operatives so as to avoid duplicate financing. What is needed is an integrated rural development and simultaneous reorganization and revitalization of rural co-operative credit societies, and not mere experimentation with multiple institutional credit agencies.

PROGRESS IN THE FLOW OF RURAL CREDIT: THE ROLE PLAYED BY COMMERCIAL BANKS

N. Sugayya*

This paper describes the progress achieved by scheduled commercial banks in providing credit in the rural areas, especially for agricultural purposes and examines the distribution of rural credit and the recovery position of direct advances to the agricultural sector during the period 1974 to 1976 in different States grouped according to relatively banked, moderately banked and under-banked categories. The study indicated that the commercial banks achieved some progress in regard to mobilization of deposits, supply of credit in the rural areas and agricultural credit, especially since 1969. An analysis of credit-deposit ratios showed that the percentage increase in credit in the rural areas as compared to that in other areas was not much encouraging. This was more so in the case of backward States due to the low credit absorption capacity of rural households. The reasons for this low level of credit absorption are many which can be overcome by multi-cornered attack in the rural areas to achieve an increase in income and employment. Hopefully, commercial banks are taking some steps in this direction by adopting villages under the villages adoption schemes and area approach, etc., to improve the village economy. This can be possible only by adopting the multi-agency approach, where Government, banks and other institutions play important roles in bringing about an overall economic improvement in the rural areas. The integrated approach to rural development will also enhance the income of the farmers, leading to an improvement in the recovery of agricultural loans advanced by commercial banks, which is not much encouraging at present.

REGIONAL DIFFERENCES IN THE PERFORMANCE OF THE CREDIT CO-OPERATIVES—A CAST STUDY OF A REGION IN ANDHRA PRADESH

S. Rami Reddy*

This paper highlights the internal and external factors contributing to the differences in the performance of the credit co-operatives in the productive and less productive regions. The study is based on information collected from 133 primary agricultural credit co-operatives in Chodavaram taluk in Visakhapatnam district in Andhra Pradesh. For purpose of demarcating the productive and less productive regions, villages located in highly irrigated regions were listed separately. The entire belt covered by these villages is demarcated as productive region and the rest of the area in the taluk is classified as less productive region. Important characteristics reflecting the agricultural economy of each region were identified. To judge the relative performance of the credit co-operatives in each region, information relating to the functioning of the credit co-operatives was collected. Factors preventing the free flow of credit were identified in both the regions. Differences in the functioning of the co-operatives in terms of membership, capital structure, loan operations, loan recovery performance and audit rating were studied by using the statistical tests like 'F' ratio and Chi-square statistic. The tests revealed that the differences in the functioning of the co-operatives in the two regions in respect of all the selected indicators were found to be significant.

The study supports the hypothesis that the performance of the credit co-operatives is related to the productivity of agriculture which they serve. A high proportion of co-operatives which were 'active and advancing loans' were in the more productive area while most dormant co-operatives were located in the less productive region. The percentage of households covered and the capital structure of the co-operatives are much better in the productive region. The poor recovery performance, low levels of operational efficiency as reflected by their audit rating and low productive soils of the region are some of the factors responsible for preventing the free flow of credit in both the regions.

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REGIONAL IMBALANCES IN THE FLOW OF INSTITUTIONAL CREDIT

R. M. Mohana Rao and K. S. Raju*

During the Fifth Plan period the Government of India and the Reserve Bank of India initiated a series of measures such as rehabilitation of weak central banks and financing of primary agricultural credit societies (PACS) through commercial banks in areas where the co-operative credit structure is weak, to reduce regional disparities in the flow of agricultural credit. The study seeks to examine (*i*) the extent to which the disparities in the flow of credit are reduced over time and (*ii*) the agro-economic characteristics of the regions where credit flow is concentrated. These aspects are examined using Statewise data on loans outstanding per hectare by PACS and commercial banks at two points of time, *i.e.*, 1970-71 and 1975-76. Rank correlations were computed between credit per hectare and selected independent variables like the percentage of irrigated area, consumption of fertilizers per hectare, oil engines and pumpsets per one thousand hectares of cropped area, yield per hectare, area under cereals, area operated by marginal farmers, area leased in and the percentage of area under share produce to the total area leased in by holdings below 2·02 hectares. The study showed that even though the loans outstanding per hectare doubled in 1975-76 compared to 1970-71 in all the States except Assam and Jammu & Kashmir, the inter-State disparities continued to be the same at both points of time. The positive and significant association of credit flow with consumption of fertilizers and oil engines and pumpsets and the negative and significant association with the percentage of area under cereals indicate that institutional finance is getting concentrated in areas with assured water resources and commercialisation of agriculture. Further in areas where share tenancy is predominant the credit flow is negatively associated.

Institutional credit has to go a long way in bridging the regional imbalances in the flow of credit and the policies initiated so far in this direction have at best arrested the widening of the gap. Unless the structural defects in agriculture and the risk factor are cushioned off, coupled with credit guarantee scheme to the less developed and areas susceptible to national calamities, the regional gaps are likely to be continued, irrespective of the measures initiated to rectify the defects on the institutional front. Further, earmarking of a certain percentage of credit to the less developed regions within a State or district, as in the case of small farmers, might help to augment the flow of credit to these regions. This will go a long way in reducing regional imbalances in the flow of institutional credit.

A MICRO-LEVEL STUDY OF RURAL CREDIT IN A DRY FARMING TRACT OF HYDERABAD DISTRICT (A. P.)

K. P. C. Rao and B. K. Rastogi†

This study has made an attempt to probe into the various aspects of rural credit with a sample drawn from all the occupational groups over a period of time in three villages of Ibrahimpatnam taluk of Hyderabad district (Andhra Pradesh), which is predominantly a dry farming area. These villages were earlier exposed to new technology in dry land crops and practices by the Integrated Dry Land Development Pilot Project through subsidies and demonstrations during 1970-73 but it was observed that their persistence with the adoption of technology was not high during 1976-77 essentially due to shortage of capital. The volume of credit, the shares of different agencies, the interest rates, the utilization patterns and the repayments were studied and compared between the two reference periods 1971 (calendar year) and 1976-77 (agricultural year).

It was observed that both the number of persons borrowing as well as the quantum of money borrowed declined sharply during 1976-77 as compared to 1971. The average credit per borrower registered some increase but it was not high enough. Institutional sources of credit failed to make any headway and the grip of moneylenders further tightened with their share going up from 66 per cent in 1971 to 78 per cent in 1976-77. The rates of interest charged by private moneylenders were 100 per cent to 200 per cent more than those charged by the institutions in both the periods—particularly in the case of poor farmers. During the five-year interval, the interest rates charged by both the institutional and non-institutional sources were observed to have risen by 30 to 50 per cent. It was also observed that about 71 per cent of the total credit in 1971 and about 60 per cent in 1976-77 were utilized for productive purposes. A marked shift was noted in the nature of productive uses—from the acquisition of assets in 1971 to working capital during 1976-77. Repayments made within the year amounted to about 20 per cent of the borrowings in 1976-77. Thus, the overall picture of rural credit in the villages under study is grim and discouraging. The situation calls for imaginative and aggressive policies on the part of financial institutions to help the farmers and landless rural population to enjoy the benefits of new technology and improve their living standards.

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CAPITAL REQUIREMENTS OF HIMACHAL ORCHARDISTS FOR MARKETING OF APPLES—A GUIDELINE OF FINANCING INSTITUTIONS

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The financial requirement for effective marketing of apples in Himachal Pradesh has been the biggest problem with the majority of growers. Due to lack of finance, the growers have been incurring great loss by distress sales to commission agents who advance money on the condition that the produce must be sold through them. This pre-condition enables them to exploit the financial weakness of the growers at the time of marketing to their maximum advantage. Though some co-operative and semi-governmental organizations have come up, because of the present stronghold of the commission agents on the business the former have not been able to come to their rescue in the desired manner and in time. This paper attempts to work out the credit requirements of the apple growers at the time of marketing in the four major producing districts of Simla, Kulu, Mandi and Sirmur in Himachal Pradesh, which may serve as guidelines for the financial institutions interested in the enterprise. The study is based on a sample survey of 746 orchardists of various size-groups, classified according to the size of holding of orchard in relation to the total number of apple bearing plants. Delhi being the largest apple market in the country, it was presumed that the entire surplus of this fruit was sold at Delhi. It emerges from the study that nearly 99 per cent of the produce is marketed as soon as possible, by retaining a meagre quantity for home consumption, gifts, etc. The overall productivity on the basis of the selected sample worked out to be 2·85 boxes (51·3 kg. of apples) per bearing plant. It is observed that Kulu district received the maximum sale value of Rs. 104·09 per bearing tree and Sirmur district the minimum of Rs. 65·82 as against Rs. 83·94 received on an average by the sample growers of apples. On the other hand, the total marketing costs per bearing tree (other than the commission paid to the *Arhatiya*) are the minimum in the case of Sirmur, being Rs. 29·12 and the maximum in Kulu, *i.e.*, Rs. 51·77 as against Rs. 39·39 incurred by the growers on an average. The credit requirements for various activities, *viz.*, labour charges for picking and packing, cost of packing materials, transportation charges upto the market, etc., have been worked out per bearing plant. These requirements are found to be maximum in the case of Kulu and minimum in the case of Sirmur district. The difference in the requirement per bearing plant can be attributed to the distance of market, road conditions and productivity of the area. As the orchardists should get remunerative prices by timely marketing of their produce and should have the independent say in the marketing system, it is worth consideration that some financial institutions and Government agencies should be set up for financing the marketing activities of apple growers.

FARM CREDIT TO SMALL FARMERS—WHAT IS REALLY WANTED? (A STUDY OF SMALL FARM REQUIREMENTS IN A PREDOMINANTLY RICE GROWING DISTRICT OF RAIPUR)

Prakash Bakshi†

Paucity of working capital has long been recognized as the bane of small farm economy. The provision of farm credit has, therefore, been given an important role. Though much has been said about the quantum of such credit, its cost and the agencies from which it should be disbursed, some basic issues have been neglected. The present study on the analysis of 40 small farms in Raipur district of Madhya Pradesh attempts to focus the issue in proper perspective. About 60 per cent of the small farmers resorted to borrowings. The major source, however, was the ubiquitous moneylender, supplying 62·5 per cent of the farmers an average amount of Rs. 860, with the co-operatives faring badly. Even then all their credit needs were not met. About 70 per cent of the farmers reported that they wanted more credit, a third of them wanting more than Rs. 1,000. This scarcity of working capital, even according to their own view, resulted in poor resource use and poorer returns. But this fact alone leads us astray from the correct track. If this little working capital had been optimally used using the modern package, we find, by solving a linear programming model, that the incomes could have been raised by some 100 to 300 per cent. This, however, entails the use of modern inputs on a very large scale. If we use the number of small farmers in the district as the proper weights, we find that these requirements exceed even the highest total fertilizer and seed distribution achieved in the district so far. This means that there was just no possibility of optimally using even that very little working capital that was available since the required inputs were in too short a supply.

What would have happened if the farmers had succeeded in obtaining the additional credit they required or the credit that we estimate to enable them to use all their land optimally? The answer

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is obvious. There would have been still more arbitrary usage of arbitrary inputs leading to low productivity, higher costs, and lower incomes. More than this, it would have led to loss of confidence of the farmers in modern inputs to an even higher degree. The primary need is, therefore, to see that the right inputs are available at the right time in the right quantities. 'Credit' as such may not even enter the picture at all. There is, then, the need to work out the future input requirements for a decade or so, but not of the finance. This we have estimated in the paper. The exercise to estimate 'credit' alone would only be a waste of time.

FLOW OF RURAL CREDIT IN MADHYA PRADESH

D. C. Sah and R. B. Singh*

Madhya Pradesh is one of the agriculturally backward States. In the year 1975-76 the total institutional loan disbursed in rural areas of the State was Rs. 1,035·7 million. Out of total loan disbursement, about 84 per cent was contributed by co-operative financing agencies alone. Since the co-operatives account for such a high share in the total institutional finance, the analysis of the co-operative credit flow alone will highlight the peculiarities of the institutional rural finance in Madhya Pradesh. The paper focuses on the flow of co-operative credit in rural Madhya Pradesh between 1969-70 and 1975-76. It seeks to analyse the nature of imbalances in the co-operative finance and, more importantly, to understand the response of increased finance on increase in input use and increase in production. The four most important conclusions of the paper are as follows: First, the regional imbalances in the credit flow are due to cross-sectional variation in (*i*) the level of agricultural potential, (*ii*) institutional inheritance, and (*iii*) past experience of the lending agencies. Second, as long as new and safe investment opportunities are not created in low potential areas, this imbalance will persist. But institutional financing agency by itself cannot develop these opportunities. Third, increased flow of credit has neither resulted in increased input utilization nor in increased production gains. And last, this is because the institutional linkage in the form of co-ordination between various agencies is weak.

DISPARITIES IN FLOW OF RURAL BANK CREDIT AMONG MAJOR STATES IN INDIA

S. K. Tewari and J. S. Sharma†

The paper aims at assessing the extent of inter-State imbalances in the per hectare flow of rural bank credit among major States of India and in identifying the various factors that significantly affect the flow. The study is based on secondary data. The States which were included in the study are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The coefficient of variation measure was used to estimate the extent of inter-State disparities in the flow of rural bank credit per hectare of net cultivated area at two time periods, *viz.*, 1969 (pre-nationalisation period) and 1974 (post-nationalisation period). Regression analysis was used to identify the various factors responsible for inter-State disparities in the flow of rural bank credit using the data for the year 1974. After testing for multicollinearity among different independent variables, the following dependent variables were included in regression analysis: the number of rural bank offices per ten thousand hectares of net cultivated area, the percentage of villages electrified, net irrigated area as percentage of net cultivated area, weighted average of HYV area under different crops and average yield of foodgrain crops. Rural deposits and fertilizer consumption, considered to be important factors in such an analysis, were dropped as variables as the former was found to have high multicollinearity with rural bank offices and the latter with net irrigated area and average yield of food-grain crops.

It was found that the per hectare flow of rural credit ranged from as low as Re. 0·17 in Orissa to as high as Rs. 19·59 in Kerala in 1969 and it ranged from Rs. 6·12 in Madhya Pradesh to Rs. 133·47 in Kerala in 1974. The flow of rural bank credit per hectare of net cultivated area among the different States was found to be significantly higher in the post-nationalisation period. The estimates of coefficient of variation worked out to 1·02 in 1969 and 0·83 in 1974, making it evident that, to some extent, the inter-State disparities in the flow of rural bank credit reduced in the

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post-nationalisation period. The estimated linear regression equation showed that the number of rural bank offices, village electrification, HYV area and average yield of foodgrain crops were significant variables influencing the flow of rural bank credit in different States and their contribution was found to be positive. However, as contrary to expectation, the contribution of net irrigated area was found to be negative. All the variables included in the regression analysis explained 86 per cent of the variation in the per hectare flow of rural bank credit in different States.

INTER-AND INTRA-STATE DISPARITIES IN THE FLOW OF CO-OPERATIVE RURAL CREDIT IN INDIA

V. P. S. Arora, S. K. Tewari and J. S. Sharma*

It is said that the performance of co-operative rural credit is uneven among the various States and Union Territories of India with respect to the amount of credit advanced for various purposes. Further the gains of co-operative credit development have mainly been reaped by the big and influential farmers, though the co-operatives are mainly for the weaker sections. It is in this context that the present analysis has been done to estimate the extent of inter-and intra-State disparities in the flow of rural credit from primary agricultural credit societies for various purposes and for various categories of farms. It was observed that the seasonal agricultural operations including seeds and fertilizers received a lion's share in the short-term credit advanced by the societies in almost all the States and Union Territories with the exception of Nagaland and Lakshadweep. Kerala is the only State where the distribution of co-operative short-term credit was relatively more equitable among various purposes. In Lakshadweep a fairly good amount of credit was advanced for consumption purposes. The per hectare short-term credit advanced by the societies in different States and Union Territories is estimated to range from Re. 0·26 to Rs. 226·29 in Mizoram and Pondicherry respectively. The major proportion of medium-term advances has been for the purchase of machinery (pumpset) and cattle and for making minor improvements in land. The per hectare flow of total medium-term rural credit ranged from as low as Re. 0·05 in Mizoram to as high as Rs. 72·52 in Pondicherry.

The share of marginal farmers in the total rural credit ranged from 4·62 per cent in Gujarat to 100 per cent in Lakshadweep and that of small farmers from 11·47 per cent in Gujarat to 49·96 per cent in Manipur. In all, the marginal and small farmers accounted for only 12·45 and 18·45 per cent of the total rural advances of co-operatives in the country. The results of the regression analysis used for identifying the various factors responsible for inter-State imbalances in the flow of co-operative rural credit revealed that the membership, outstanding dues, working capital, irrigated area, HYV area, and net cultivated area explained 97 per cent of the variation in advances by the societies. However, the working capital of societies is the only significant factor which can be manoeuvred by credit planners to correct the inter-State disparities in the flow of co-operative rural credit.

CHANGES IN CREDIT USE WITH ADVANCEMENT IN AGRICULTURE

R. N. Pandey, B. Prasad, D. S. Rawat and P. S. Kumar*

An attempt is made in this paper to compare the borrowings, pattern of use and repayment of institutional credit by a sample of 269 farmers in Rampur and Aligarh districts which represent agriculturally backward and advanced areas respectively of Uttar Pradesh. The data related to the year 1974-75. Out of 144 farmers selected from Rampur, the number of marginal, small and large farmers was 36, 72 and 36 respectively. The corresponding number in Aligarh was 30, 42 and 53, making a total of 125 farmers. The average size of operational holdings for the marginal, small and large size-groups of farms was respectively 0·83, 2·02 and 4·06 hectares in Rampur and 0·74, 1·56 and 5·18 hectares in Aligarh.

The total value of farm assets on marginal, small and large farms was Rs. 11,495, Rs. 27,187 and Rs. 65,960 in Rampur while it was Rs. 28,764, Rs. 57,024 and Rs. 1,69,620 in Aligarh respectively. The amount of total liabilities on these three size-groups of farms was Rs. 1,232, Rs. 1,915 and Rs. 4,327 in Rampur and Rs. 2,750, Rs. 2,950 and Rs. 3,875 in Aligarh respectively. The net worth per hectare of net cultivated area was Rs. 12,365, Rs. 12,511 and Rs. 15,180 in Rampur as against Rs. 35,154, Rs. 34,663 and Rs. 31,997 in Aligarh for the corresponding size-groups. The leverage or debt-equity ratio for the marginal, small and large farms respectively was 0·120, 0·075 and 0·070 in Rampur and it was 0·105, 0·054 and 0·023 in Aligarh. It was concluded that the value of farm assets substantially increased with the technological advancement in agriculture and the farmers' dependence on institutional credit also increased considerably. The repaying capacity

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of the farmers also increased and as a consequence, there was a decline in defaults of loans. Farmers particularly the marginal and small ones, increased the size of their farm business through an increase in investment in the livestock enterprises. The low debt-equity ratio indicated that the farmers in both the areas can safely be advanced substantially higher amount of institutional credit for sound productive projects.

AN APPRAISAL OF CREDIT STRUCTURE AND FLOW IN BLOCK PUKHRAYAN, DISTRICT KANPUR (A CASE STUDY)

J. S. Garg, G. N. Singh and K. N. Pandey*

With the functioning of 'multi-financing agencies' in the rural areas during recent years, it has become necessary to undertake micro studies at the block level to assess the present credit structure and flow in the rural areas as it would help in evolving effective policies, programmes and procedures for different farm financing institutions. This paper makes an attempt to examine the structure and flow of farm credit in Pukhrayan block of Kanpur district in Uttar Pradesh. The study was conducted by the Department of Agricultural Economics and Statistics, C. S. Azad University of Agriculture and Technology, Kanpur, during the year 1977-78.

Prior to the nationalisation of banks, the primary credit co-operatives were the main source of institutional financing in the villages of the block under study. The main co-operative institutions were the District Co-operative and U. P. State Co-operative Land Development Banks. The supply of short and medium-term loans to the farmers was made by the Co-operative Bank and the term loan by the U. P. State Co-operative Land Development Bank mainly for the purpose of minor irrigation works. After the nationalisation of banks, State Bank of India opened its Agricultural Development Branch (ADB) at the block headquarters. It entered in a big way to finance the rural masses and supplied all types of loan, *viz.*, short, medium and long. The other agencies involved in the loaning programmes were the Government agencies supplying credit in the form of *taccavi*, grants-in-aid and subsidies through development blocks.

The amount advanced by State Bank of India (ADB) increased significantly from Rs. 3 lakhs during 1973-74 to Rs. 19·06 lakhs during 1977-78, that is by more than five times. This tremendous increase came after June 1977, with the opening of the ADB of the Bank. The recovery of the loan was very satisfactory from the very beginning. However, there was a spectacular increase in the recovery during 1973-74.

Out of the total advances of Rs. 46·06 lakhs during the period 1973-74 to 1977-78 by State Bank of India (ADB), Rs. 43 lakhs or 93·36 per cent were given as term loan and the balance (6·64 per cent) as crop loan. Out of the term loan, Rs. 42 lakhs were advanced for tractor, Rs 50,000, for pumpset, Rs. 35,000 for poultry and Rs. 15,000 for milch animal. Of the crop loan advanced, Rs. 1 lakh were disbursed in the *kharif*, Rs. 2 lakhs in the *rabi* and Rs. 6,000 for sugarcane. The largest share (98·38 per cent) of the term loan went to the large sized farmers mainly for the purchase of tractors. A very small fraction of this loan (1·16 and 0·46 per cent) was used for the purchase of irrigation structure and milch animals by the small and marginal farmers. The main beneficiaries of the loan were the large farmers. The small and marginal farmers could not benefit mainly because they lacked proper and adequate security of land. Secondly, it might be because the programme of advancing loans for tractors to the small and marginal farmers had neither technical feasibility nor economic viability and bankability.

Out of the total advances under crop loan, 75·49 per cent went to the small farmers. For crop loan, land security is not considered. However, because of relatively more acreage under crops, the small farmers could obtain higher advances as compared to the marginal farmers.

The Bank made higher advances for the purchase of tractors not only because of the better demand by the farmers but it wanted to achieve the target in respect of advances. Simply by persuading one farmer to purchase a tractor, the Bank could advance more than Rs. 50 thousand. But if the same amount were advanced for irrigation or for the purchase of animals, more than 6 or 40 farmers respectively could have benefited. The first approach reduced the load of work of the field staff without adversely affecting the amount advanced. This lacuna in advances by the Bank needs to be examined in the light of the feasibility and viability of the advances made on this account.

The amount of credit advanced by the U.P. State Co-operative Land Development Bank nearly doubled from Rs. 5·9 lakhs to Rs. 10·2 lakhs between 1968-69 and 1976-77. This sudden spurt in the amount of advance made by the bank may be due to the growing demand for minor irrigation works. The percentage of recovery was very satisfactory which ranged from 85·75 in 1969-70 to 95·15 in 1976-77. Between 1967-68 and 1977-78 the amount of credit advanced by the District Co-operative Bank more than doubled from Rs. 6·4 lakhs to Rs. 13·3 lakhs, due to the increasing demand for irrigation and fertilizer and quality seed needed for the adoption of high-yielding varieties programme. The percentage of recovery increased from 65·14 to 82·23 during the same period.

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The 'multi-agency approach' in agricultural financing has resulted in increasing the quantum of credit. However, with the Reserve Bank of Inda's directive to the scheduled commercial banks to attain 60 per cent credit-deposit ratio in the rural branches by March 1979, the conflict between the commercial and co-operative banks in their sphere of operation has sharpened. Unfair competition in mobilizing rural deposits between the co-operative and commercial banks is likely to crop up. There is an apprehension on the part of the co-operative banks that with the 'in roads' of the commercial banks in their area of operation, the co-operative banking structure may be weakened. This situation requires examination as the co-operatives have to be strengthened at this stage to serve their rural masses.

AN ANALYSIS OF AGRICULTURAL FINANCING BY REGIONAL RURAL BANK IN DISTRICT MORADABAD, UTTAR PRADESH

J. S. Garg, G. N. Singh and R. S. Tripathi*

The main objectives of the Regional Rural Banks (RRBs) are to develop the rural economy by providing credit facilities for the development of agriculture, trade, commerce, industries and other productive industries in the rural areas, particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs. The rationale for a Regional Rural Bank, oriented to rural credit, follows the identification of a specific regional and functional gap in the existing institutional structure. The new institutions are intended to supplement and not to supplant the other institutional agencies in the field, *i.e.*, the co-operative and commercial banks.

The Regional Rural Bank (Pratham bank), Moradabad was established on 2nd October, 1975 in Uttar Pradesh and was sponsored by the Syndicate Bank. By April 1978, there were as many as 20 branches of the bank in the district. Moradabad is one of the backward districts of the State with a population of 24·31 lakhs. There are about 1,59,000 marginal farmers, 87,000 small farmers 72,000 agricultural labourers, 23,900 handloom weavers and 50,000 rural artisans engaged in the manufacture of brasswares, wooden toys, horn goods, etc.

There had been a steady rise in both the number of accounts and the amount deposited with the bank from year to year. The percentage increase in the amount deposited and the number of accounts opened with the bank came to as much as 135·96 per cent and 84·64 per cent respectively on 31-12-77 over 31-12-76. The average amount deposited per account also showed a similar trend. It rose from Rs. 250·06 per account in 1976 to Rs. 319·56 in 1977. Thus it may be inferred from above facts that the RRB has helped in mobilizing the rural savings to a larger extent. The data for the year 1975 and 1978 have not been compared as their duration is less than 12 months. The number of accounts and advances made to different classes of rural people by the RRB showed a progressive rise from year to year.

It is concluded that the small and marginal farmers, agricultural labourers/landless labourers and rural artisans were the major beneficiaries of the RRB's advances. However, the largest number of beneficiaries were the small and marginal farmers. The benefits of the programme to agricultural labourers were relatively low probably because of their poor economic status. The analysis of purposewise advances showed that there is an increasing demand for term loans particularly for the development of assured irrigation, dunlop cart for easy transportation and dairy industry. The number of accounts were the highest under crop production and land development but their share in the amount advanced was relatively low, meaning thereby that the amount advanced for these purposes was relatively low. A reverse trend was noticed in the case of tubewells/pumping sets and dairy development. There was no significant increase in the amount advanced per account in the year 1977 over 1976 for agricultural purposes. The RRB has helped in mobilizing rural savings to a larger extent.

The above conclusions have limited applicability as the analysis is limited to two years only. However, a definite trend is visible in regard to deposits and advances for different classes of rural people and purposes. It may, therefore, be suggested that the extension programmes of the RRBs should be continued as they are serving a useful purpose for the rural masses. These banks should have a supplementary role in providing rural credit as recommended by the Dantwala Committee without competing with the co-operatives and commercial banks working in the area. They can serve the rural masses better, particularly the weaker sections of the society by mobilizing their savings and providing them advances for augmenting their income, productivity and employment.

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A CRITICAL REVIEW OF RURAL CREDIT BY FINANCING INSTITUTIONS IN KANNAUJ BLOCK, DISTRICT FARRUKHABAD (A CASE STUDY)

G. N. Singh, J. S. Garg, A. R. Verma and K. N. Pandey†

The recent technological breakthrough in agriculture has increased the demand for investible funds to a larger extent to meet the growing requirements of cash inputs like quality seed, fertilizers, assured irrigation water, etc. The difficulty in obtaining adequate funds to meet the long-felt requirements and the lack of appropriate institutional arrangements to provide such funds were two of the many problems which the rural community faced in the era of pre-nationalisation of banks. The co-operatives were the main institutions for rural finance during this era. But with the commercialisation of agriculture in recent years, the farmers have tried to adopt new technology to achieve higher production and therefore a large amount of credit is needed to obtain all necessary inputs of production. It is in this context that the commercial banking in the post-nationalisation era has to play a very vital role in rural financing in co-ordination with similar other institutions like co-operatives.

The study is based on secondary data obtained from the branches of farm financing institutions operating in Kannauj block in Farrukhabad district of Uttar Pradesh. There are four main institutions operating in the district, namely, Bank of India (Lead Bank of the district), State Bank of India Regional Rural Bank, and District Co-operative Bank, There has been a progressive increase in the number of accounts and amount advanced by all the farm financing institutions since 1969. Bank of India advanced the highest amount of advances in the form of term loan mainly for the purchase of tractors and minor irrigation works. The crop loan received second priority but the number of accounts and amount advanced showed a steady rise. State Bank of India gave top priority to crop loan followed by loans to rural artisans and small businessmen, landless labour/allottees of surplus land and pumpsets and tubewells. Likewise, the Regional Rural Bank, Farrukhabad concentrated mostly on crop loan followed by loans for the purchase of milch animals, loans to small businessmen and artisans. It did not advance any amount for the purchase of tractors and installation of tubewells. The District Co-operative Bank advanced loans for short and medium-term purposes.

The recovery of advances made particularly by Bank of India and the Regional Rural Bank has been most unsatisfactory and is a matter of grave concern. It was the lowest in 1977, being 22·22 per cent in the case of Regional Rural Bank followed by 24·80 per cent in the case of Bank of India. A large number of wilful defaulters because of political influence were responsible for the poor recovery performance. The poor economic viability of the projects might have also resulted in low recovery. The commercial banks including Regional Rural Banks are the new entrants in the field of rural finance and lack trained and experienced personnel having rural background. This has also adversely affected the recovery situation. The overdues position was most unsatisfactory particularly with the District Co-operative Bank. Efforts are urgently needed to improve the recovery and overdues positions by increasing the efficiency of farm credit through proper supervision. Of course, the coercive methods need to be avoided for this purpose. The amount of credit advanced should be linked with the technical feasibility and economic viability of the project, on the one hand, and the repaying capacity of the farmers, on the other, rather than on the security offered by them. The 'multi-agency approach' in rural financing in the study area has, no doubt, responded positively. However, it is feared that the new directive of the Reserve Bank of India as regards the deposit-credit ratio to be maintained by the commercial banks in the rural areas may result in unfair competition between the co-operatives and commercial banks working in the area. This situation needs to be examined in the light of the fact that the co-operatives have to be strengthened for mobilizing rural savings and to enable them to function as a major source of credit supply to the rural masses in general and for the weaker sections of the rural society in particular.

CREDIT REQUIREMENTS OF SMALL FARMERS AND ITS ADEQUACY IN BLOCK NAINIDANDA OF DISTRICT PAURI GARHWAL IN HILL REGION OF UTTAR PRADESH

J. S. Garg, G. S. Rawat, G. N. Singh and K. N. Pandey*

In the context of the adoption of modern agricultural technology, the paper examines the availability of credit and estimates the credit requirements of a sample of 50 farmers (30 marginal and 20 small farmers) selected randomly from ten villages in Nainidanda block of Pauri Garhwal district in the hill region of Uttar Pradesh. Farmers having operational holdings upto one hectare each are

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treated as marginal farmers while those having operational holdings between 1-2 hectares each are treated as small farmers. Budgeting technique was used to estimate the credit requirement, by preparing alternative plans for each category of farmers. Credit requirements increased with an increase in the size of holdings, and with the higher level of technology. The short-term credit requirements were estimated at Rs. 463·12 and Rs. 758·13 in alternative plans, where improved level of technology was incorporated for marginal and small farmers respectively with an average of Rs. 610·63. Thus, an increasing trend of credit requirement was observed on the sample farms. A similar trend was also observed in the case of investment gap which was estimated at Rs. 457·13 and Rs. 342·03 per hectare for marginal and small farmers respectively with an average of Rs. 399·58 per hectare on the sample farms.

Out of the selected sample farmers, 21 marginal and 18 small farmers in the study area obtained loan from the co-operatives, Government agencies and private agencies for meeting their requirements of fertilizers, seed, irrigation which were suggested in the alternative plan. Ten co-operative societies, five Government agencies and certain private agencies operated in the study area. Government agencies advanced loans amounting to Rs. 2,588·51 to eight marginal farmers and Rs. 2,503·12 to two small farmers. The co-operatives disbursed loans amounting to Rs. 1,164·38 and Rs. 2,441·93 to 11 marginal farmers and 13 small farmers respectively. The magnitude of credit disbursed by, private agencies was very meagre. The advances were made mainly for HYV seeds, fertilizers, and minor irrigation project. A small amount was also advanced for the development of garden, sheep and goat husbandry. No branch of any nationalised bank has so far been opened in the study area. However, recently a branch of State Bank of India has been opened in Dhumacot, 8 km. away from block headquarters which too has not started advancing any kind of agricultural loan.

On an average, the availability of credit from all agencies on marginal farms was of the order of Rs. 223·91 per hectare and Rs. 152·27 per farm. Since the total credit need being Rs. 457·13 per hectare on marginal farm, the credit gap worked out to Rs. 233·22 per hectare. The per farm credit gap worked out to Rs. 175·83 on marginal farm. The credit availability from all agencies on small farm was Rs. 283·62 per hectare on an average. The credit gap per hectare and per farm was estimated at Rs. 138·66 and Rs. 192·83 respectively on small farm. The credit gap was larger in both the categories of farms than in any other region of the State. Co-operatives are still the main sources of agricultural finance in the study area. The institutional agencies particularly the commercial banks have yet to play a vital role in financing agriculture in the area. "Multi-Agency Approach" is needed to meet the growing demand of credit, to adopt the modern farm technology in agriculture.

AN ECONOMIC APPRAISAL OF LONG-TERM FINANCING BY U.P. STATE CO-OPERATIVE LAND DEVELOPMENT BANK (A CASE STUDY)

J.S. Garg, G.N. Singh, M.P. Azad and K.N. Pandey*

The present study is based on an intensive enquiry of 100 cultivators' holdings, 50 borrowers and 50 non-borrowers, randomly selected from ten villages of Sikerara block in Jaunpur district of Uttar Pradesh, classified under different size-groups, in proportion to the number falling in each size-group during 1975-76. The U.P. State Co-operative Land Development Bank was registered in 1959 to provide long-term credit against the security of land, mainly for minor irrigation work. The bank is working on a unitary pattern and operating in the whole State of Uttar Pradesh, through its 210 branches. Since its inception, the bank has advanced Rs. 270 crores for minor irrigation, horticulture, soil conservation, farm mechanization, etc. Nearly seven lakh cultivators were given long-term credit by the end of 1975-76 and about 62·31 acres of land have been brought under irrigation. With the loans provided by the bank, 2,13,285 tubewells, 1,75,370 pumping sets, 1,64,875 irrigation wells and 33,510 Persian wheels have been installed and 8,530 tractors have been purchased in the State by the end of 1975-76.

The recovery of loans showed an upward trend, increasing from 75·12 per cent in 1971-72 to 83·02 per cent in 1975-76. The study indicated a steady and continuous progress in regard to share capital, owned capital, working capital, loans advanced, loans outstanding and net profit of the bank between 1960-61 and 1974-75.

The analysis of the cropping pattern and intensity of croping on the farms of borrowers and non-borrowers showed a marked shift in the cropping pattern on all the size-groups as compared to the non-borrowers. The shift was in favour of adoption of high-yielding varieties and cash crops on large areas. The area under local varieties and less remunerative crops declined considerably on the farms of borrowers. The intensity of cropping was also higher at 167 per cent on the farms of borrowers as compared to 149·39 per cent on the non-borrowers' farms. The study revealed that the level of the productivity of all crops on the borrowers' farms was much higher than those on the non-borrowers' farms. The higher productivity was more apparent in the case of high-yielding varieties of paddy

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and wheat and cash crops. The long-term loan has helped to enhance the level of income of the borrowers to a considerable extent. The net income, on an average, amounted to Rs. 2,116·10 per acre on the non-borrowers' farms. It was higher at Rs. 2,989·67 per acre on the borrowers' farms, thereby indicating an increase of over 40 per cent as compared to the former. The increase in the net income per acre was associated with the increased investment and output per acre on the borrowers' farms which helped in the repayment of loans to a larger extent.

AN ESTIMATION OF PRODUCTION SUPPORTING CREDIT IN RELATION TO LONG-TERM CREDIT (A CASE STUDY)

D.S. Singh, R.P. Singh, G.N. Singh and R.I. Singh*

An attempt is made in this paper to estimate the need for production supporting credit in relation to long-term credit, to examine the repaying capacity of farmers and to study the relationship between the amount of long-term credit supply and production supporting credit needs based on an intensive enquiry of 36 farmers selected from a cluster of five villages in Kalyanpur block of Kanpur district in Uttar Pradesh. The data related to the year 1974-75. The only institution which extends long-term loans for permanent agricultural developments is the Land Development Bank. The production supporting credit is complementary to the resources already in the hands of farmers, and the long-term credit enlarges the base of production. The repaying capacity of the sample farmers during the year 1974-75, on an average, came to Rs. 2,236·73 which varied from Rs. 871·16 in the smallest size-group to Rs. 4,132·64 in the largest one. The overall level of long-term credit and production supporting credit was Rs. 3,390·80 and Rs. 197·03 respectively. The latter was not sufficient to meet the requirements of cultivators.

There was positive correlation between the size of farms and the level of long-term credit and between production supporting credit and output. The calculated value of r in the respective cases was 0·9782 and 0·9477, which was significant at 5 per cent level. It means that when the size of farm increases the levels of long-term credit, production supporting credit and output also increase. The amount of long-term credit in the case of small size-group ((0-3 ha.), medium size-group (3-6 ha). and large size-group (6 and above ha.) was Rs. 2,715·70, Rs. 3,455·7 and Rs. 4,000·92 respectively. The production supporting credit already financed worked out to Rs. 107·50, Rs. 236·36 and Rs. 247·22 in the three respective size-groups of farms. The value of output amounted to Rs. 12,079·40, Rs. 19,872·80 and Rs. 36,476·47 in the small, medium and large size-groups respectively.

The investment gap per hectare in the case of paddy crop was the highest in each size-group of farm but it tended to decline with an increase in the size of farm. It was Rs. 320·94, Rs. 294·38 and Rs. 245.85 per hectare for small, medium and large farms respectively. In the case of maize crop the credit gap per hectare was lower than that for paddy but it increased with an increase in the size of farm. The corresponding figures were Rs. 187·85, Rs. 190·25 and Rs. 208·50. The investment gap per hectare in the case of wheat amounted to Rs. 216·69, Rs. 135·97 and Rs. 128·60 and in the case of vegetable crops it was Rs. 120·22, Rs. 178·62 and Rs. 245·46 for small, medium and large farms respectively. While in the former the investment gap declined with an increase in the size of farm, in the latter it increased as the size of farm increased.

The credit gap per hectare decreased with an increase in the size of farm, because large farms have more resources as compared to the small and medium farms, which varied between Rs. 346·92, Rs. 331·37 and Rs. 239·53 on small, medium and large farms respectively It also indicates that the credit gap per farm increases as the size of farm increases, which worked to Rs. 655·68, Rs. 1,199·56 and Rs. 2,146·19 for the corresponding size-groups.

On per farm basis, the credit gap due to crops and due to long-term credit increased with an increase in the size of farm. But the position is reversed when we consider the average credit gap of Rs. 454·80 per hectare, comprising an amount of Rs. 305·94 due to crops and Rs. 148·86 due to long-term credit. The variation in the case of credit gap due to long-term investment is wider, ranging from Rs. 232·80 for the small size-group to Rs. 71·92 for the large size-group. On an average, 15·87 per cent of the estimated credit gap in crop production is borrowed by the farmers. It is further reduced to 10·82 per cent when compared with the total credit gap arising due to the long-term credit. The amount of credit borrowed as a proportion of the estimated credit gap only in crop production is 16·40, 19·70 and 11·51 per cent on small, medium and large farms respectively. As a proportion of the total credit gap, the amount of credit borrowed declines to 9·81, 13·80 and 8·86 per cent in the three size-groups of farms respectively. It may be concluded that the economic use of long-term credit may be raised to a larger extent with the increased use of production supporting credit.

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FLOW OF BANK CREDIT—ITS IMPACT ON CROPPING PATTERN, FARM INCOME AND EMPLOYMENT (A CASE STUDY)

R.I. Singh, J.P. Singh and V. Prasad*

This paper examines the impact of bank credit on cropping pattern, income and employment on farms in district Fatehpur district, Uttar Pradesh, where Bank of Baroda is operating as the lead bank of the district. During the year 1976-77, the bank made an advance of Rs. 14 lakhs to 300 farmers. Short-term loan was given to 30 per cent of the farmers, accounting for 6·43 per cent of the total loans, medium-term loan (for milch and draft cattle and *gobar* gas plant) was given to 56·33 per cent of the farmers, which accounted for 32·78 per cent and long-term loan to 13·67 per cent of the farmers accounting for 60·79 per cent of the total advances made during 1976-77. Of this total amount, the share of marginal farmers (0-1 hectare) came to only 3·57 per cent, while the share of small (1-2 hectares) and large farmers (2 hectares and above) was 28·57 per cent and 67·86 per cent respectively.

The average loan per hectare advanced by the bank on the sample farms came to Rs. 2,359·04. It was Rs. 1,583·33 on marginal farms, Rs. 1,482·04 on small farms and Rs. 3,557·59 per hectare on large farms. Of the total amount advanced to the marginal farmers, about 97 per cent was given for the purchase of milch and draft cattle and the remaining for crop production purposes. This trend was also observed in the case of small farmers where a major portion of the loan was given for the purchase of milch and draft cattle followed by *gobar* gas plant, tubewells and crop production purposes. The larger amount advanced for milch cattle on small and marginal farms may be due to the fact that these farmers tried to supplement their incomes by sale of milk and milk products. In the case of large sized farms the highest advances were made for the purchase of tractors, installation of tubewells, even for livestock, etc. No advances were given to them for crop production purposes because they were able to meet the crop production expenditure from their own income.

As regards the inpact of bank credit on cropping pattern, farm income and employment, the borrower farmers devoted more area under high-yielding crops as compared to the non-borrowers who cultivated less remunerative crops like barley, jowar+*arhar* and other local varieties, requiring lower expenditure. The credit advances on borrower farms resulted in bringing more area under irrigation and in increasing the intensity of cropping which in turn enhanced the level of income and employment in comparison to the non-borrower farms. The per hectare net income (crop+milk) on borrower farms amounted to Rs. 1,976·29 on an investment of Rs. 3,077·78 per hectare as compared to a net income of Rs. 1,452·05 on non-borrower farms which was obtained by an investment of Rs. 2,658·22 per hectare. Similarly, the utilization of labour worked out to 189 and 166 days on borrower and non-borrower farms respectively.

A CRITICAL ANALYSIS OF LONG-TERM CREDIT DISTRIBUTION, ITS UTILIZATION AND COST THROUGH LAND DEVELOPMENT BANK, IN DISTRICT JAUNPUR (UTTAR PRADESH)

H.D. Yadav, R.I. Singh and G.N. Singh†

A critical review of the working of the branch of the U.P. State Co-operative Land Development Bank (LDB) in Jaunpur district of Uttar Pradesh revealed a continuous increase in their membership and share capital. The total membership of the branch increased by 29 per cent from 2,835 in 1972-73 to 3,666 in 1974-75. Its share capital increased by 48 per cent during the same period. The percentage of recovery in 1972-73 was 81·50 per cent as against 74·68 per cent in 1973-74, which again improved to 80·70 per cent in 1974-75. During this period, the overdues rose four-fold.

Out of the total loan of Rs. 1·08 lakhs advanced to 20 sample farmers in six villages of the district, 51·21 per cent was advanced to the farmers in smaller size group, 36·75 per cent to medium and 12·04 per cent to large farmers. The average amount of loan per cultivator in the small size-group was the lowest, being Rs. 5,027·30, while it was the highest being Rs. 6,500 in the largest size-group of farms due to their better capacity to provide security against the loan. The loan advanced to the sample farms was entirely for minor irrigation work. It was observed that the entire amount of loan advanced to the sample farmers was fully utilized for productive purpose. The amount of loan supplied by the Land Development Bank to the sample farmers was not adequate to met their requirements. On an average, as against the total demand of Rs. 53,515, the amount of loan supplied by the bank came to Rs. 45,610, which constituted 85 per cent of the total demand. The position was worst on small farms where the credit gap was the highest, amounting to Rs. 1,009·09 per cultivator as against Rs. 600 in the larger size-groups of farms. The large credit gap in the case of small farmers

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was mainly because of the poor security offered by them due to low land base. The cost of loan has been quite high on the sample farms. On an average, it amounted to Rs. 558·66, which varied from Rs. 493·18 on the small to Rs. 553·20 on the medium and to Rs. 629·62 on the large farm.

Following difficulties have been reported by the respondents: (*a*) There is great delay in sanctioning and granting of loans, often due to the time spent in securing title deeds to property which is offered as mortage, inelasticity of rules governing the grant of loans, demand of high security, rigid realisation and annuity instalments not well suited to the repaying capacity of the borrowers. (*b*) The Land Development Bank has not properly developed the business habits and the servicing of delinquent loans has not been done methodically and regularly. (*c*) The defect in land development banking is the high cost of credit which does not permit the farmers to take advantage of such credit.

ROLE OF COMMERCIAL BANK IN GENERATION OF INCOME AND SAVINGS ON FARMS

Shri Ram, R.I. Singh and V. Prasad*

The present study attempts to examine the contribution of bank credit to the generation of income and savings on farms in Kanpur district, Uttar Pradesh. The findings of the study are based on three-year averages (1971-72 to 1973-74) of data collected from 150 cultivators, selected randomly from ten villages of Kalyanpur block in the district where Bank of Baroda is in operation for advancing loans to the cultivators. The average size of sample farms was 2·56 hectares which varied from 1·38 hectare in the small (0-2 ha.) to 2·81 hectares in the medium (2-4 ha.) and to 6·10 hectares in the large (4 hectares and above) sizegroups of holdings. The average irrigated area as a proportion of the cultivated area was 68·42 per cent, the intensity of cropping being 148·82 per cent and the area under HYV crop was 34·03 per cent of the total cropped area.

Before arriving at the income and savings generated on account of bank credit, the share of production cost (cash inputs) in the total cost was worked out. Then the share of bank credit in the total production finance cost was calculated and the total income and savings received on account of total production finance cost were divided on the basis of the ratio of bank credit to the total production cost incurred on crop production. The share of production finance cost was 37·03 per cent of the total cost incurred on crop production, which varied from 29·94 per cent to 34·58 per cent and to 44·06 per cent on small, medium and large farms respectively. The percentage share of bank credit in the total production cost, on an average, was 24·50 per cent and it varied from 32·60 to 26 and to 20·35 per cent in the corresponding size-groups. As regards the average net income, family labour income and farm business income generated on account of bank credit, these amounted to Rs. 571·64, Rs. 736 and Rs. 922·22 per farm respectively. The values of the corresponding incomes on per hectare basis worked out to Rs. 223·11, Rs. 287·26 and Rs. 360·24. Savings amounted to Rs. 128·95 per farm and Rs. 50·37 per hectare. The income generated on account of per rupee of bank credit was Rs. 1·34 for net income, Rs. 1·72 for family labour income and Rs 2·16 for farm business income and Re. 0·30 for savings. The share of farm business income and savings due to bank credit was 24·50 per cent each in the total farm business income and savings on account of production cost. It shows that income and savings can be further stepped up by supplying adequate bank credit in time and providing proper guidance for its utilization.

CREDIT IN THE LIFE OF VILLAGE ARTISANS

Y.S. Chauhan, D.S. Shukla, Shri Ram Yadava and R.I. Singh†

The paper examines the pattern of utilization of loans and the credit requirements of village artisans, based on a study of 55 respondents representing 50 per cent of the entire families of artisans of ten villages in Bidhanu block of Kanpur district in Uttar Pradesh. The average size of the family was 6·65 with an average total income of Rs. 2,109·36, of which Rs. 1,227·23 and Rs. 832·13 were in cash and kind respectively. Of the selected families, 74·5 per cent borrowed and the average amount of borrowings per borrowing family was Rs. 152·26. Oil crushers borrowed the highest amount of Rs. 325 per family and the borrowings of the tailors were the minimum (Rs. 51 per family).

There are a number of agencies supplying credit to these artisans. Private sources accounted for 47·35 per cent of the loans advanced per average family, which was the highest. The share of banks was the lowest (1·79 per cent). As regards the purpose of borrowings, as high as 43·78 per cent of the amount borrowed per family was used for productive purpose while it was very low

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(2·87 per cent) for miscellaneous purpose. The tailor obtained no credit for consumption purposes while the washerman obtained the maximum for this purpose (22·40) per cent). All classes of village artisans expressed the need for more credit. Their credit requirements for construction of permanent establishments like godowns, buildings, etc., were the highest (54·57 per cent per family) and they were the least (2·32 per cent) for consumption purposes. The overall credit requirement for all classes of artisans amounted to Rs. 2,622·05 per family. The conditions of these artisans could be improved if the various agencies meet the credit requirements of this section of the village community promptly and quickly.

STRUCTURAL CHANGES IN THE DEMAND PATTERN OF FARM CREDIT IN THE CONTEXT OF CHANGE IN AGRICULTURAL TECHNOLOGY

Ram Iqbal Singh and V. Prasad*

This paper makes an attempt to examine the changes in the demand pattern of farm credit as a result of the adoption of modern agricultural technology between 1967-68 and 1977-78 through a case study undertaken in Kalyanpur block in Kanpur district in Uttar Pradesh, as also to work out the cost of credit at the two points of time and to examine the desirability of single credit agency/multiple credi agency for financing the farmers. Out of the total credit of Rs. 1,025·55 per farm advanced in 1967-68, the share of the co-operatives was as high as 53·62 per cent while the share of moneylenders and Government was 27·46 per cent and 18·92 per cent respectively. In 1977-78, there was a change in the shares of these agencies due to the entry of commercial banks and land development banks. The per farm credit supplied through different credit agencies increased to Rs. 2,358·91 in 1977-78. Of this amount, the share of the commercial bank was the highest, being 56·42 per cent, followed by land development and co-operatives with 23·35 per cent and 14·05 per cent respectively.

The study of demand pattern for farm credit showed that the farmers borrowed only for crop production and digging/repairing of masonry wells in 1967-68, but after the adoption of modern technology on their farms, their credit need was extended to the installation of tubewells, pumping sets, purchase of tractors and power threshers, purchase of milch and draft cattle, etc., in addition to their need for meeting crop production expenditure. This resulted in an increase of borrowings which rose from Rs. 261·04 per hectare in 1967-68 to Rs. 962·91 per hectare in 1977-78. Of the total amount borrowed in 1977-78, about 40 per cent was for meeting crop production expenditure, 40 per cent was taken for long-term finance and about 20 per cent for meeting the medium-term credit needs.

The per farm credit cost worked out to Rs. 44·26 in 1967-68 and Rs. 312·16 per farm in 1977-78 constituting 5·95 per cent and 13·98 per cent respectively of the total institutional credit borrowed. The increase in cost in 1977-78 was mainly because of borrowings made by the farmers from a number of agencies for meeting their credit requirements, which involved frequent visits to different credit agencies for completing the formalities of different nature, resulting in more expenditure on conveyance, incidental charges, etc., besides loss of time.

As regards a single credit agency vs. multiple credit agency, a single credit agency to handle all the credit needs of the farmers is desirable. A single credit agency is in a better position to co-ordinate loan advances for various purposes to the farmers. The credit cost can also be cut down to the minimum with lower cost of service. It will also help to bring down the rate of interest and ensure better utilization of credit resources.

CREDIT POLICY IN THE CONTEXT OF MODERN FARM TECHNOLOGY

J.P. Misra, R.I. Singh, G.N. Singh, K.N. Pandey and B.P. Sharma†

In the context of new farm technology adopted by farmers, a good credit policy should not only help in increasing production but should also help in providing other facilities to them such as marketing and processing of agricultural produce. The credit policy should aim at assisting both the small and big farmers so that while the big farmers may become prosperous, the poor ones are not left behind. The schemes to be financed should be labour intensive. All classes of farmers in a particular region should get adequate advances at the right time from only one agency for meeting their entire credit

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requirements. The availability of credit should be entirely 'need based' and not 'security based'. Meeting the credit requirements partially is as good as giving no credit.

The restriction on margin money should not be forced rigidly on all farmers but should be waived, taking into account the economic viability of the projects in general and the integrity of the farmer in individual deserving cases.

The credit policy of the Government should be such as to provide adequate credit at uniform rates of interest to all the categories of farmers for all projects. The lending agency should develop contact with the input supplying firms and advocate the farmers to purchase a particular machine or equipment. Government should take suitable measures to check the malpractices relating to agricultural advances. Provision should be made for the advance of consumption credit to check the diversion of production credit.

There is a general feeling among the people that the modern technology has benefited the big farmers only. The small farmers are not able to adopt the modern farm technology due to insufficient capital with them. If the full benefits of modern technology are to be assimilated by the small farmers, an all-out effort has to be made to fully meet the requirements particularly of the small farmers who constitute the bulk of the farming population. The rate of growth in agriculture cannot be pushed up unless there is a significant improvement in the economic condition of individual farmer.

CREDIT SERVICES FOR MARGINAL FARMERS AND AGRICULTURAL LABOURERS AND ESTIMATION OF THEIR CREDIT REQUIREMENTS

K. N. Pandey, G. N. Singh, R. I. Singh and M. P. Azad*

This study which was conducted by the Department of Agricultural Economics and Statistics, C. S. Azad University of Agriculture and Technology, Kanpur examines the possibilities of increasing the level of income of marginal farmers and agricultural labourers with liberalized credit facilities for the improvement of farming. It is based on an intensive inquiry conducted in 1975-76 of a random sample of 50 marginal farmers and agricultural labourers selected from five villages of Nagara block in Ballia district of Uttar Pradesh. Farm planning and budgeting techniques were used for developing alternative crop plans with a view to maximizing the incomes of farmers. The study indicated an increase in the credit needs of farmers as the size of holding increased. The short-term credit need varied from Rs. 626·31 to Rs. 1,159·49. It was lowest in the case of the smallest size-group (0·5 to 1 acre) and highest for the highest size-group of holdings (2 to 2·5 acres) among the small farm category. The variation in the total credit requirement was also similar. By adopting the new technology package, the alternative crop plans resulted in an increase in the net income of the smallest size-group and the highest size-group by 237 per cent and 150 per cent respectively over the existing plans. The net income, however, tended to decrease as the farm size increased.

Co-operatives generally considered that loans advanced to the marginal farmers and agricultural labourers involve risk in case of crop failure, if they are not backed by any tangible assets as security. Another important factor adversely affecting the marginal farmers and agricultural labourers was that farm credit from co-operatives and commercial banks was not integrated with easy availability of inputs and other services supporting production and marketing. The marginal farmers could not productively use whatever loans they got from these sources for lack of easy accessibility to such facilities as a viable commercial package. A major handicap of the marginal farmers and agricultural labourer has been their inability to contact separately a number of different agencies for different requirements. For crop finance, they have to go to the co-operative or the commercial banks. For long-term credit, they need to go to the land development bank. Separate agencies need to be approached for inputs, services, hiring of farm equipments and marketing. It would be impracticable to expect them to contact so many different sources to get credit and services for different needs.

STRUCTURAL CHANGES IN THE DEMAND PATTERN OF FARM CREDIT

Daulat Singh, Ram Iqbal Singh and V. K. Singh†

The paper aims at analysing the changes in the demand pattern of farm credit including the rate of flow of farm credit, imbalances in credit-deposit ratio, disproportionate advance of credit for various farm production purposes as well as for different categories of applicants. It also attempts to examine the pattern of utilization of credit and the rationality of credit use. It is based on two

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micro level investigations conducted in 1974-75 in Kanpur district covering 66 loanees from five locations and in Fatehpur district of Uttar Pradesh in 1975-76 covering 200 farmers from 20 villages. The credit sources included commercial banks, land development bank, co-operative societies, government *taccavi*, landlords, moneylenders, relatives and traders. The selected farmers were grouped into marginal (holding less than one hectare), small (1-3 hectares) and big (more than 3 hectares of land) farmer categories. The study indicated that co-operative societies met 82 per cent of the credit requirements of 87 per cent of the farmers as against 4·57 per cent advanced by banks and 8·43 per cent by land development bank. *Taccavi* loans are not given directly by any development department at present. Among non-institutional sources, relatives and moneylenders advanced cash/kind loans for seeds, fertilizers, etc., to landless labourers and marginal farmers but not to the small farmers. It was further revealed that a major handicap of the small and marginal farmers or landless labourers was their inability to contact separately a number of agencies for credit. Thus the existing credit structure is not a stumbling block in the easy and efficient flow of credit.

However, the study of credit advanced by five commercial banks in Kanpur district revealed that the big farmers cornered a major portion (83 per cent) of the total sum advanced as against 15 per cent by the small and 2 per cent by the marginal farmers. The trend seems to continue even at present in spite of the working of SFDA and other schemes. A purposewise analysis of credit advance showed that commercial banks mainly advanced farm credit for tractors and tubewells alone to the extent of 96 per cent and only 1·7 and 2·3 per cent of the loans were given for crop production/fertilizers and dairy/draft cattle respectively.

The analysis of credit utilization revealed that out of the total average borrowing of a marginal farmer of Rs. 1,265 per farm, 58·38 per cent was properly utilized mainly on fertilizers and installation of irrigation sources and the balance was misutilized. The small farmers properly utilized the entire credit. Thus proper utilization of credit appears to be a function of size of farm business. The misutilization of credit was due to repayment of old debts and, some times to derive short-cut gains, like selling fertilizers to needy big farmers on higher price.

The analysis of rationality of credit utilization pattern indicated that farmers were intermediate rational in using credit for seed (47 per cent), fertilizers (43·5 per cent), implements (49 per cent), less rational on irrigation (55 per cent), plant protection (92 per cent) and dairy cattle (64 per cent) investments. Rationality of credit use was determined by adequate and timely availability of credit, proper advice and input availability at needed time. Any factor weak at any moment of its vital importance may cause less rational use. Thus rationality was determined as an interaction effect of more than one variable.

The policy implications of this study are as follows: As recommended by Professor M. L Dantwala in his recent report, rural deposits should be largely utilized for improving the economic power of rural poor. A balanced sharing of farm credit in the proportion of 50:35:15 may be fixed as target for loan advance for marginal + landless labourers, small and big farmers respectively. The cost of loan must be reduced. (It is at present Rs. 125 per Rs. 1,000 loan.) The time lag may be reduced if farmers are supplied pass books with up-to-date entries of land revenue records, loans, time to time mutations, transfer deeds, borrowings and repayments, etc., enabling them and the credit institutions to obtain/grant loans. The pass books may be provided legal sanctity in this regard. Small and marginal farmers should be persuaded to form their own coherent groups for obtaining group credit. The multi-purpose co-operatives could help them by lending for community purposes like tractors, irrigation, etc. An Input Guarantee Corporation may be organized to enhance the proper utilization of loans on farms. If possible, similar credit guarantee institutions may also assist farmers to bear risks by insuring credit investments on tractors/dairy cattle and crop production. To check marginal farmers and landless labourers from going to non-institutional sources for consumption credit, such credit may be granted at least at the time of crop failures, natural calamities or in the first few years of introduction of farm loaning by institutional sources so that farmers may be free from the grips of non-institutionalized sources.

FLOW OF AGRICULTURAL CREDIT IN DISTRICT UNNAO (U.P.) (A CASE STUDY)

G. N. Singh, A. R. Verma, M. P. Azad and K. N. Pandey*

The study is based on secondary data obtained from the headquarters of different banks, co-operative and commercial, operating in Unnao district of Uttar Pradesh. The share of State Bank of India in the total deposits in Unnao district was observed to be maximum being 23·35 per cent as against Bank of India with a share of 17·47 per cent. The Land Development Bank (LDB) made advances for agricultural purposes to the extent of Rs. 359·11 lakhs, accounting for about 75 per cent of the total loans advanced by different farm financing institutions in the district. The LDB advanced loans mainly for minor irrigation projects, amounting to Rs. 348·91 lakhs, which consti-

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tuted about 98 per cent of the total advances made by the bank. The contribution of the bank in advancing loans for other purposes was only 2 per cent of the total advances made by it. The percentage of recovery to the total loan advanced by the said bank was maximum at 78·80 per cent in the case of Safipur tehsil and it was 68 per cent in the case of Unnao tehsil. The overall percentage of recovery for the district as a whole was found to be 46·73 which seems to be very poor. Efforts are needed to increase the percentage of recovery through supervised credit.

As regards the demand for loans, the study indicated that out of the total demand for loans amounting to Rs. 82·5 lakhs, the District Co-operative Bank (DCB) advanced Rs. 78.33 lakhs, which formed about 95 per cent of the total demand for loans. Loans for agricultural purposes advanced by the DCB was significantly higher, being Rs. 9·25 lakhs, Rs. 8·96 lakhs, Rs. 9·85 lakhs and Rs. 6·18 lakhs in the blocks of Purwa, Hasanganj, Auras and Asoka respectively as compared to the total demand for loans made by the farmers being Rs. 7·88 lakhs, Rs. 4·63 lakhs, Rs. 8·60 lakhs and 4·35 lakhs in the respective blocks. In other blocks, the DCB could not meet the demand of the farmers. The recovery of the loans advanced by the bank through its branches, on an average, formed only 6 per cent of the total loans advanced by the bank. Thus, the recovery position of the bank is very poor. On an average, the recovery percentage to the total overdues in the Unnao district was found to be only 12 per cent. Thus, to increase the efficiency of credit, efforts are needed to improve the recovery position immediately. Immediate steps are needed to improve the recovery position by avoiding the local political pressure in advances, on the one hand, and by proper supervision and linking credit with productivity, repaying capacity and economic viability of the credit project, on the other.

IMPACT OF CO-OPERATIVE CREDIT ON CAPITAL FORMATION IN AGRICULTURE IN CHHAPIA BLOCK (GONDA)

R. M. Shrivastava, D. S. Shukla, Ram Saberey and R. B. Singh†

The paper makes an attempt to study the impact of co-operative credit on capital formation in agriculture based on data collected from a sample of 30 farms selected from five villages in Chhapia block in Gonda district of Uttar Pradesh. It was found that in the case of long-term credit an average borrower borrowed a sum of Rs. 2,519·20 for a duration of 7·4 years. An average borrower of short-term credit borrowed a sum of Rs. 274·95 for a period of nine months. An average borrower of the whole sample borrowed a sum of Rs. 1,281·77 for a duration of 4·07 years. The amount borrowed increased with an increase in the size of holdings of the borrowers. Almost all the farmers used the loan for productive purposes and investment. The gross capital formation was found to be highest for the lowest category (1-3 hectares) of farmer borrowers. The amount of gross capital formed declined with an increase in the size of holding of the borrowers. The net capital formation was found to increase with an increase in the size of holding of the borrowers in general with the exception of one category of farmer borrowers where the net capital formed was slightly different from the existing trend. They belonged to the size-group of 5-7 hectares in the case of short-term credit. The highest amount of net capital was generated in the highest size-group (7 hectares and above).

Some difficulties were experienced by the farmers in obtaining loans from co-operatives. It is suggested that loans should be made available on time. As far as possible, the maximum portion of the loan should be given in kind and cash loan should be avoided. The recovery instalments should coincide with the period of harvests. Co-operative credit should not clash with other institutional credits in an area. The quantum of loan should be sufficient and loans for consumption purposes may be given.

FLOW OF INSTITUTIONAL CREDIT IN AGRICULTURE (WITH SPECIAL REFERENCE TO COMMERCIAL BANK FINANCE)

Roshan Singh, R. K. Singh and Balister*

The present study was conducted in Bichpuri development block of Agra district in Uttar Pradesh during the year 1976-77. Its specific objectives were to (*i*) find out the proportion of agricultural loan advances to the total bank loan advances by the operating bank under study; (*ii*) find out the extent of agricultural loan advances by the operating bank to various categories of

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farmers; and (*iii*) know the availability of institutional finance in relation to the requirements of credit of different categories of farmers. The study covered 76 borrowing farmers, 40 small, 20 medium and 16 large farms, selected randomly. The primary data were collected from the farmers by survey method and secondary data were taken from the Office of Central Bank of India, Agra. The analysis of data showed that the pattern of financing agriculture was similar both at the national and local (district) level. The proportion of bank finance for agriculture showed a steady but slow increase over a period of four years. The overall share of large farmers in total finances to agriculture was much higher as compared to the small and medium farmers in all the years (1972 to 1977). The share of small farmers showed an increasing trend mainly during the years 1976 and 1977 when deliberate efforts were made to direct the flow of bank credit in favour of small farmers. Although the proportion of production credit to the total agricultural credit showed an increasing trend in all the years (1972 to 1977) the commercial bank mainly financed for the fixed capital needs of the farmers. The inadequacy of credit to finance current production needs may undermine the effectiveness of the investment credit in the long run. The overall average needs for investment credit were about three-fourth while the production credit needs were about one-fourth of the total credit needs. This proportion varied in different farm size-groups. On small and medium farms the production credit needs accounted for over one-third while on large farms it accounted for about one-tenth. Thus the small and medium farmers required more of production credit as compared to the large farmers. The reason may be that the large farmers fulfil their production needs from their own funds while the small farmers did not have funds even to meet their own consumption requirements.

On the whole, the availability of credit for financing production and investment needs of the farmers amounted to about 75 per cent of the total requirement, which may indicate not a very unsatisfactory situation. But this inference may be somewhat misleading if we consider the fact that we have studied the problem in relation to borrowers from the bank in villages where the bank on its own has made intensive efforts to advance loans. This may also be due to the fact that the requirements have been assessed in terms of the needs felt by the farmers operating at a level of technology lower than the recommended one. This, however, shows that the problem of financing agriculture through institutional credit can be tackled effectively if serious efforts are made in this direction. The availability of credit in the case of small, medium and large farm size-groups was about 50, 67 and 88 per cent respectively. The availability of credit in relation to the requirement of investment credit was about 85 per cent while the availability of production credit was only 41 per cent. Thus it can be concluded that the credit gap in the case of investment credit was only about 15 per cent while the credit gap in production credit was about 59 per cent. The gap in production credit was much higher in the case of small farms than that on large farms. Thus, more efforts should be made to meet fully the production credit needs mainly of small farms.

REGIONAL INEQUALITY IN THE SUPPLY OF CO-OPERATIVE CREDIT IN INDIA

S. B. L. Gupta, M. M. Bhalerao and U. Venkateswarlu*

The study aimed at measuring the extent of inequality and its trend in the supply of co-operative credit between different regions (each State is considered as a region for the purpose of this study) in the country and also to isolate the reasons for the specific trends in inequalities between two periods, *viz.*, 1970-71 and 1975-76. The inequality is judged by calculating the per capita averages of loans disbursed per head of rural population, per hectare of gross sown area and gross irrigated area. The disparity is found to be as much as 550 times in 1970-71 and about 720 times in 1975-76 between the two extremely placed States, *viz.*, Punjab and Assam. The high concentration of co-operative credit in certain regions is further found to be evident, since as much as two-thirds in 1970-71 and more than half of the total loans in 1975-76 have been grabbed by even less than one-third of the total number of States under study. as against a meagre 6 per cent and 7 per cent respectively gleaned by an equal number of States situated at the other end. The extent of this concentration when measured with Gini coefficient of concentration (the values found to be very high) increased slightly in 1975-76 over 1970-71, indicating the growing inequality. The contributing factors for such increase in inequality could justifiably be identified with the high degree of technological advancement concentrated in certain regions of the country owing to the recent green revolution and thereby correspondingly higher demand and credit absorbing capacity for the increased quantum of co-operative credit in these States.

The relationship between the quantum of loans advanced and other variables such as gross sown area, fertilizers distributed, area covered under HYV, as well as the overdues of co-operative loans was tested with the help of the rank correlation coefficient and 'r' values were found to be significant supporting the hypothesis that the supply of co-operative credit in progressive regions is increasing disproportionately, thereby widening the inequalities further, between agriculturally developed and under-developed regions.

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ROLE OF FARMERS' SERVICE SOCIETY IN RURAL CREDIT STRUCTURE (A CASE STUDY OF TWO SOCIETIES)

P. C. Shukla, D. K. Singh and B. K. Mishra*

The paper seeks to analyse the working of Farmers' Service Society (FSS) of Saidabad and Deomai located in Allahabad and Fatehpur districts respectively during the year 1976-77. The financing bank of these two FSSs, is the respective district co-operative bank. The area of operation of the FSS at Saidabad was limited to eight villages, covering 1,891 households. The FSS at Deomai covered 9 villages and 2,806 households. It was, however, observed that the proportion of marginal and small farmers in Deomai Society was larger than that of the Saidabad Society. Saidabad FSS distributed about 77·2 per cent of the total loans advanced as short-term and 22·8 per cent as medium-term. Out of short-term loan, 65·3 per cent was cash loan and the rest was given as kind loan in the form of fertilizer and pesticides. Of the medium-term loan, 74·5 per cent was given for the purchase of implements and 21 per cent for milch cattle. The remaining 4·7 per cent of the medium-term loan was given for the purchase of bullocks, horses, etc. In Deomai Society, short-term loan accounted for 69·7 per cent of the total loans advanced; the proportion of cash and kind loans being 52·7 per cent and 47·3 per cent respectively. Out of the medium-term loan, 89·6 per cent was used for the purchase of milch cattle and the remaining 10·4 per cent for the purchase of agricultural implements. It was, however, noted that the component of kind loan was more in Deomai Society than in Saidabad Society.

The study has observed a few procedural lacunae in the distribution of loan, in the rate of interest charged and in the technical advice given to member farmers. There was considerable delay in sanctioning the loan to the member farmers. The rate of interest charged by the co-operative bank was found to be generally higher than that charged by the commercial bank. The credit limit sanctioned to the farmers by the co-operative bank was also lower than that sanctioned by the commercial banks.

The FSSs were also supposed to perform other commercial activities besides agricultural activities. The commercial activities are related to the sale of consumer goods like cloth, etc. The two societies under study did not undertake these activities in a proper way due to inadequacy of finance. The integrated approach to credit distribution could not get momentum at the initial stage so far as the functioning of the FSS was concerned.

ASSESSMENT OF CREDIT NEEDS OF VILLAGE ARTISANS (A MICRO CASE STUDY IN PHULPUR, ALLAHABAD)

K. N. Thapliyal†

In this paper the credit needs of village artisans in three villages of Phulpur block of Allahabad district are studied. The study covers 55 village artisans comprising 9 carpenters, 8 blacksmiths, 12 shoe-makers, 5 carpet-makers, 12 potters and 9 handloom weavers. Out of these 55 artisans, only 26 artisan households followed their traditional main occupations. The remaining 29 house holds pursued them as secondary occupation. There was no specialisation of occupation by any village artisan. They followed 3 to 4 occupations. The average family size of a village artisan was 5 with an average of 2·5 workers in a household. The majority (64 per cent) of the heads of the surveyed village artisans were illiterate. The average number of self-employed days during the year 1977-78 varied from 117 to 211 days among different village artisans. The average daily earning of an artisan varied from Rs. 4·60 to Rs. 6·75. In terms of daily earning no other occupation followed by them fetches more amount than what they got by keeping themselves employed in their respective crafts. For example, a shoe-maker earned Rs. 5·50 per day, whereas the same worker got Rs. 3·25 a day when engaged as an agricultural labour and Rs. 4·50 a day when engaged with the contractor of the IFFCO factory. But their self-employment in the craft was limited by the existing market demand for their products in the local market. Due to paucity of funds at their disposal they could not keep themselves engaged in their craft for producing goods to be sold at some future date or in a far-off market.

The volume of credit shows a rising trend in the case of all village artisans. The percentage of yearly increase of credit varied from 12 to 77 among different categories of village artisans. The average credit need of an artisan was Rs. 635 during 1977-78. It was observed that in recent years the proportion of credit used for acquiring raw materials and marketing has increased due to the fact that the artisans have started producing goods for open market sale besides serving the village farmers as they are doing traditionally. During the year 1977-78, on an average, an artisan used 52 per cent of the total credit for purchase of raw materials, 3 per cent for payment to hired labourer, 6 per

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cent for marketing, only 4 per cent on tools, implements, etc., and the remaining 25 per cent was used for consumption purpose. However, this proportion varied considerably among different categories of village artisans. For instance, a carpenter used only 9 per cent of the total credit for consumption purpose and 72 per cent for purchase of raw materials, whereas a cobbler used 47 per cent of the total credit for consumption and 46 per cent for acquiring raw materials. It was observed that the artisans cultivating land and getting customary kind receipts from village farmers used proportionately lesser credit on consumption and more on production than those without land and customary kind receipts. The major (65 per cent) credit needs of these artisans were met by the private agencies. Their interest rate varied from 25 to 48 per cent. A major proportion of loans (88 per cent) was taken on an interest rate of 25 per cent. Illiteracy and conservative outlook of these artisans and the cumbersome security oriented financing policies of the institutional agencies were found to be the main factors for the unpopularity of cheap institutional credit among the artisans.

The study shows that with growing industrialisation and better communication facilities, the economic activities of village artisans have been activated. The market price for the products of village artisans has increased. Thus their daily earnings have also increased. The credit needs of village artisans have shown a rising trend. It suggests the need of linking credit with marketing for the products of village artisans. The need is suggested for adopting extensive and effective extension technique on the part of institutional financing agencies for popularising cheap credit to village artisans specially for the purpose of acquiring better tools and implements which will improve the productivity of village artisans.

PROBLEMS OF AGRICULTURAL FINANCING IN INDIAN ECONOMY: AN ANALYSIS

Jitendra Kumar Hajela*

This paper examines the problem of providing finance for agricultural development at the all-India level. The co-operatives are organized as a three-tier structure for providing short-term credit and as a two-tier structure for long-term credit. As compared to the position existing in 1951-52, the credit co-operatives made tremendous progress by 1975-76. The share of credit co-operatives in the total agricultural credit requirement has increased from 3 per cent in 1951-52 to 41 per cent in 1975-76. But the growth of credit co-operatives is hampered by poor deposit base, lack of trained and experienced personnel, domination by vested interests, lopsided development, parochial outlook, neglect of consumption credit, mounting overdues, etc. Due to these constraints, the co-operatives have failed to achieve the expected results commensurate with agricultural credit requirements.

A revolutionary change was brought about by the social control of banks in 1968, followed by the nationalisation of the 14 major commercial banks in 1969. One of the major objectives of bank nationalisation was to enable the banks to play a more dynamic role in agricultural development by increasing their lending to the agricultural sector and by reducing the credit gap. A large number of branches of the public sector banks were opened in the rural areas which resulted in a substantial rise in credit advances to the agricultural sector. The amount of advances to agriculture increased from Rs. 162 crores in June 1969 to Rs. 1,229 crores in June 1976, *i.e.*, from 6 per cent of bank advances to 14 per cent. To broaden the operational rural base for financing the agricultural sector, commercial banks have taken up an unprecedented branch expansion programme since nationalisation. The total number of bank branches increased from 22·3 per cent in June 1969 to 38·4 per cent in June, 1977. Though the achievements of commercial banks are noteworthy in quantitative terms, their performance in qualitative terms lags behind expectations. They have miserably failed to provide adequate, cheap, and timely credit to the economically weaker sections of rural population. They suffered from three basic handicaps, *viz.*, their high cost of operation in the rural areas, lack of trained and experienced staff and presence of mounting overdues.

Although the organized financing institutions including the newly set up Regional Rural Banks are trying their best to meet the credit requirements of the agricultural sector, even today the share of institutional finance is estimated at about one-third of total credit needs, indicating a large credit gap to be bridged. The study concludes that the co-operative credit societies are the only institutions which can break the long and solid chain of monopolists—professional and agriculturist moneylenders. Measures need to be taken for improving and strengthening the structure and flow of credit in the rural areas by implementing the various suggestions and recommendations made by the committees set up by the Government in the recent past.

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BANK FINANCE TO FARMERS AND RESOURCE MOBILIZATION (A STUDY OF MUZAFFARPUR DISTRICT, NORTH BIHAR)

D. K. Singh and B. K. Mishra*

This paper makes an attempt to assess the performance of nationalised banks operating, in Muzaffarpur district of Bihar in financing agriculture. Since 1972, nine nationalised banks operated in the district, of which Central Bank of India is the lead bank. During 1972-73, the amount distributed for agriculture by Central Bank was the highest. But in the next year the State Bank of India occupied the first position in the distribution of the maximum amount of loan among the farmers, as it has adequate and separate staff, opened a number of branches in the rural areas and adopted loaning procedure effectively and efficiently. The maximum amount was distributed as medium-term loan. On account of this, the small and large farmers irrespective of their sizes of holdings received loans for purchasing production inputs. Though the amount distributed in different years was very impressive, the recovery of these loans was unsatisfactory, declining from 34 per cent in 1972-73 to as low as 11·80 per cent in 1973-74, which is indicative of the inefficiency of banks or reduced saving capacity of farmers.

With a view to assessing the impact of nationalised bank finance on the pattern of investment and savings of farmers, a survey was conducted in 1974-75 by selecting 60 farm households from three blocks of Muzaffarpur district, the selection being based on probability proportional to population. Out of 60 households, 44 belonged to the small size-group and the rest were large farmers. Only 40 households received loan from banks. The marginal and, to some extent, small farmers were in the clutches of moneylenders; they generally took loan for unproductive purposes, at very high rate of interest ranging between 24 and 74 per cent per annum. The co-operative society was biased in favour of large farmers. The banks also by-passed the marginal farmers as they suspected full recovery of loan. The medium and large farmers took advantage of loans from commercial banks for modernization of agriculture, *i.e.*, for purchasing irrigation devices, tractor and other machineries. Though their farm income increased considerably the tendency to spend on unproductive purposes continued. Some farmers who were benefited by bank finance through increased farm income did moneylending business. Therefore, the generated additional income did not flow back to the banks as savings or were not invested. None of the small farm households deposited their increased income in banks. Medium and large farmers invested 3·79 and 5·46 per cent respectively of their total income in banks and post offices. In this state of affairs, the banks as well as Government should make efforts to mobilize the surplus income of farmers by educating them to cultivate banking habits through saving compaign, and by persuading them to avoid unproductive expenditure, by adopting flexible banking procedure and by expanding banking facilities in the rural areas by opening more rural banks.

CASH INTER-FLOWS AND CREDIT NEED DETERMINATION IN ECONOMICALLY DIVERSE PROFILES OF MUZAFFARPUR DISTRICT (BIHAR)

H. G. Goswami*

This paper attempts to estimate the cash inter-flows in terms of cash transactions and exchange within the economic activities of the people and their actual credit requirements with reference to (*i*) a developed rural economic profile having direct urban impact on income and also good farming; (*ii*) a moderate economic profile with advanced agriculture and no urban impact and (*iii*) a backward economic profile with depressed agriculture and meagre non-farm income in Muzaffarpur district of Bihar. The data in respect of 20 sample households pursuing farm and non-farm jobs from each of these three classified profiles were available by the courtesy of Agro-Economic Research Centre, University of Allahabad for the agricultural year 1974-75. The data were compressed and estimates per average household based on cash dealings only were worked out.

The estimates revealed that the cash inter-flows as cash receipts and expenditures from and on enterprises and household activities resulted in cash balances of Rs. 1,708 and Rs. 1,153 per annum per household in the developed and moderate profiles. In the backward profile an average household incurred a deficit of Rs. 325 through such transactions. Out of financial transactions, comprising withdrawals, borrowing, deposits, lending, etc., in the developed profile annual balancing resulted in the unaccounted balance of Rs. 1,370 per household. Corresponding balances in the moderate and backward profiles were Rs. 1,352 and Rs. 905. Borrowings accounted for more than 86 per cent of the total financial transaction in the backward profile and only less than 26 per cent in the first two economic profiles. Bank withdrawals accounted for over 50 per cent of the total transaction in the first two profiles and nil in the backward profile. Cash deposits and savings were far low in all the three economic profiles. Total cash balances, as estimated after annual calculations, were Rs. 3,078, Rs. 2,505 and Rs. 580 per household in the economically developed, moderate and backward areas respectively. Even if some part of the balance is deducted as allowance for miscalcula-

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tions and wrong reporting, the net worth of households in the first two profiles is strong enough to meet their needs.

Through comparative analysis of the estimates, the findings suggest disapproval of credit considerations in areas with sound net worth. In economically sound areas any additional flow of cash may cause a flight of capital towards unproductive channels which is a fact in the rural areas in general. However, the backward areas need a strong credit base to raise up their economic status. It requires that the policy should be so designed that credit supply is implemented after the area identification justifies the need for it.

CREDIT NEEDS FOR INTEGRATION OF CROP AND MILK PRODUCTION ON SMALL FARMS

Raj Vir Singh and Amrik S. Saini*

The integration of crop and milk production with the adoption of improved technology has been suggested to improve the economic conditions of the small farmers. The improved technology of crop and milk production being capital intensive can only be adopted on the small farms, if the desired credit is made available from the institutional sources. The present investigation was directed to estimate the credit needs for the adoption of integrated crop and milk production under existing and improved technology on small farms. This investigation was based on 24 small farms randomly selected from five villages of a progressive block of Punjab State. The linear programming technique was employed to develop optimum integrated crop and dairy farm plans with varying number of milch animals under existing and improved technology. The optimization of resources under different situations resulted in higher income as compared to the existing plan. The maximum increase in income of 154 per cent was observed when three improved milch buffaloes with improved crop technology was introduced in the plan. The adoption of integrated crop and milk production plans resulting in higher income demanded a substantial amount of short-term and medium-term capital and credit. The optimum farm plan with three improved milch buffaloes and improved crop technology required Rs. 9,784 and Rs. 9,885 as short-term and medium-term capital respectively. The short-term and medium term credit requirement for this plan was Rs. 6430 and Rs. 8,235 respectively which should be made available to the small farms from financial institutions on easy terms. The additional income generated through integrated crop and milk production plans would help to make further investment in the farm business on small farms.

AGRICULTURAL CREDIT IN A DEVELOPING ECONOMY—FLOW, SPATIAL DISPARITY AND ITS DETERMINANTS

Karam Singh and Bhupinder Singh*

The paper examines the role of various institutional agencies in providing agricultural credit, analyses the agricultural credit disparity between different districts of Punjab and investigates the factors associated with the agricultural credit disparity and determines their relative significance. The study is confined to the institutional agencies which advance loans to the agricultural sector, *viz.*, land mortgage banks, primary agricultural co-operative societies and the top seven commercial banks (six in the public sector and one in the private sector). Multiple regression technique was used to determine the relative importance of different factors affecting the inter-district distribution pattern of agricultural advances in the State. The study is based on data for the period 1970-71 to 1973-74. The study revealed that there was a skewed distribution of agricultural credit between different districts in the Punjab State. The gap was as wide as five times in 1970-71 which, however, declined to three times in 1973-74. The inter-district disparity in the total loan per cultivated hectare declined at a higher rate than the disparity in production loan per cropped hectare. The disparities in the total loan per cultivated hectare and production loan per cropped hectare showed a smooth declining trend over time, whereas the disparity in investment loan per cultivated hectare showed a haphazard fall. The lowest figures of all measures of credit, namely, total production and investment credit per hectare increased continuously during the period. But the highest figure of total and production credit increased upto 1972-73 and declined in 1973-74, whereas investment loan per hectare showed a declining trend with a slight increase in 1972-73. There was a wide variability

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in agricultural advances from year to year. The inter-district differences in agricultural productivity, rural literacy, density of road network and the proportion of large holdings (above 15 acres) were the important determinants, in that order, of inter-district disparity in agricultural advances and explained about 90 per cent of the variation in the total loan advanced per hectare. The elasticities with respect to agricultural productivity and rural literacy (1·90 and 1·16) were more than unity and those with respect to density of road network and the proportion of large holdings were less than unity (0·59 and 0·52 respectively).

IMPACT OF CREDIT ON PRODUCTION PATTERN AND INCOME OF SMALL FARMERS IN THE PUNJAB

Jasbir Singh Gill and Joginder Singh*

This paper examines the impact of credit on farm production based on a study conducted in 1976-77 of a sample of 60 small farmers comprising 30 borrower farmers and 30 non-borrowers, having an operational holding below 3 hectares each, selected from six villages in Sirhind block of Patiala district in Punjab. Linear programming technique was used to study the impact of credit on production and farm income by developing optimum farm plans for the two categories of farmers at the existing and improved level of technology with and without capital constraints.

The borrowers had relatively lesser amount of owned funds and thus their credit needs were higher than that of the non-borrowers. With the increase in the availability of capital by borrowing they were following a cropping pattern which was similar to that of the non-borrowers and getting almost the same level of net returns per acre. When the optimum enterprise-mix of the borrowers was prepared with owned funds, apart from some changes in the cropping pattern, about one-fourth of the total available land with the existing level of technology and about two-fifth of land with the improved level of technology remained fallow. This was due to the scarcity of capital. The per acre credit requirements worked out to Rs. 268·11 at the existing level of technology and Rs. 337·77 at the improved level of technology in the case of borrowers. The relaxation of capital constraint for borrowers helped them to utilize all the available land and the enterprise-mix shifted towards highly paying enterprise in the optimal production plan and as a result, a significant increase in the returns to the fixed farm resources of the borrowers both at the existing and improved level of technology was noticed. Also, the improved level of technology increased the income of the farmers especially when adequate credit supply was ensured.

In the case of non-borrowers, as the owned funds were relatively more, their per acre credit requirement was only Rs. 108·98 and Rs. 121·28 at the existing and improved level of technology respectively. The provision of credit helped them to increase the net returns significantly only when the improved level of technology was followed on such farms. Therefore, in general, credit has positive impact on incomes of the small farmers.

AN ANALYTICAL STUDY OF THE SUPPLY OF CO-OPERATIVE AGRICULTURAL CREDIT IN PUNJAB

S. S. Grewal and P. S. Rangi*

This paper seeks to make an in-depth study of the working of co-operative institutions in the Punjab State. The village level Primary Agricultural Credit Societies (PACSs) provide a major part of the short-term credit and also some medium-term credit for purchase of inputs to the farmers. The Primary Land Mortgage Banks (PLMBs) located at each tehsil headquarter provide long and medium-term credit for tractors, tubewells, land development, land redemption, etc. The performance of the PACSs during the last ten years is quite encouraging. The working capital, the deposits held and loans advanced have increased from Rs. 36·83, Rs. 9·06 and Rs. 24·88 crores in 1966-67 to Rs. 118·20, Rs. 23·38 and Rs. 76·76 crores respectively in the year 1976-77. The co-operatives have thus expanded their volume of business several fold commensurate with the requirements of the growing agriculture. However, there are some disturbing features of their performance also. The amount of overdues in absolute as well as in relative terms has been on the increase. Consequently, more and more societies are going into red. Again, the position in regard to deposit mobilization is not very happy. Like the PACSs, the PMLBs have also recorded substantial increase in the grant of loans. They have increased their advances 15 times during the period 1966-67 to 1976-77. The problem of overdues in the case of PLMBs is much less.

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There is a great disparity in the co-operative loans advanced in different districts. Two districts of Ludhiana and Jullundur used about 36 per cent of the total co-operative credit in the State against their contribution of only about 19 per cent to the total value of output. Most of the other districts in the State have used relatively less credit compared to their contribution to the value of output. An analysis of grant of credit to different categories of farmers reveals that on a per unit area basis farmers in the lower size-groups got almost as much credit as their counterparts in the medium and large size categories. Therefore, the belief that the small farmers were being discriminated in the grant of credit was not found to be true.

The overdues are largely the outcome of weak management of the village societies. Contrary to this, the commercial banks and even the co-operative institutions like the PLMBs and the Central Co-operative Banks have well-established offices manned by adequate staff which is well paid. They assume full responsibility for advances and recoveries. This is the reason why the problem of overdues is much less serious in these cases.

To improve the situation, small unviable societies should be amalgamated to form economically viable units. Depending upon the size of the societies, three to four PASs can be combined together to form one viable unit. Each society should employ a whole-time manager, a permanent secretary and one or two other employees at the lower level. The bigger units would be able to pay for this staff. To tackle the problem of overdues, the legislation for effecting the recoveries need to be made more stringent. Provision need to be made to realise overdues as arrears of land revenue.

ADEQUACY OF CREDIT FLOW TO SMALL AND VERY SMALL FARMERS THROUGH THE SMALL FARMERS' DEVELOPMENT AGENCY

A. C. Sharma and P. P. Setia*

A study was conducted in 1977-78 in the Ghall Khurd block of Ferozepur district, Punjab with a view to analysing the pattern of loans arranged by the Small Farmers' Development Agency (SFDA) for its beneficiaries and examining the adequacy of credit flow by comparing the loans arranged with the amounts actually needed by the farmers and identifying the difference between the existing and the rational maximum credit limits (MCLs) based on the repaying capacity of the borrowers in the context of optimum production plans employing the improved levels of technology. The study sample comprising 20 small and 32 very small farmers was selected following the two-stage random sampling technique with villages as the primary and operational holdings as the ultimate units of inquiry. The study brought out that the SFDA arranged credit for small and very small farmers for installing pumping sets/tubewells and purchasing dairy cattle (buffalces). But the amounts arranged were far less than those actually needed by the farmers. Again, the existing MCLs prescribed by the SFDA were substantially lower than the rational MCLs computed on the basis of the repaying capacities assuming normative production patterns using the improved levels of technology. The findings of the present inquiry indicate that the flow of credit to small and very small farmers is inadequate and that these farmers could be allowed loans of higher values to enable them to purchase better quality assets such as farm machinery and dairy cattle.

IMPACT OF WORKING CAPITAL ON ADOPTION OF CROPPING PATTERN IN THE PUNJAB STATE

Parkash Mehta†

An attempt has been made to locate the main constraints which are faced by the farmers of the Punjab State to follow a particular cropping pattern. For this purpose, Punjab was divided into three zones depending upon agro-climatic conditions. Time-series (for four years) data were available. It was found that working capital (credit) was the main and persistent constraint over time in all the zones. It is assumed that it is due to the non-availability of co-operative credit which is the only source of credit with the majority of small farmers. Some improvements in co-operatives are suggested as policy measure.

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SOURCES, UTILIZATION AND PRODUCTIVITY OF AGRICULTURAL CREDIT IN LUDHIANA DISTRICT OF PUNJAB STATE

A. J. Singh and K. C. Dhawan*

This paper examines the sourcewise distribution of agricultural credit to different size categories of farms, the pattern of utilization of credit advanced to various size categories by different lending institutions and whether the funds are rationally allocated between different input uses by various size categories of farms. The study was conducted in Ludhiana district which was purposively selected as it is more developed than any other district in the Punjab State. The sampling design of the study was multi-stage stratified sampling with blocks as the primary, villages as the secondary and farmers as the ultimate stage units. Simple tabular analysis was used for examining the sources and utilization of credit and production function analysis for evaluating the rationale of its use. The study indicated that the medium and large farmers appropriated a major portion of the institutional credit, whereas the small farmers had to continue to avail of non-institutional credit which is far more costlier but easier to obtain. Despite all the glib talk about the priorities to be given to the poverty stricken small and marginal farmers, this section of the farming community continued to be financed by the usurious non-institutional agencies. The analysis has also indicated that the small and medium farmers borrowed mainly for installation of irrigation equipment or purchase of milch cattle and the large farmers borrowed mainly for purchase of tractors and tractor drawn implements, irrigation equipment and milch cattle. The study also showed that there is a greater diversion of short-term credit to consumption as compared to medium and long-term credit and the proportion of credit diverted was inversely related to size. Further, the analysis has also shown that there are significant inefficiencies in credit use in all the size categories of farms. It is recommended that there is a need to provide tractor facilities on a custom hire basis so that the small and medium farms may not have to maintain draught animals. Further, there is scope for intensification of agriculture through adoption of seed-water-fertilizer technology and for diversification of agriculture through promotion of supplementary activities. The above findings, it is hoped, will be of some help to the administrators and policy-makers in re-orienting the credit policy in the desired direction.

IMPACT OF SHORT-TERM CREDIT ON ADOPTION OF IMPROVED TECHNOLOGY IN PUNJAB AGRICULTURE

A. J. Singh, Komal Jain and Nirmal Singh*

This study attempts to examine the impact of short-term credit on the adoption of improved technology in Punjab agriculture and is based on data collected under a major PL 480 Project: "A Study of Economic Potentials of Grain Production in Punjab" for the year 1975-76. The sampling design of this study is stratified three-stage random sampling with tehsil as the primary, village as the secondary and operational holding as ultimate sampling unit. To examine the impact of short-term credit on adoption of improved technology, the data of sample farms was pooled and arranged to form synthetic situations to represent small, medium and large farm size categories. Optimum plans were developed at technology levels I and II respectively in each zone. Technology level I provided for partial relaxation of credit restraint to the extent of actual capital used by upper 20 per cent of the cultivators along with input-output coefficients of the upper 50 per cent of the cultivators. Technology level II relaxed credit restraint completely with no limit on capital borrowing and input-output coefficients of the top 20 per cent of the cultivators. An attempt has also been made to arrive at aggregate estimates of cereals, pulses, oilseesd and fibre production in the State from the results of normative adjustments developed for the micro level data due to relaxation of credit restraints along with suitable changes in the input-output coefficients.

The study indicated that in the normative cropping and production patterns developed at higher levels of technology along with partial and full relaxation of credit restraint through capital borrowing there occurs a significant shift in favour of the more remunerative cereal and fibre crops at the cost of the relatively less remunerative oilseed and pulse crops. These shifts are also accompanied by increase in the cropping intensity in all the zones for all the size categories. The study also indicated that there is excessive use of labour and fertilizers on certain size-groups of farms in some zones even in the existing situations. However, in the case of chemical fertilizers it is found that the increase in the requirements of this input consequent to the shift to improved levels of technology are inversely proportional to size in all the agro-climatic zones. This is interpreted to mean that relaxation of credit constraint can be instrumental in facilitating the adoption of this potentially size-neutral technology on the small and medium farm size categories and thus moderate the skewness in farm income distribution. Finally, the study also compared the shifts in returns to the fixed farm resources with the corresponding increases in variable expenses—a significant proportion of which are met out of borrowed funds. It is found

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that the increases in returns are relatively much higher than increases in variable expenses which points to the high productivity of short-term credit.

FINANCING AGRICULTURE IN PUNJAB (A CASE STUDY)

T. S. Chahal and J. S. Chawla*

Based on a case study of a development block, Tarn Taran, in Amritsar district of Punjab, this paper examines the popularity of lending agencies and their share in total borrowings of the farmers, the level of advances per farm and per hectare, and utilization pattern of credit among farmers using different levels of technology. For the purpose of study the data were collected from a sample of 100 borrower farmers—42 from non-mechanized category, 48 from partially mechanized and 10 from mechanized category—from five villages in the block, which were selected randomly with probability proportional to the cultivated area of the village. Nine out of every ten farmers resorted to borrowing and the relative number of borrower farmers increased with an increase in the level of technology and farm size. Co-operative loans were found to be most popular among 82 per cent of the farmers, followed by land mortage bank and *Artia*, commercial banks, relatives and friends, and moneylenders. Institutional credit was more popular among all the farmers than from the private agencies. The institutional lending agencies accounted for a major share (88·96 per cent) of the total advances to the farmers. The co-operative societies, land mortgage banks and commercial banks were placed in the descending order of importance. *Artia* claimed the first position followed by friends and relatives, and moneylenders from among the private sources of credit, with a share of 11·04 per cent in the total advances. The sizewise distribution of loans revealed that the amount of loans varied positively with the level of technology. The co-operatives provided maximum loan to the non-mechanized and partially mechanized farms while the commercial bank's advances were the highest for the mechanized farms.

The purposewise supply of credit showed that fertilizer accounted for maximum credit availed by non-mechanized and partially mechanized farms while in the case of mechanized farms credit obtained for tractor and its accessories ranked highest followed by fertilizers, irrigation and other purposes. The utilization pattern of credit showed diversion of productive loans to unproductive purposes. The magnitude of diversion indicated an inverse relationship with the increase in the farm size and level of technology.

PATTERN OF LOAN ADVANCES AND THEIR IMPACT ON THE GROSS INCOME OF BORROWERS (A CASE STUDY)

J. S. Chawla, J. S. Arneja and J. S. Kumar*

The specific objectives of this study were: to examine the magnitude and pattern of advances by the Primary Land Mortgage Bank, Amritsar and to assess the impact of such advances on the gross income of borrower cultivators. To meet the objectives of the study, secondary and primary data were collected. Secondary information about the magnitude of loans and purposewise distribution of loans was collected from the Manager of the bank for the period 1962-63 to 1974-75. Primary data about different aspects of the study were collected from 78 randomly selected borrowers spread over five randomly selected villages of Amritsar tehsil (which is the operational area for the bank). This number represented 20 per cent of the total number of observations in the universe. Out of 78 loanees, 55 borrowed for tubewell installations and 23 for the purchase of tractors. These loanees were further classified into four groups : marginal, small, medium, large and big cultivators with holdings upto 2·50 acres, between 2·50 and 7·50 acres, 7·50 and 15 acres, 15 and 25 acres and above 25 acres respectively. Budgeting technique was used to estimate the gross income of the loanees in the pre-and post-loan periods. The volume of long-term advances increased from Rs. 2·16 lakhs in 1962-63 to Rs. 20·60 lakhs in 1974-75, showing thereby an average compound growth rate of 12 per cent. The rate of long-term advances as well as their quantum varied from year to year. Upto 1965-66 the increase was irregular but thereafter there was a steep increase in the distribution of loans due to the spread of high-yielding variety technology which increased the demand for loans for tubewells and tractors. This trend persisted upto 1969-70. Since then, there was a decline in the amount of loan advanced which reached a low level of Rs. 15·82 lakhs in 1973-74. The purposewise distribution of loans showed that in the pre-green revolution period loans for redemption of mortgaged land claimed the top position while loans for construction of cattle sheds occupied the bottom position. In the post-green revolution period, loans for farm machinery like tubewells/tractors became most popular while loans for redemption of mortgaged land dwindled into insignificance. This significant shift in the lending business took place on account of the change in the lending policy of the bank and the spread of the new farm technology on various farms. In the case of tubewell loans gross income per acre increased by 62·69 per cent. This increase ranged from

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70 to 80·28 per cent for the different size-groups of borrower cultivators. In the case of tractor loanees the increase in the gross income per acre was 52·18 per cent, which varied between 54·67 and 62·78 per cent in the case of different borrower-cultivators.

EMERGING PATTERN OF CO-OPERATIVE CREDIT IN PUNJAB

G. S. Kainth*

In this paper an attempt is made to assess the contribution of long-term co-operative credit to agricultural development in the Punjab. For the purpose of this study, co-operative finance provided through the Punjab State Land Mortgage Bank (SLMB) is taken into account. The time reference of the study is 1970-71 through 1977-78. The data required were obtained from different issues of Statistical Abstracts of Punjab except for the credit advanced. The data pertaining to the credit advanced were taken from the official record of SLMB, Chandigarh. The study revealed wide variation in the per hectare flow of co-operative credit in terms of net sown area. The per hectare flow of co-operative credit varied from Rs. 17·71 to Rs. 34·37, from Rs. 25·99 to Rs. 51·85 and from Rs. 35·92 to Rs. 67·74 respectively in terms of total cropped area net sown area and net area irrigated. The per holding flow of co-operative credit varied between Rs. 5,258·33 and Rs. 9,011·02 with a coefficient of variation of 20·03 per cent. It was further noted that per hectare and per holding flow of co-operative credit showed an increasing trend. The flow of co-operative credit was highly explainable in terms of the percentage of net area irrigated to the net sown area. Therefore, it can be concluded that comparatively the higher the percentage of net irrigated area to the net sown area, the higher is the reception of co-operative credit. Thus, in order to gear up the flow of co-operative credit efforts should be directed towards improvement in the irrigation facilities.

AVAILABILITY AND EXTENT OF UTILIZATION OF RURAL CREDIT—A CASE STUDY IN EAST JORHAT DEVELOPMENT BLOCK, ASSAM

K. C. Talukdar, A. Saikia, P. C. Goswami†

An attempt is made in this paper to study the availability of rural credit and its extent of utilization in east Jorhat development block of Assam. For this purpose, cross-section data for the year 1975-76 were collected through a questionnaire in the Balizania and Sukanjan villages of this block. These two villages were selected purposively as they were adopted by the Agricultural Development Branch of State Bank of India. Due to the small size of population in the two villages, all the 78 households were selected for this study. The analysis of the data showed that the average size of operational holdings in the two villages was 1·80 hectare. Out of the total operational area, 66·40 per cent was occupied by winter rice and only 21·38 per cent by summer rice. The intensity of cropping was found to be 126·26 per cent only. The study further showed that mainly short-term and medium-term loans were available for the farmers. Short-term loan was advanced in both cash and kind which was to be repaid after harvest. The scale of finance was Rs. 850 for short-term loan which was found to be used intensively by the small farmers. Medium-term loan was advanced mainly for purchasing machineries, which was to be repaid within five years. The study revealed that 62 borrower farmers borrowed 67·79 per cent in cash and 32·21 per cent in kind. The highest amount of loan in cash was availed by the marginal farmers whereas the highest amount of loan in kind was availed by the medium farmers. The large and medium farmers were found to avail the highest amount of cattle loan. It further revealed that the highest amount of diversion of cash loan was found among marginal and large farmers. Similarly, the diversion of loan in kind was the highest among the marginal farmers. The medium farmers utilized the whole amount of loan in kind for productive purposes. It was also found that in all the size-groups of farmers hired human and bullock labour and fertilizer accounted for a major part of the bank loan. The cost per hectare was the highest among the medium farmers and the lowest among the large farmers. The cost per hectare of the non-borrowers was found to be more among the large farmers as the cost per hectare of fertilizers for them was higher.

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THE STRUCTURE OF AGRICULTURAL CREDIT AND FACTORS ACCOUNTING FOR IT IN A TRIBAL REGION—A CASE STUDY OF RANCHI DISTRICT (BIHAR)

M. L. Singh and M. C. Sarkar*

The objectives of this study are two-fold, namely, (1) to estimate the relative shares of private credit agencies and institutional credit agencies in the total borrowings of the cultivating households in a tribal region and (2) to identify the factors responsible for the existence of a particular credit structure in the region, based on analysis of data collected from a sample of 252 cultivating households selected from six villages in Ranchi district of Bihar in 1977-78. The study has revealed that there is a dominance of private credit agencies in the area. The prevalence of such a credit structure is partly accounted for by the fact that there is only a small differential cost advantage in borrowing from institutional sources when all costs are taken into account and partly by the other factors such as harsh methods used by institutional sources in the recovery of loans, non-availability of consumption loans from institutional agencies and insistence of these agencies on land security.

STRUCTURE AND FLOW OF CREDIT IN FARM FAMILIES OF NORTH BIHAR: SOME EMPIRICAL FINDINGS

S. P. Sinha, D. K. Sinha and B. N. Verma†

An attempt is made in this paper to examine the structure and flow of credit in the farm families of North Bihar which is a most densely populated predominantly agricultural and backward area. Muzaffarpur and Champaran districts (surveyed for this purpose) reported a density of population of above 600 persons per square km. and 365 persons respectively. The per capita income of Muzaffarpur and Champaran districts is reported to be Rs. 142 and Rs. 201 respectively. A study based on classification of farm families into marginal (upto 2·5 acres), small (2·5 to 5 acres), medium (5 to 20 acres) and big farmers (20 acres and above) revealed that 59·15 per cent of the farm familes in the district of Muzaffarpur and 43·24 per cent in the district of Champaran were reported to be under debt. The average ancestral debt per household was Rs. 66·67 and Rs. 6·25 respectively in the two blocks of Majhaulia and Maniatant of Champaran district and Rs. 200 in Gorau block of the Muzaffarpur district. In other blocks, no ancestral debt was reported. Thus the common notion of crushing ancestral debt is not supported by facts. It seems that the ancestral debts have been paid off by transfer of lands from marginal and small farmers to the big landlords.

However, the survey made it clear that in the case of marginal and small farmer households, moneylenders are the most important source of finance. As for instance, in the Muzaffarpur district the average agricultural loan per household in the marginal farmer group from Governmental sources was Rs. 38·19 and that from the co-operatives Rs. 18·75. It was as high as Rs. 272 from moneylenders-cum-traders. In Champaran district too, the share of moneylenders-cum-traders was Rs. 114·15 while that of the Government and co-operatives was Rs. 63·93. Commercial banks have not been financing the marginal farmers. The same is true of the small farmers of the region under study. In the case of medium farmers Governmental sources and co-operatives n Muzaffarpur district and moneylenders in Champaran district appeared to be the most important sources of finance. In the big farmer's group, Government appeared to be the most important source of finance. Moreover, the study revealed that the big farmers do not take loans for productive purposes. Most of them give their land on lease and as such are absentee landlords, not interested in farming. Their main source of income seems to be usury and rent realised from share-croppers.

It was also revealed that 61·54 per cent of the marginal farm families in Muzaffarpur district and 93·3 per cent in Champaran district took loans for productive purposes, whereas in the small and medium farmers' groups this percentage was 25 and 11·11 respectively. This suggests that as the size of holding increases, and their economic position improves, people become more conscious of their social status and take loan for unproductive purposes. This also indicates that the marginal and small farmers are genuinely interested in farming operations and take loan for productive purposes. But the Government, institutional and co-operative financing agencies are influenced by the rural elite and controlled by them; as such, a major part of their loans is advanced to the medium and big farmers. Marginal and small farmers have to bear the high cost of interest charged by the moneylenders and traders; they are under the clutches of the moneylender-cum-trader groups and are made to suffer on account of the different strings (formal and informal bondages) attached to it. Thus, the vast majority of these farmers are made to undertake their farming operations under semi-feudal set-up which is not production oriented and is rather exploitative. The need is thus to

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break this semi-feudal set-up by curbing the powers of the money-lender-cum-trader groups and to change the organizational structure of the credit system where the marginal and small farmers may have a better say, increasing participation and may benefit from the flow of credit, meant for increasing production in agriculture.

FINANCING RURAL DEVELOPMENT (A REGIONAL CASE OF NORTH-WEST BIHAR)

Harihar Bhakta†

An attempt is made in this paper to examine the pattern of incomes and savings and the scope for mobilization of resources based on analysis of primary data collected from all households of nine villages, three from each district of Saran, Siwan and Gopalganj in Bihar selected at random for the period July 1974-June 1975. The study found that there are enough financial resources in the rural economy. About 50 per cent of the total labour is engaged in non-agricultural jobs. A major portion of their earnings is saved and invested in the rural economy. Besides, 20 per cent of the households has agricultural savings. But a substantial portion of these financial resources is spent on land purchase and social ceremonies and in the majority of cases loans are taken for these purposes. Asset security is not essential for loan transaction. Thus the institution established for financing rural development must serve the following purposes: (*a*) mobilization of financial resources for productive purposes, (*b*) curtailment of non-productive expenditure, (*c*) provision of cheap and facile credit and (*d*) minimization of the role of asset security.

The main problems with the existing institutions are (*a*) benami transactions in borrowing, (*b*) excessive overdues, (*c*) scarcity of funds and (*d*) lack of easy accessibility to sources of credit. Hence, any institution set up for financing rural development should overcome these shortcomings. It is suggested that village banks at the panchayat levels managed by the village people from village resources and for the village purposes combining the principles of banking business, promoting developmental activities and with government assistance should be established. A few guidelines for the establishment of these village banks are indicated in the paper.

LOAN UTILIZATION PATTERN OF FARMERS IN RAJASTHAN—AN EMPIRICAL STUDY

L. N. Gupta*

A study of the sources of finance availed by farmers and the pattern of utilization of loans in Bharatpur district of Rajasthan during the years 1970-72 revealed that the household income of about 70 per cent of the selected farmers fell under the income bracket of Rs. 3,000. However, there were certain progressive farmers whose incomes were sufficiently high. Of the total loan granted, only 29·5 per cent was provided by the institutional agencies. This shows that the indigenous agencies are still in vogue because of the following facts: easy accessibility to the moneylenders, simplicity of the system, timely and spot finance. Of the total loan received by the farmers, only one-third of it was mobilized for productive purposes. It is interesting to note that while those who received big amount of loans used it for productive purposes, those who took small amounts spent it mostly on unproductive purposes. Regarding farm investment, it was observed that zero farm investment was reported by 11·81 per cent of the cases. In 37·5 per cent of the cases over Rs. 5,000 were invested. In short, reorganization of existing capital stock and other resources is very much needed. More institutional rural financing facilities are required so as to minimize the exploitation by the traditional moneylending agencies. Needless to say that above all, it is speedy and effective functioning of these agencies that will make them popular.

THE IMPLICATION OF A RECENT CHANGE IN THE FLOW AND USE STRUCTURE OF RURAL CREDIT IN WEST BENGAL

S. K. Chakraborty‡

The effect of the partial improvement of agriculture in West Bengal can be felt not only in the cultivators' increased income but also in their changed habits in respect of the source and use of

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borrowings. These changes indicate a deeper change among a number of economic variables and their interactions. The facts that deserve attention are the rise of a new class of non-professional moneylenders within the agriculturist class which tends to replace the professional moneylenders and secondly, higher use of credit for production purposes at all levels instead of the traditional consumption purpose. The paper aims to focus not only these changes as such, which are quite well-known, but also the economic causes and the implications of these observed changes. The observations are based on the data of 25 villages in West Bengal surveyed at different times during the last decade extending upto the first part of the present decade.

The data revealed that the agriculturist moneylenders are rapidly replacing the professional moneylenders and where institutional agencies have grown this process is further rapid. The root of this change obviously rests with the recent growth in the infrastructure of the State agriculture. But with the increased income a substantial cultivator first tries to further improve his own cultivation by reinvesting more capital in his own land and then lend out the surplus money to the neighbouring small cultivators and agricultural labourers. Although in this process the lenders gain in monetary terms, the borrowers who are mainly from the poorer section of the villages are immensely helped to survive in their struggle for existence. The rates of interest charged by the agriculturist moneylenders are not usually low but still they are recently preferred by the borrowers to that charged by professional moneylenders due to the former's convenient terms of repayment in kind and that also without security. It is more convenient for an agricultural labourer or a small cultivator to pay in his own labour or own product than in cash. This indirect assistance from the substantial cultivators in respect of repayment and security for loans helps the survival of the small cultivators and enables some of them to use more of their borrowings for production purposes which in turn help them to cross the barrier and enter slowly into the viable zone from their previous non-viable status. The present shifts in the flow and use structure of rural credit perhaps indicate the beginning of such process quite strongly in West Bengal.

SOME ASPECTS OF CREDIT FOR PADDY CULTIVATION— A STUDY OF SELECTED FARMS

P. K. Chatterjee and Shibdas Banerjee*

The present study is based on data collected from 158 selected farms producing both traditional and high-yielding varieties of paddy in the district of Nadia (West Bengal). The main findings are as follows: Resource deficiency and credit gap of the paddy farmers are highlighted by the low levels of operating expenses (in cash) in general and by the extremely low levels of fertilizer use in particular. Resource deficiency exists in all size-groups of farms for all varieties of paddy, both traditional (*aus* and *aman*) and high-yielding varieties (*aus*, *aman* and *boro*). As expected, the gap has been found to be the largest for farmers having less than 2·50 acres of land. The deficiency starts declining with an increase in the farm size. But beyond 7·50 acres the gap starts increasing again. Comparatively bigger farms, which are yet to be commercialised after the Punjab-Haryana pattern, are crippled by lack of resources. Due to non-availability of adequate credit of the right type on right terms, farmers above 5 acres have hardly adopted the new technology in the area. The elasticity of production of operating expenses (excluding the cost of labour) is quite high (around 0·3) for high-yielding *boro* paddy, which is the most suitable high-yielding variety in the area. If arrangement for credit can be judiciously made, production can be substantially stepped up, and adoption of the new technology can be significantly extended. Surprisingly, the elasticity of production of operating expenses is negative (—·04) for capital-starved marginal farms in the production of traditional *aman*, the most important crop of West Bengal. This indicates that the problem of low productivity cannot be readily solved merely by making more credit available. The need for planning the use of credit is imperative.

Farmers have to depend mainly on local moneylenders. The poor and illiterate farmers, who are in many cases charged interest at weekly rates, remain ignorant of the very high rates of annual interest to which they are subjected. The farmers are often prevented by their creditors from establishing direct links with the appropriate markets. There is no mechanism for ensuring effective utilization of available credit. Because of their multiplicity and mechanical approaches, the institutional credit agencies have not become effective alternatives to the traditional moneylenders in the area. It is suggested that the instrument of farm planning and budgeting should be used to assess farm-level credit need, to ensure proper utilization of credit and to evolve appropriate modes and schedules of repayments. It is further recommended that for each region (which may be a community development block) there should be a centralised planning agency and a centralised credit agency. They should work together to make available adequate credit for effective utilization.

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DEMAND FOR AGRICULTURAL CREDIT IN RURAL BENGAL

Ratan Ghosh*

The Planning Commission has proposed in the Draft Five Year Plan 1978-83, to double the current level of agricultural credit in the next three years, as it is generally true that an agrarian reform programme can succeed only if it is accompanied by adequate arrangement for the supply of inputs, particularly credit on easy terms for development and cultivation of land. In the present paper, we have examined the structure of rural credit in West Bengal and an attempt has been made to estimate the demand for agricultural credit to increase the yields of the selected major crops in West Bengal in the next five years (1978-83). The general tendency which emerges from the nature of the distribution of loans by both the commercial banks and primary credit societies, is an unequal availability of credit and other facilities related to production, in favour of the farmers owning bigger sizes of holdings. In effect, the small and marginal farmers including agricultural labourers and artisans had to depend on the non-institutional sources for about 90 per cent of their credit requirement. The demand for agricultural credit in the next five years is estimated at about Rs. 300 crores in West Bengal out of which a sum of Rs. 283 crores is required for filling up the present credit gap, Rs. 15 crores for the newly irrigated areas and Rs. 4·5 crores for the credit need of the beneficiaries who had been given land due to the implementation of the ceiling laws. This means that the existing credit facilities from the institutional credit societies would have to be increased by about ten times to meet the future credit requirement of the rural Bengal.

INFLUENCE OF THE LEAD BANK AND THE CO-OPERATIVE UPON THE FLOW OF CREDIT INTO THE RURAL ECONOMY OF A DISTRICT—A CRITICAL APPRAISAL

Bhanudeb Bagchi and K. Sain†

The main objective of this paper is to examine the impact of lead bank and the co-operative banks upon the flow of rural credit in a particular district of West Bengal in the post-bank nationalisation period. The data supplied by the United Bank of India which is the lead bank of Nadia, West Bengal, and by the Central Co-operative Bank and the Co-operative Land Development Bank, Nadia are examined along with those contained in available literature on the subject. Loans advanced by these institutions during the seventies, their purposewise distribution, the rates of overdues and recoveries are analysed to estimate to what extent the working of these banks has improved upon the flow of rural credit and enhanced the repayment capacity of the farm people. It appears that these institutional credit agencies have made a significant dent upon the problem of agricultural credit. They are, however, expected to play a bigger role in future.

SMALL CULTIVATORS—CAUSE AND EXTENT OF THEIR CREDIT NEED

Amiyamoy Chatterjee‡

A study has been made to assess the causes and the extent of indebtedness, and the need and availability of credit of small cultivator households on the basis of data collected by the National Sample Survey (NSS) in its 25th Round (1970-71). The results showed that the average earning of a small cultivator household was about Rs. 1,174 and expenditure was about Rs. 1,488 per year, resulting in a shortfall of Rs. 314 per year per small cultivator household. The loan outstanding on a day was found to be Rs. 335 per household of small cultivators. It paid back Rs. 42 of the loan in a year but has to incur a fresh loan of Rs. 172. Thus loan outstanding goes on increasing. On an average, these households have a credit need of Rs. 92 per household for meeting mainly domestic expenditure on short-term basis. It needs Rs. 154 for purchase of draught animal, etc. on medium-term basis and Rs. 544 per household on long-term basis. Eighteen per cent of the small cultivator households wanted loan on long-term basis; 28 per cent and 13 per cent wanted on medium-term and short-term basis respectively. About 33 per cent of the households needing long-term credit, 28 per cent needing medium-term credit and 20 per cent needing short-term credit approached Government agencies for credit. These percentages for co-operative credit societies are 31, 25 and 27 respectively. About 26 and 28 per cent of the households approached moneylenders for short and medium-term credit respectively. The aggregate credit needs of small cultivators have been estimated at Rs. 270 crores, out of which Rs. 134 crores are needed to pay off the debt and Rs. 136 crores for development and cultivation. The credit needs of the small cultivators constituted about 14 per

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cent of the total cash dues of all cultivator households in the country. In conclusion, it may be noted that the deficit of income over expenditure causes a small cultivator household to borrow. Only a small fraction of the small cultivator households are found to utilize the institutional agencies. This is due to their asset being mortgaged in previous year. Sóme method, therefcre, has to be evolved so that they can pay off their debt and utilize the credit for land development and cultivation.

DEMAND FOR BORROWING ON IRRIGATED SMALL FARMS UNDER TRADITIONAL AND MODERN TECHNOLOGY—A CASE STUDY IN HOOGHLY DISTRICT OF WEST BENGAL

A. K. Ray and C. C. Maji*

The study was conducted with a view to deriving the normative demand foi borrowing on irrigated small farms under both traditional and modern agricultural technologies. It also aimed at estimating the changes in the demand for borrowing brought about by the high-yielding technology. A sample of 60 small farms from the tubewell commanded villages of Mithapurkur, Digsui and Purusottampur in the district of Hooghly, West Bengal, was selected for the purpose of this study. The data were collected from each sample farm for the year 1975-76 by survey method. Parametric linear programming technique was used to derive the step demand fuctions for borrowing. Only the interest rate was varied continuously by one per cent while the net returns (costs) of other decision variables were held constant. The step demand functions were then approximated by linear functions using Burt's method. The average net return per rupee of working capital was computed by dividing the optimal net return by the total working capital (borrowed plus own). The findings of the study clearly indicated a rise in the demand for credit on small farms as a result of the introduction of high-yielding technology. Given the interest rate, the credit demand was found to be more than double under modern technology as compared to that under traditional technology. Furthermore, the introduction of new technology in agricultural production resulted in a more inelastic demand for borrowing, implying that the necessity of credit in modern farming has increased in recent years.

The actual supply of credit to an average small farm in the area studied was not even half of the amount demanded at the existing rate of interest. This necessitates a substantial increase in the supply of institutional credit without which efficient use of limited resources on small farms cannot be achieved. The averzge net return per rupee of working capital was found to be significantly higher in the modern technology than in the traditional one. Thus an increase in the credit supply to match the higher demand is a pre-requisite for increase in income on small farms in the study area.

TRENDS IN THE DEMAND FOR CO-OPERATIVE AGRICULTURAL CREDIT IN BARDEZ TALUKA OF GOA: 1972-73 TO 1977-78

A. R. Padoshi†

The paper analysis the trends in the demand for co-operative agricultural credit in Bardez taluka of Goa by using official data. The size of holdings of the majority of farmers in Goa is below 2·5 acres. Short-term credit is especially important to the marginal farmers due to the limited scope for formation of indivisible capital on their farms and it also indicates the extent of the benefit of scale-neutrality of the modern technology. The demand for short-term credit fluctuated from year to year. It amounted to Rs. 145 per acre in 1972-73 and Rs. 210 in 1977-78. Almost all borrowers were found to be marginal farmers. But among marginal farmers only a very small percentage of them has borrowed from co-operative societies, resulting in slow pace of modernization of their agriculture. The number of marginal farmers borrowing from sources other than co-operative societies is not likely to be large. Vigorous efforts are needed to induce the farmers to borrow more and develop their agriculture.

STRUCTURE OF AGRICULTURAL CREDIT IN PONDICHERRY REGION

M. Ramadass and M. Sebastian‡

An attempt is made in this paper to examine the changes in the structure of rural credit, more specifically agricultural credit in Pondicherry region. Since the Pondicherry region enjoys homogeneous climatic conditions, cropping pattern, etc., we have chosen four important communes out of the total eight; from each of these communes, we have selected two villages. On the whole, we interviewed 68 farmers in these eight villages. Using multiple regression analysis and Cobb-

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Douglas model, an attempt is made to study the relationship between the demand for credit, on the one hand, and cost of cultivation, consumption credit and value of gross produce, on the other. The results of our findings revealed that the sample farmers demand credit for two purposes, namely (1) to meet the growing cost of cultivation and (2) household expenditure. The cost of cultivation has increased as a result of the introduction of high-yielding varieties and rise in the prices of agricultural inputs. This has resulted in an increase in the quantum of credit. These results obtained from the interviews are confirmed by the results obtained from the regression analysis. For all categories of farmers, it is found that the value of gross produce and the demand for credit are inversely related. The impact of cost of cultivation on credit demanded is more or less uniform for all groups though it is slightly higher in the case of small farmers. The impact of consumption credit is positive for all small farmers, but it is not so in the case of medium and big farmers. The partial elasticities of Cobb-Douglas function indicated that one per cent increase in the cost of cultivation would increase the demand for credit by 0·9314, 0·4124 and 0·3214 per cent respectively for small, medium and big farmers. On the other hand, an increase of one per cent in gross produce would be followed by a fall in credit demanded by 5·5538, 2·4902 and 0·7827 for the corresponding categories of farmers.

On the basis of statistical estimates, we have forecasted the total demand for credit for three years (1978-81). By taking the total cropped area under paddy in Pondicherry region and the credit requirements per acre, the total credit requirements work out to Rs. 18·94 crores in 1978-79, Rs. 19·27 crores in 1979-80 and Rs. 21·39 crores in 1980-81. The obvious conclusion of the study is that the credit requirements of the farmers are staggering and tend to outstrip the supply in Pondicherry region. It is for the Government of Pondicherry to devise proper ways and means to channelise the flow of credit in the near future so that the agricultural sector do not suffer a severe set-back.

CHANGING PATTERN OF RURAL CREDIT IN INDIA

Prem Prakash†

An attempt is made in this paper to examine in depth the various sources of finance for agriculture and the shares of different agencies in financing the rural Sector. Some of the important findings of the study are as follows: Despite a rapid rise of institutional finance, the private agencies which include moneylenders, traders, commission agents, etc., continue to provide the major share of rural credit. However, their share remained constant at 93 per cent during 1951-52 and 1961-62 but declined to 68 per cent by 1971-72. In the cae of moneylenders alone, their share was 70 per cent, 62 per cent and 36 per cent respectively for the corresponding periods. It will thus be seen that with the passage of time and on account of the emergence of a new class of landlords and traders, the moneylender is losing ground in rural financing. It is rather alarming that during the years 1961-62 and 1971-72, nearly 31 per cent and 41 per cent of the farmers paid interest at the rate of 12½ per cent to 37½ per cent respectively; out of which nearly 7 per cent and 15 per cent paid a rate of interest varying between 25 and 37½ per cent, thereby indicating a rise of more than 100 per cent in the persons borrowing at higher rates of interest.

During the period 1961-62 and 1971-72, the cash loans outstanding per household had registered a decline. It is important to note that the loans outstanding in the case of farmers in the low income brackets were comparatively less as compared to those in the higher income brackets. Out of the loans raised by farmers, they spent 47 per cent, 47 per cent and 38 per cent on household expenditure during the years 1951-52, 1961-62 and 1971-72 respectively, which shows a decline in household expenditure in successive years. Capital expenditure showed a slight decline between the years 1951-52 and 1961-62. It however registered an upward trend in 1971-72 as compared to 1951-52. While in 1951-52 it constituted 31·5 per cent of total expenditure, it was 34·8 per cent in 1971-72.

Institutional agencies made rapid progress in financing agriculture during the period under report. Co-operative societies alone accounted for 83 per cent of the total loans during the year 1973. However, the loans from the institutional agencies declined to 68 per cent of the total loans during the year 1977. It is notable that the scheduled banks played a very significant role in rural finance. It was nearly 2 per cent of the total loans available to the farmers in the year 1973. However, with the nationalisation of banks and with the vigorous efforts made by the Government, nationalised banks took a rather constructive attitude with the result that finance by such banks rose to 28 per cent in 1977. It is noteworthy that loans outstanding in respect of commercial banks increased from 2·2 per cent in 1968 to 10·7 per cent in 1975. The total finance (direct and indirect) by institutional agencies increased from nearly Rs. 1,692 crores to Rs. 2,751 crores (an increase of about 63 per cent) during the years 1973 and 1977 and the loans outstanding also showed an increase from nearly Rs. 2,622 crores to Rs. 4,596 crores (*i.e.*, by 75 per cent) during the corresponding period. There was a large scale expansion of new bank offices of scheduled commercial banks in the rural and semi-rural areas after nationalisation of banks. From 1969 to 1977, the new branches opened by commercial banks increased from 5,204 to 16,743 (a three-fold increase) in the rural and semi-rural areas. It is disappointing to find that despite an overall expansion of credit, the share of the small farmers in total institutional credit remained low.

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