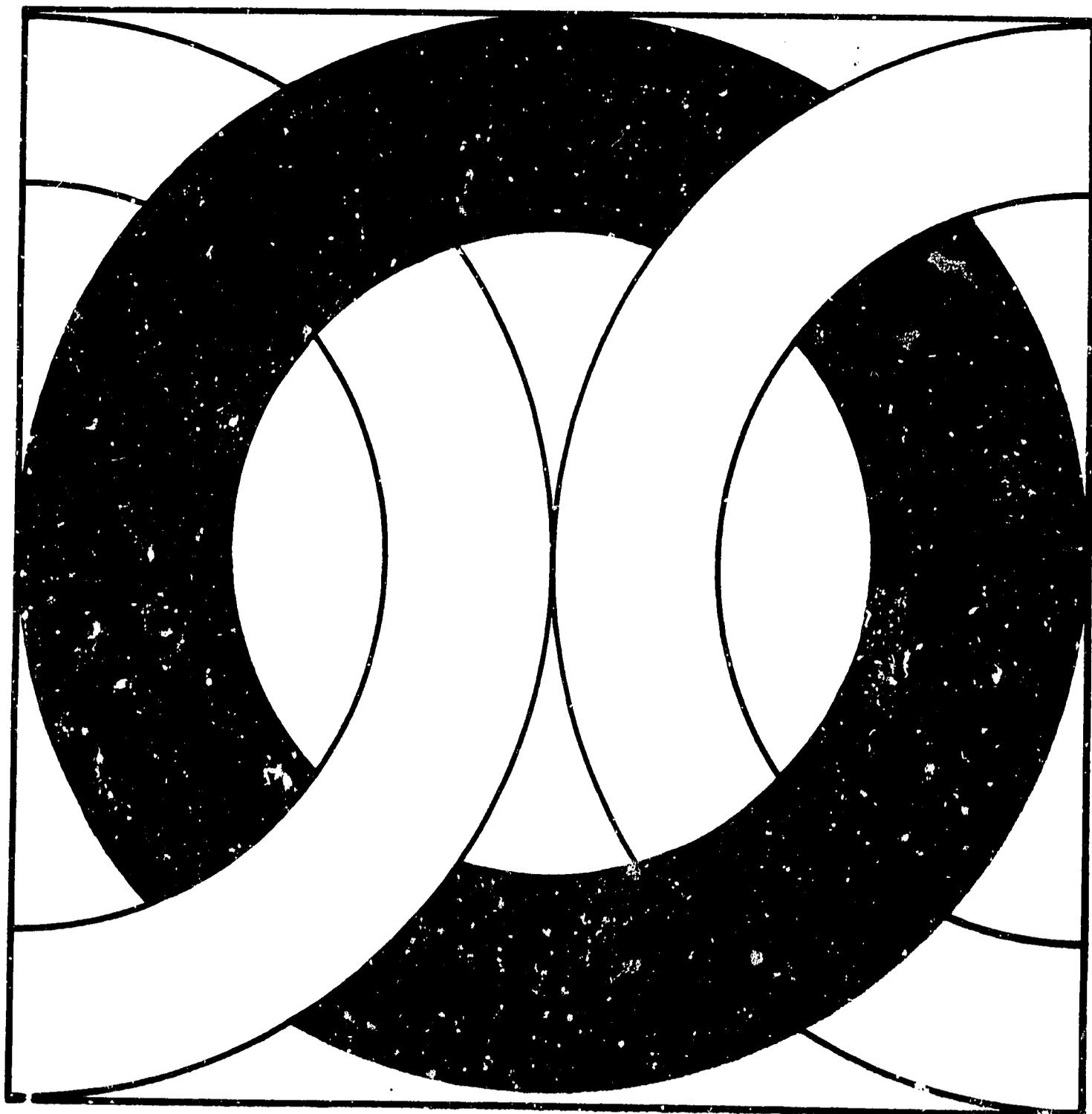


AGRICULTURAL FINANCE PROGRAM
DEPARTMENT OF AGRICULTURAL ECONOMICS
AND RURAL SOCIOLOGY
THE OHIO STATE UNIVERSITY

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ANNOTATED BIBLIOGRAPHY ON
AGRICULTURAL CREDIT AND RURAL SAVINGS: VII
(A SPECIAL ISSUE ON INDIA)



NOTE

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This bibliography is the seventh in a series of annotated bibliographies prepared by the Ohio State University. The first three were published and distributed by the Agency for International Development as part of their A.I.D. Bibliography Series. Citations and ordering instructions for these three bibliographies follow:

- (1) Agricultural Credit and Rural Savings, A.I.D. Bibliography Series: Agriculture No. 7, December 1, 1972, 60 p.
- (2) Agricultural Credit and Rural Savings II, A.I.D. Bibliography Series: Agriculture No. 8, July 1976, 60 p.
- (3) Agricultural Credit and Rural Savings III, A.I.D. Bibliography Series: Agriculture No. 9, July 1977, 56 p.

Copies of these three bibliographies can be ordered from the Office of Multisectoral Development, Development Information and Utilization Service, Science and Technology Bureau, Agency for International Development, Washington, D.C. 20523.

- (4) Annotated Bibliography on Agricultural Credit and Rural Savings: IV, March 1980.
- (5) Annotated Bibliography on Agricultural Credit and Rural Savings: V, April 1980.
- (6) Annotated Bibliography on Agricultural Credit and Rural Savings: VI, September 1980.

The Bibliographies IV-VII were published and distributed by the Agricultural Finance Program, The Ohio State University, 2120 Fyffe Road, Columbus, Ohio 43210. Copies of these bibliographies can be ordered from the Agricultural Finance Program address given above.

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BACKGROUND

This bibliography is an outgrowth of Ph.D. dissertation research by Harpal S. Grewal at the Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio. The individuals responsible for the preparation of this bibliography are:

Dr. Harpal S. Grewal, Post-Doctoral Researcher, Department of Agricultural Economics and Rural Sociology, The Ohio State University.

Ms. Phyllis Seidel, Secretary, and Ms. Jill Loar, Word-Processing Specialist, Department of Agricultural Economics and Rural Sociology, The Ohio State University.

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Persons desiring information regarding publications listed in this bibliography or some other aspects of rural credit or savings should address their inquiries to:

The Agricultural Finance Program
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210, USA

PREFACE

Over the past few years credit has become a major instrument in rural development programs in many low income countries (LICs). According to one estimate, the supply of formal agricultural credit in these countries was about 30 thousand million U.S. dollars in 1979.^{1/} In addition, there have been substantial increases in the number of facilities providing financial services in rural areas. India has been especially active in developing rural financial markets (RFMs). During the last three decades an impressive network of formal financial institutions has been established in rural areas. Consequently, the amount of outstanding formal rural credit in the country increased from 53 million U.S. dollars in 1951-52 to about 6.4 billion U.S. dollars in 1978-79.^{2/} The amount of savings mobilized by RFMs also increased severalfold in this period. Simultaneously, increasing attention has been devoted to research on various rural financial issues. The investment of large amounts of resources in research since independence has produced hundreds of studies on RFMs in India. Several national surveys were also conducted to gather data on economic and credit activities in rural households.

This bibliography presents abstracts of almost 200 important rural finance studies on India. These studies were categorized as rural credit or rural savings studies, and were arranged in alphabetical order by the last name of the author, or the senior author in cases where there were more than one author of a study. A number of other rural finance studies on India were included in previously prepared annotated bibliographies by the U.S. Agency for International Development, Washington, D.C., and the Department of Agricultural Economics and Rural Sociology, The Ohio State University.^{3/}

The findings and recommendations of Indian RFM research can be useful in many ways for those interested in rural finance in other developing countries. The majority of LICs face rural financing problems that are similar to those in India. The RFMs in these countries are often fragmented and also dominated by private moneylenders. The costs of borrowing as well as lending in rural areas are high. The efforts to establish formal financial institutions in the rural sector have had

^{1/} Adams, Dale W and Douglas H. Graham, "A Critique of Traditional Agricultural Credit Projects and Policies," Journal of Development Economics, Vol. 8, No. 3, 1981.

^{2/} Grewal, Harpal S., "An Evaluation of Research on Rural Financial Markets in India," Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio 43210, 1982.

^{3/} Citations and ordering instructions for these bibliographies are given in the Note on page 1.

limited success. The policies and programs instituted to tackle these problems generally include regulation of moneylenders, interest rate controls, establishment of government sponsored financial institutions, and more emphasis on supplying credit than mobilizing savings through RFMs. The results of the research on India, therefore, can provide general insights into RFM problems and provide guidelines on designing more effective policies in other developing countries.

The knowledge of strengths and weaknesses in Indian rural finance studies can also be useful to improve similar research in other less developed countries. India has made a commendable achievement in terms of the amount of research conducted on RFMs and the wide variety of issues covered in these studies. Several weaknesses, however, existed in this research. The focus of a large number of investigations, for example, was concentrated on relatively few topics, whereas, little attention has been devoted to many other equally important issues. This resulted in a considerable amount of duplication and redundancy in research efforts. Many RFM studies in India were also based on incorrect or unsubstantiated assumptions. Similarly, the conceptual frameworks and analytical techniques used in investigations many times did not fully account for fungibility and divisible characteristics of financial instruments. The data used in several studies were also of poor quality. Despite continuous efforts to improve coordination between RFM research and policies in India, there is still a significant scope existing for improvement. These weaknesses need to be eliminated in future rural finance studies on developing countries.

This bibliography is intended to serve as a reference source for researchers interested in RFMs in India and other LICs.

Harpal S. Grewal

PART I. RURAL CREDIT

1. Agrawal, G. D. and P. C. Bansil, Economic Problems of Indian Agriculture, Vikas Publications, 5 Daryaganj, Ansari Road, Delhi - 6, 1969, 415 p.

In Chapter 9 of this book, major policy developments related to the cooperative credit movement in India are discussed and the progress made by cooperative banks is briefly analyzed. Chapter 10 presents discussion on different moneylender legislation. The effectiveness of these laws in regulating the activities of private lenders is also reviewed. The agricultural credit situation in India and various formal and informal rural credit sources are discussed in Chapter 11. Also, the extent of rural indebtedness and its causes are analyzed. Suggestions are also made for the future organization of the rural credit system.

2. Asian and Pacific Regional Agricultural Credit Association, Agricultural Credit Policies and Programs for Small Farmer Development in Asian and Pacific Countries - Country Profiles 1980 and Success Stories, APRACA No. 6, F.A.O. Regional Office for Asia and Pacific, Bangkok, Thailand, February 1981, 213 p.

Chapter IV of Part A of this report deals with agricultural credit policies and programs in India. A credit project in U. P. state is evaluated in Chapter II of Part B with respect to benefits received by small farm households.

India adopted a multi-agency approach in agricultural lending in 1969. The objective of the policy was to supply credit to farm households through cooperatives, commercial banks and regional rural banks. As a result, the share of institutional credit in total borrowings of the cultivators increased to 40 percent in 1981. A number of supporting institutions have also been established during the last three decades. The Reserve Bank of India used policies to increase credit supply to small and marginal farmers.

The agricultural credit project discussed in this report was formulated with the following objectives: (1) to finance construction of wells, (b) to strengthen the State Groundwater Directorate, and (c) to support credit institutions. The project provided significant benefits to small farmers. Some suggestions are also made for formulating small farm credit policies.

3. Athavale, M. C., K. S. Yadav and J. P. Mishra, "Green Revolution and Short-Term Cooperative Credit - A Study in Two Districts of Madhya Pradesh," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 519-523.

This paper assesses the role of short-term cooperative credit in providing the services required along with the HYV programs both at the district and farmer's level. The data were collected from 60 farmers for 1968-69. The amount of cooperative loans supplied to farmers met only a part of their estimated credit requirements. This contribution of cooperative banks also varied considerably in two studied districts. The farm level survey revealed that 30 percent of current farm expenditure in Raipur district and about 60 percent in Tikamgarh district was supplied in the form of cooperative credit. The cooperative credit was mainly used to buy seed, fertilizers and pesticides.

4. Avadhani, V. A., "Non-Farm Business of Cultivators and Institutional Finance," Indian Journal of Agricultural Economics, Vol. 33, No. 4, 1978, pp. 114-128.

The objective of this paper is to examine the extent of involvement of cultivators in non-farm activities and availability of institutional finance for use in rural non-farm enterprises. Section I presents a brief introduction to the subject. In Section II, the overall picture of non-farm activity of cultivators is presented and an analysis of non-farm business of different categories of cultivator households is made in Section III. Section IV discusses the factors influencing non-farm business involvements of cultivators. Section V examines the availability of institutional credit for non-farm activities.

The author finds that only a small proportion of cultivators in India were engaged in non-farm business. There was no significant growth of debt and assets in non-farm business. The debt-assets ratio for non-farm activities was 0.5 percent. The amount of credit supplied by financial institutions for non-farm enterprises was low, however, it increased significantly over time.

5. Ayyar, S. V. and A. Ramaswami, "Reorganization of Rural Credit in India," Indiana Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 22-28.

Authors review the findings and recommendations of the All-India Rural Credit Survey Committee. They argue that the Committee was strongly biased in favor of cooperative banks in recommending policies for reorganization of rural credit. They, however, feel that all the viable lending agencies should be included in planning rural credit organization and the role of different lending agencies should be considered as a contribution to solve credit supply problems in rural areas.

6. Bagchi, B. and K. Sain, "Impact of The Lead Bank and the Co-operatives on the Farm Finance in Nadia District of West Bengal," Financing Agriculture, Vol. 12, No. 1, 1980, pp 6-9.

Authors evaluate the performance of the United Bank of India (the Lead Bank), the Central Co-operative Bank and the Co-operative Land Development Bank operating in Nadia district of West Bengal state with respect to the amount of credit supplied and saving mobilized by these institutions.

The study reveals that the amount of farm credit supplied by the United Bank increased significantly over time. The distribution of loans was more in favor of small and medium farmers as compared to large farmers. The rate of loan defaults and delinquency, however, increased significantly over time. The analysis of the supply of loans by the Central Co-operative Bank and Land Development Bank also gave similar results.

7. Balishter and Roshan Singh, "Impact of Bank Finance on Cropping Pattern and Farm Income," Financing Agriculture, Vol. 12, No. 1, 1980, pp 3-5.

This study analyzes the impact of institutional finance on cropping intensity, cropping pattern, output, and farm income of the borrower farmers. The data were collected from 59 borrowers for the years 1972-73 and 1975-76. Descriptive method was used to assess the impact of loans obtained by cultivators for the installation of tubewells.

The authors find that investment in tubewells enabled the farmers to adopt multiple cropping with more area under high yielding crops. The availability of irrigation also increased the yields of crops grown. The use of bank finance also increased the income of the borrowers.

8. Bansil, P. C., "Short-Term Credit Requirements at the End of the Fourth Plan, 1973-74," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp 467-473.

This study uses the estimated expenditures on various inputs and household expenses of cultivators to project their macro level short-term credit requirements. The value of important inputs estimated in the Fourth Plan is used to measure expenditure on these inputs. It is assumed that cultivators with more than 20 acres of land will not require any short-term loans. The credit needs for major inputs are assumed to be about 50 percent of total expenditure on these inputs. Similarly, credit needs for agricultural households for non-farm purposes were worked out. The total credit requirements were estimated as Rs 16,770 million for the year 1973-74.

9. Bardhan, Pranab K., "Interlocking Factor Markets and Agrarian Development: A Review of Issues," Oxford Economic Papers, Vol. 32, No. 1, March 1980, pp. 82-98.

This study reviews the literature on the following issues: (1) how the interlinkage of markets reinforce the impact of imperfections in each market, (b) how different transactions are sometimes personalized in an interlocked system, and (3) how differential adjustment mechanisms operate in factor markets. In Section III, the author discusses and critiques the studies on interlinked land-lease and credit contracts. The links between credit contracts and formal or informal labor-tying arrangements are analyzed in Section IV. Section V presents discussion on how interlinking of transactions in different markets is used by economic units to avoid social or legal controls on charging high prices in some markets.

10. Barla, Chain Singh, "An Analysis of Cooperative Agricultural Credit Institutions in India: A Case Study of the Primary Credit Societies in Rajasthan," Unpublished Ph.D Dissertation, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, 1973, 232 p.

This study has four objectives: (1) to explain the concept of adequacy of agricultural credit, (2) to review and evaluate the recent progress and financial health of cooperative agricultural credit institutions, (3) to examine the adequacy of credit for different categories of farmers, and (4) to suggest modifications in existing cooperative credit policies. Total amount of loans, interest rate, terms and conditions of loans, timeliness of loan disbursement, and loan recovery are used as criteria to assess the adequacy of credit services provided by cooperative banks.

The results of the study show that while the total amount of cooperative loans increased significantly over time, no serious attempts have been made to improve the quality of services and efficiency of cooperative personnel. High loan default and delinquency rates seriously weakened the financial position of cooperative credit institutions.

11. Beliraya, K. V. and S. Mohana Krishna, "Group Lending to Small Farmers in Agriculture," Financing Agriculture, Vol. 11, No. 3, 1979.

Due to small holdings, the credit-absorbing capacity of small and marginal farmers is limited. However, if sufficient numbers of beneficiaries could be enjoined in the enterprise to share investments and benefits, the proposition could become feasible and viable. This study discusses Syndicate Bank's experience in group lending in certain parts of Andhra Pradesh. The Bank has been involved in lending to groups of individuals organized in the form of cooperative societies such as joint farming cooperative societies and lift irrigation cooperative societies.

The experience of Syndicate Bank indicates that group lending projects should be evaluated on a case-by-case basis. The considerations in group financing should be that the group is homogeneous and it is properly organized to execute and maintain the project.

12. Beliraya, K. V. and B. Pramod, "Agricultural Sector in the District Credit Plans," Financing Agriculture, Vol. 12, No. 2, 1980, pp. 22-26.

Authors discuss the findings and recommendations of the Gadgil Committee (1968) and the Expert Group appointed by the Reserve Bank under the chairmanship of G.M. Desai. The Gadgil Committee suggested the Lead Bank Scheme in order to improve coordination among different financial institutions. The Expert Group was appointed to study the district credit plans used by banks to expand loan services in rural areas. They suggest that the agricultural sector should be given a key position in formulation and implementation of district credit plans.

13. Bhaduri, Amit, "A Reply to Rao and Ghose," Cambridge Journal of Economics, Vol. 4, No. 2, June 1980, pp. 173-174.

Author replies to the comments by Rao and Ghose published in this issue, on his article, On the Formation of Usurious Interest Rates in Backward Agriculture, published in the December 1977 issue of this journal. He agreed to the arguments made by Rao. However, Ghose's argument that interest rates may be high because of high rates of return on capital investments in rural areas, is rejected by the author.

14. Bhanja, Prasanta Kumar, "Institutional Credit and HYV Programme - An Analysis of Credit Requirement and Economic Feasibility (A Case Study in Birbhum, West Bengal)", Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 512-519.

Author assesses the credit requirements for cultivation of HYV of paddy and examines the economic feasibility of the programme. The data for the study are drawn from the survey conducted by the Agro-Economic Research Center, Visva-Bharati in 1968-69. The information used in the analysis was collected from 100 farmers. The farmers were categorized into those who used a new variety of paddy and those who did not use HYV paddy.

Large cash requirements and high risk are the two reasons which discouraged large-scale adoption of new varieties by the small farmers. The author suggests that more credit should be made available to small and marginal farmers.

15. Bhargava, V. K., "Effect of Publicly Supported Credit Programs on Economic Growth of Small Farmers in District Budaun (India)," Ph.D. Dissertation, Department of Agricultural Economics, University of Illinois, Urbana-Champaign, Illinois, 1974, 119 p.

The objectives of this study are (1) to identify factors affecting the growth of small farmers, (2) to model the small farm as a decision-making unit complete with production, marketing, consumption and financial components, (3) to study the effects of financial management on production, marketing, consumption and financial choices, and (4) to study the effects of temporary and permanent publicly supported programs on the economic growth of small farm firms. Both econometric and programming techniques were used in the analysis.

The main conclusions of the study are: (1) unreliability of the publicly supported credit programs discourage small farmers from taking advantage of these programs, (2) the borrowing behavior of small farmers can be better understood by including liquidity management specifications in the model and (3) the policy emphasis in publicly supported credit programs should be to improve reliability rather than the provision of low interest rate loans.

16. Bhatnagar, R. G., "Recovery of Agricultural Loans," State Bank of India Monthly Review, Vol. 21, No. 2, February 1982, pp. 43-48.

Author discusses the important internal factors identified in a study by the State Bank of India that contribute to the overdue of agricultural loans. In many cases, the branches of the Bank expanded their business beyond organizational and managerial capacity. This caused difficulties in loan supervision and follow-up of end-use of funds by borrowers. Also, unrealistic assessment of credit requirements of farmers resulted in overfinancing or underfinancing. In addition, there were delays in sanctioning or loan disbursement. Many banks used a target-oriented approach in advancing loans and loan repayment schedules were incorrectly formulated.

17. Bhatt, V. V., "Financial Institutions and Technical Consultancy Services: The Indian Experiment in Small Enterprise Promotion," Discussion Paper presented at the International Seminar on Internal Organization of Development Banks, Berlin, Germany, September 21-25, 1981, 57 p.

The objective of this paper is to evaluate the performance of the Technical Consultancy Organizations in the light of the original purposes for which they were set up in order to highlight the policy measures that need to be taken for strengthening these organizations. The problems faced by financial institutions in India and the strategy they evolved are discussed in Section I. The activities and operations of 8 consultancy organizations are analyzed in Section II, while the responses of the assisted enterprises to consultancy services and their comparative performance are indicated in Section III. Some suggestions are made in Section IV to improve the effectiveness and efficiency of the Technical Consultancy Organization network. The characteristics of the Indian experiment that have relevance for the other less-developed countries are analyzed in the final section.

18. Bhatt, V. V. and Alan R. Roe, "Capital Market Imperfections and Economic Development," World Bank Staff Working Paper No. 338, Development Economics Department, The World Bank, Washington, D.C., July 1979, 87 p.

The first paper, Interest Rate, Transaction Costs and Financial Innovations, by V. V. Bhatt provides an overall perspective for research in the area of capital market imperfections and economic development.

He argues that capital markets are imperfect in the sense in which economists use this term: for it involves a relationship in time between the lender and the borrower in the context of uncertainty. However, it does get progressively integrated, widened and deepened with economic and financial evolution. Financial innovations reduce transaction costs and thus lower the costs of lending and borrowing and narrow the interest rate differentials. This has effects on saving, investment and output and distribution.

The second paper, Some Theory Concerning the Role and Failings of Financial Intermediation by Alan R. Roe, presents an analytic frame centered around the impact of transaction costs and identifies the type of policy interventions that may increase rather than reduce the degree of imperfections in the capital market. Further, it identifies areas for policy action in less developed countries.

19. Bhattacharjee, S. N., "Rural Leadership and Rural Credit - A Relation in the Indian Economy," Indian Economic Journal, Vol. 19, No. 1, 1971, pp. 45-54.

Author discusses how sound rural leadership can be made available and how it may serve to tackle rural indebtedness. The author believes that existing organizations which provide leadership in the rural sector need re-orientation. He notes that the provision of credit to rural households is not sufficient. There is a need, among other things, for active rural leadership organizations to see that the credit is properly used.

The author suggests selection of leaders from each locality. These leaders work under the control and guidance of rural leadership organizations at the Centre, State, District and Block levels. The people should apply through rural leaders to obtain government services including credit. These leaders should be members of executive committees of cooperative societies. They should also be responsible for supervising credit use and loan repayment.

20. Black, John D. and Hugh L. Stewart, Report on the Research, Teaching and Public Administration of the Economics of Agriculture for India, Ministry of Food and Agriculture, Government of India, Delhi, 1954, 131 p.

Authors suggest topics for rural credit research in India. Six projects are outlined: (1) Determination of the type and size of local cooperative credit organization best fitted to different situations in India; (2) to determine the level of interest rates on cooperative loans; (3) determination of the respective roles of government and cooperation in the provision of rural credit in India; (4) to determine to what extent and under what circumstances credit cooperatives can advantageously combine buying and selling with credit, (5) determination of the effective ways of using credit in a village or larger area unit, and (6) to determine how to provide credit for low-income and "non-creditworthy" would-be borrowers in agriculture.

In addition, issues such as (a) how to fit the private moneylenders into the credit system; (b) types of securities now being used but generally unacceptable to commercial banks and how these can be used by credit cooperatives, were also suggested for future research considerations. The author feels that these issues will supplement the findings of the Rural Credit Survey.

21. Bose, A., "Commercial Banks and Rural Finance," State Bank of India Monthly Review, Vol. 21, No. 6, June 1982, pp. 211-216.

This study discusses the performance of commercial banks in providing financial services to rural households. The branch network of banks in rural and semi-urban areas increased five-fold between July 1969 and June 1981. The contribution of commercial banks to agricultural credit also increased substantially during the post-nationalization era. Programs such as the intensive area approach and project lending were implemented in order to improve the quantity and quality of rural credit. The author suggests that the banks should prepare village production programs in which, in addition to credit, technical assistance is also provided to the borrowers.

22. Bose, Sailesh Kumar, "Cooperative Credit and Agricultural Productivity in India: Experience of Decade," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1966, pp. 224-231.

The data used in this study were collected through different government surveys. The author evaluates the performance of the cooperative credit movement in India during 1951-52 to 1961-62.

The results of the study reveal that both coverage and amount of loans advanced by cooperative banks increased significantly. The large amount of cooperative credit was, however, supplied as short-term loans. The cooperative banks were not successful in raising private funds and excessively relied on sources such as the Reserve Bank of India. These banks also had high default and delinquency rates.

23. Brahmananda, P. R., "Towards A General Theory of the Pure Rate of Interest," The Indian Economic Journal, Vol. 17, No. 1, 1969, pp. 57-92.

The objective of this paper is to work out a theory of the pure rate of interest. Section 2 presents neoclassical interest theory and the critique of this theory is made in Section 3. Section 4 discusses the early classical approach to rate of interest. Section 5 presents a critique of the Ricardian approach. Section 6 analyzes modification of the early classical theory. Section 7 outlines the important contributions made by Schumpeter to classical interest theory. Section 8 discusses the modifications to the early classical theory as a result of the introduction of the components of continuous productivity change, and the prospects thereof. A generalized formula for identifying and measuring interest rate is presented in Section 9 and conclusions of the study are given in Section 10.

24. Catanach, I.J., Rural Credit in Western India 1875-1930: Rural Credit and the Co-operative Movement in the Bombay Presidency, University of California Press Ltd., London, England, 1970, 269 p.

This book presents a history of rural credit between 1875 and 1930 in Gujrat, Western Maharashtra and the Bombay Karnatak regions collectively known as Bombay Presidency. In the first chapter, causes and consequences of rural indebtedness in the study area and the Decaan riots are discussed. This also includes discussion of moneylender legislations instituted during 1875-1904. The origin of cooperative credit system and various problems and changes in its organization are presented Chapters II to V. The performance of cooperative banks is evaluated in the final chapter along with some suggestions for the future.

25. Chari, T.S.K., "Commercial Bank Branches and Financing of Agriculture," Agriculture Situation in India, Vol. 25, October 1970, pp. 705-711.

This study briefly discusses the progress made by commercial and cooperative banks in financing agriculture. The author notes that commercial banks are new in the area of supplying loans to farmers and he makes suggestions to organize programs to finance agriculture. The branch agents should work in cooperation with different rural agencies in advancing loans and mobilizing rural savings. The banks not only advance credit to the farmers, but loan facilities also need to be extended to agencies serving the agricultural sector. The bank personnel should establish intimate business relations with their clientele.

26. Chinnappa Reddy, B. V., "An Analysis of Overdues Among Farmers in Srinivasapur Taluk of Kolar District, Karnataka," M.S. Thesis, Department of Agricultural Economics, University of Agricultural Sciences, Hebbal, Bangalore, 1981.

Study analyzes the loan overdues position by the type of credit and type of farmer, and determines the socio-economic factors responsible for overdues. The data were collected from 60 farmer defaulters. The results indicate that the lenders generally faced a serious problem of overdues on loan. About 73 percent of livestock loans, 67 percent of well loans, 60 percent of tractor loans, 59 percent of crop loans, and 59 percent of pumpset loans were overdue. The overdues were higher in term-loans than the crop-loans. Many factors were identified to determine the loan repayment behavior of farmers. The author suggests that financial institutions should determine the repayment amount based upon incremental income of borrowers from the loan use.

27. Chowbey, B. N., Institutional Finance for Agricultural Development, Shubhada Saraswat, 67 Patil Estate, Pame, India 1977, 339 p.

This book is organized in fourteen chapters. The nature, significance and organization of agricultural credit are discussed in Chapter one. Problems of assessment of agricultural credit demand and credit appraisal are discussed in Chapters 2 and 3, respectively. Similarly, problems related to crop financing by banks are reviewed in Chapter 4. Organization of formal rural financial sector and relationship between different lending agencies are discussed in Chapters 5, 6 and 7. In Chapters 8 and 9, the role of the Reserve Bank of India in agricultural credit is examined, and

a case for the establishment of a national level bank for agricultural credit and cooperatives is presented. Chapters 10-13 present the performance of formal financial institutions in supplying agricultural credit. The problems of stability in the availability of formal agricultural loans are reviewed and measures to ensure sustained flow of credit are suggested in Chapter 14.

28. **Dagli, Vadilal (ed.), Foundations of Indian Agriculture, Commerce Economic Studies I, Vora and Company, Publishers Private Ltd., 3 Round Building, Bombay 2, 1968, 378 p.**

The Finance section of this book contains six articles on rural financial markets in India. A study by D. G. Karve deals with the role of commercial banks in financing rural economy and makes suggestions for the organization of a rural credit system. B. B. Shetty discusses the problems and challenges commercial banks deal with in supplying credit to agriculturists. The agricultural price support policies and prerequisites for their effectiveness in improving agricultural productivity are outlined in the study by S. C. Chaudhri. Various difficulties in the introduction of crop insurance programs in India are discussed by K. S. V. Menon and a paper by S. N. Ghosal presents a scheme for providing funds to cooperative credit institutions. The advantages and disadvantages of State participation in cooperative credit systems are discussed in the article by A. Singh.

29. **Darling, M. L., The Punjab Peasant in Prosperity and Debt, Oxford University Press, London, 1925, 298 p.**

Presents detailed investigation of the extent of agricultural debt in the Punjab state of India. The role of moneylenders in rural economic life and their business practices are discussed. The origin of the cooperative credit movement and the performance of cooperative banks as an alternative source of credit to rural households are also described.

The author concludes that indebtedness was a way-of-life for cultivators in Punjab. The peasants were largely dependent upon moneylenders for their credit needs. Despite a considerable improvement in economic conditions of farmers during the period covered by the study, their debt increased over time. The cooperative banks provided cheap credit to peasants and the terms and conditions of cooperative loans also brought repayment.

30. Das, Anchal and H. Calvert, An Economic Survey of Tehong, A Village in the Jullundur District of the Punjab, Punjab Village Surveys No. 3, The Board of Economic Inquiry, Lahore, Punjab, 1931, 345 p.

Chapter VII shows extent of indebtedness, purposes of loans, sources of credit, and rates of interest on loans in the studied village. In Chapter VIII, land mortgages in the village, their purposes and redemption are discussed. Out of 185 cultivators in the village, 135 were indebted. Thirty-two percent of the loans were used for household expenditures and 68 percent for agricultural purposes. Total debt per cultivator family was Rs. 355. Out of 110 members of the cooperative, nearly all borrowed money to repay old debts. In addition to the cooperative society, there were 29 moneylenders in the village. The rate of interest on moneylender credit varied from 6 percent to 38 percent per year. The interest rate charged on cooperative loans was 9.5 percent per annum. The major reasons for borrowing were to purchase draft animals, perform social ceremonies, and redemption of mortgaged land. The area of land mortgaged in the village decreased over time. The total area redeemed also decreased. The land mortgages were mainly agriculturist moneylenders.

31. Das, P. K. and P. L. Guglani, "Credit Needs of Tribal Farms of Singhbhum District, Bihar," Financing Agriculture, Vol. 12, No. 4, 1980, pp. 22-24.

This study is based upon the data obtained from 80 farmers in Singhbhum district of Bihar state. The main objective of the investigation is to estimate credit needs for different sizes and types of farm households. Linear programming techniques were used for analysis.

The optimal resource use plans developed in this study show that per acre credit amounts needed by farmers varied between Rs 700 and Rs 1200. The rates of return on farm investments were between 27 percent and 68 percent. The study concludes that capital was a constraint on all types of farms and that farm income could be significantly increased by providing adequate loan facilities.

32. Das, Tushar K., "Agricultural Financing by Commercial Banks", Commerce Pamphlet-99, Commerce Publication Division, Veer Nariman Road, Bombay, March 1976, 31 p.

This study analyzes the progress made by commercial banks in financing the agricultural sector. Banks provide a variety of loan services to farm households. The total amount of credit as well as proportion of farm credit in loan portfolios of commercial banks increased significantly after nationalization. There has also been increases in the amount of credit advanced to small and marginal farmers. The recovery rates of agricultural loans, however, did not improve over time. Although there has been a rapid increase in the number of rural and semi-urban branches of the banks, there is a general shortage of trained personnel. The author suggests that, in addition to short-term credit, the banks should devote more efforts to supplying medium and long-term farm credit.

33. Dasgupta, A. K., "On Differential Rates of Interest," Economic and Political Weekly, Vol. 7, No. 27, July 1, 1972, pp. 1279-1282.

Study examines the economic and social rationale of the differential interest rate policy followed in India. Under this policy, the commercial banks are asked to charge lower interest rates on loans advanced in rural areas than the rates charged to urban customers.

The author argues that the differential interest rate policy can be justified from the theory of monopoly price discrimination. He argues that public sector commercial banks have a monopoly in the credit market. The demand for credit by rural households is more elastic than the demand for credit in urban areas. The discrimination between weaker customers and stronger customers, therefore, is feasible within limits and is consistent with the principle of maximum profits. The differential interest policy is also found to be in conformity with the social objectives of favoring the poor against the rich in so far as the elasticity of demand for credit is higher in the case of the former than in the case of the latter.

34. Desai, B. M., "Banking Innovations in India - A Case of Group Lending for Agriculture," Paper No. 14, presented at the Second International Conference on Rural Finance Research Issues, Calgary, Canada, August 29-31, 1979, 29 p.

Author develops an analytical framework to determine conditions under which group lending is an innovation, and to empirically test group lending as an innovation. He sets up necessary and sufficient conditions for group lending to be an innovation.

The empirical analysis of the group lending scheme adopted by a nationalized commercial bank in India reveals that the borrowing costs of group borrowers were not significantly different from individual borrowers. Similarly, the loan default rates among individual and group borrowers were about the same. The group and individual borrowers compared in this study were, however, not homogeneous.

35. Desai, B. M., "Group Lending Experiences in Reaching Small Farmers" Economics and Sociology Occasional Paper No. 761, Agricultural Finance Program, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, 43210, November 1980, 20 p.

Deals with the experiences of group lending programs in various low-income countries. The author shows that concessionary and inflexible interest rate policies in these countries have constrained the potentially innovative nature of financial markets. He also argues that the potential benefits of group lending such as low default rates and low costs of lending and borrowing are not consistently realized in most low-income countries. Partial gains either to borrowers or lenders would not sustain this reform. He suggests a change in concessionary and rigid interest rate policies in order to improve the supply of credit to the rural poor.

36. Desai, B. M. and M. D. Desai, The New Strategy of Agricultural Development in Operation, A Case Study of the Kaira District in Gujrat, Thacker and Co., Ltd., Bombay - 1, 1969, 148 p.

The authors examine the arrangements made in Gujrat State as a whole and particularly in Kaira district for provision of cooperative credit to farmers for the hybrid bajra program. Total per acre recommended amount of credit by cooperative societies for cultivation of hybrid bajra was Rs 170, of which cash was Rs 58 and Rs 112 was advanced in the form of seeds, fertilizer and

insecticides. The demand for credit for bajra cultivation was low. The study also discusses salient features of cooperative credit-movement in the district. There were 605 primary credit societies in the district. Only 36 percent of total farm families in the district were members of the societies. The default and delinquency rates on cooperative loans were also generally high.

37. Desai, D. K., Increasing Income and Production in Indian Farming: Possibilities With Existing Resource Supplies on Individual Farms (Application of Linear Programming Techniques). The Indian Society of Agricultural Economics, Bombay, 1963, 196 p.

This study investigates the possibilities of increasing farm income and agricultural production with existing resources and the existing technical know-how of the farmers. The data were collected from 40 farms in Ahmednagar and Nasik districts of Maharashtra. The linear programming technique was used for analysis. The farms were programmed individually as well as collectively.

The optimal plan developed in the study showed that more area should be allocated to a few profitable crops. The income of the farmers and food production in the area was found to increase as a result of adoption of the optimal plans. The analysis of marginal value productivity of capital shows that most farmers experience capital shortages.

38. Desai, M. B., "Private Finance in Agriculture," Indian Journal of Agricultural Economics, Vol. 10, No. 1, 1955, pp. 145-151.

Examines the importance of different sources of credit to farm households. The major proportion of loans used by cultivators was provided by the informal agencies such as professional money-lenders, agriculturist moneylenders, and friends and relatives. The rates of interest on informal loans varied from 15 percent to 30 percent per annum. A large amount of informal credit was borrowed for unproductive uses.

The author concludes that private lending agencies provide useful services to rural households particularly in the areas where adequate institutional credit was not yet available. The purpose of the policies should be to regulate the business of moneylenders but not to eliminate these agencies.

39. Desai, Mahendra D. and Bharat D. Naik, "Prospects of Demand for Short-Term Institutional Credit for High-Yielding Varieties," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 458-467.

The authors discuss the reasons of low demand for short-term agricultural credit and analyze the future credit requirements for high-yielding varieties. The following reasons are given for the projected low credit demand for high-yielding varieties: (a) The slow pace of adoption of high-yielding varieties, (b) lack of confidence in the new varieties, (c) low coverage of farmers by cooperative credit institutions, and (d) concentration of commercial bank credit in few regions and among above-average farmers.

40. Desai, V. V., "Some Aspects of Farm Loans by Commercial Banks", Indian Journal of Agricultural Economics, Vol. 33, No. 4, 1978, pp. 79-84.

The increased participation of commercial banks in rural financial markets during the last decade has affected the flow of funds in the rural sector. This study discusses the aspects related to the flow of funds, form of farm loans, and factors affecting them. The data for the period 1973 to 1977 were collected from 60 branches of commercial banks operating in rural areas of Tamil Nadu state.

The results of the study reveal that: (a) funds have been flowing out of villages where competition among banks is non-existing, (b) commercial banks were not inclined to direct and channel the non-deposit resources obtained in the urban centers, (c) competition among banks themselves had a positive impact on the village economy, (d) the banks mainly supplied short-term loans to farm households, and (e) credit needs of farmers were increasing due to increasing use of modern inputs.

41. Driver, P. N., "Rural Loan Lending Policies - A Problem of Their Revision," Indian Journal of Agricultural Economics, Vol. 2, No. 2, 1947, pp. 85-91.

Author argues that rural debt in India has increased rapidly due to wrong and unscientific policies and procedures in lending and repayments, and unproductive use of loans by borrowers. He suggests that use of loans for unproductive purposes be stopped. To achieve this, lending policies should consider productive capacity of business of the farmers, the capital needs of farmers and the rate of capital turnover. There should also be supervision of loan utilization by rural households.

More short-term credit should be supplied through cooperative societies. The land mortgage banks should be established to provide long-term loans. The medium-term credit should be provided by the producers or dealers of inputs such as fertilizer, machinery and equipment. These agencies should be supported by the State or by other credit institutions.

42. Franda, Marcus, India's Rural Development: An Assessment of Alternatives, Indiana University Press, Bloomington and London, 1979, 30 p.

In Chapter 2 of this book, the author discusses formal and informal sources of credit in rural India. Various policies related to the supply of rural credit and progress of cooperative credit systems are also assessed. Similarly, the performance of commercial banks after nationalization in extending financial services to rural households is discussed. The author finds that rapid expansion of bank branches in the countryside has been helpful in identifying credit problems, but it has not significantly widened the borrowing horizons of the rural poor. The programs of supplying commercial bank credit to agriculturists through cooperative societies have been unsuccessful.

43. Fry, Maxwell J., Interest Rates in Asia: An Examination of Interest Rate Policies in Burma, India, Indonesia, Korea, Malaysia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Taiwan and Thailand, Report prepared for the Asian Department of the International Monetary Fund, University of California at Irvine, California, June 1981, 128 p.

Author assesses the effects of interest rate policies pursued in a sample of 12 Asian developing countries. Interest rate policies in all these countries are designed to achieve one or more of the following objectives: efficient allocation of investible funds, effective domestic resources mobilization, cheap credit for the government sector, and/or macroeconomic stability. Except in Singapore, institutional interest rates are controlled by administrative fiat and are quite inflexible.

Due to inflexible nominal interest rate policies in most of the countries, the real rates fluctuated because of varying rates of inflation. The interest rates on deposits in most sample countries were negative or close to zero during 1974-1981. The author recommends that selective credit policies be dismantled and loan rates be unified at positive real interest rates.

44. Gangwar, A. C. and R. K. Ghakhar, "Can Small-Scale Farming Yield More Income," Indian Journal of Agricultural Economics, Vol. 30, No. 3, 1975, pp. 172-181.

The objectives of this study are: (i) to analyze the criteria for identifying small farmers, (ii) to find optimum cropping patterns for the small farms under varying capital requirements with the existing and improved levels of technology, (iii) to study the prospects for increasing the income on small farms with existing and improved technology, and iv) to study the marginal productivity of the factors of production. A sample of 49 small farmers was selected from Gurgaon District in Haryana State to provide data for the study. Linear programming techniques were used in the analysis.

The authors conclude that there is no single criterion well suited to define small farmers. The optimum plans developed in the study show that availability of credit would increase income of small farmers even at existing levels of technology. The farmer's income could be further increased through adoption of improved technology.

45. Ghiara, B. M., "Agricultural Financing by Commercial Banks: A Look Ahead," Prajnan, Vol. 6, No. 3, 1977.

The purposes of this study were to evaluate the progress of commercial banks, to discuss the problems faced by commercial banks and regional rural banks in financing agriculture, and to identify some issues that commercial banks will have to face over the next 10 years in expanding their services in rural areas. The progress of commercial banks is analyzed for 1972-1975.

The author finds that commercial banks have done an appreciable job in expanding the amount of credit to farmers. However, there has been no improvement in regional distribution of credit for agriculture. Recoveries of loans in rural areas were about 40 percent of the due amount. The author also makes various suggestions for the organization and management of agricultural credit programs by commercial banks.

46. Ghosal, S. N., Agricultural Financing in India, Asia Publishing House, Bombay, 1972 (Second Edition); 227 p.

This book is organized into eighteen chapters. The introductory chapters present discussion on the theory of 'big push' in Indian agriculture, and credit needs in agriculture.

In the Background Section, institutional and non-institutional sources of farm finance are discussed. Major problems related to the supply of institutional agricultural credit are also analyzed. Problems in the supply of formal finance to small farmers are discussed in Section 3. The roles of the Reserve Bank of India and Agricultural Refinance Corporation in providing guidance and assistance to rural financial institutions are evaluated in Section 4. In Section 5, a case for specialized agricultural credit institutions is presented.

47. Ghose, A. K., "The Formation of Usurious Interest Rates," Cambridge Journal of Economics, Vol. 4, No. 2, June 1980, pp. 169-172.

This note is a comment on a study titled On the Formation of Usurious Interest Rates in Backward Agriculture by Amit Bhaduri, published in the December 1977 issue of this journal. The author argues that Bhaduri's model considers borrowing only for consumption uses and not for productive purposes. However, the relations of exploitations cannot be properly understood in abstraction from relations of production. The high rates of interest in rural areas may also be due to high rates of returns to capital as shown by the author.

48. Ghosh, Alak, Indian Economy, Its Nature and Problems, The World Press Private Ltd., Calcutta, 1970, 641 p.

Chapters 14 and 30 of this book are devoted to rural finance issues. Based upon the comparison of the results of All-India Rural Credit Survey 1951-52 and All-India Rural Debt and Investment Survey of 1961-62, the major problems of rural credit are discussed. Different measures instituted by the Government to tackle the problem of rural indebtedness are also analyzed. In addition, an appraisal of the recommendations of the All-India Rural Credit Survey Committee is made and a proposal is presented for future organization of the rural credit system.

In Chapter 30, the main provisions of the Banking Companies Act of 1949 are presented and developments in rural banking in India are discussed. The rural financial institutions discussed in this chapter include cooperative banks, Deposit Insurance Corporations, Agricultural Refinance Corporation, and The State Bank of India. The author also takes up the issue of nationalization of commercial banks.

49. Ghosh, B. N., "Rural Money Lenders and Economic Development: An Empirical Overview," Abstract in The Indian Economic Journal, Vol. 26, No. 2, 1978, pp. 90-91.

This is an empirical investigation of the behavior, functions, growth and effect of village moneylenders based upon the data obtained from 35 professional moneylenders in 9 villages of West Bengal. The analysis reveals that people obtain loans from moneylenders mainly for consumption purposes. This leads to dissaving and debt. The rate of interest charged by private lenders varied between 33 percent and 117 percent per annum. The author suggests that organized banking systems should be expanded in rural areas to create competition with moneylenders.

50. Government of India, Report of the Royal Commission on Agriculture in India, Abridged Report, H. M. Stationary Office, Adastral House, Kingsway, London, England, June 1928, 100 p.

Chapters X and XI of this report cover rural finance in India. The issues discussed in Chapter X are sources of agricultural credit, agricultural indebtedness, methods of arranging loans by borrowers, and moneylender legislations enacted by Central and State governments. Development of cooperative credit movement and encouraging rural savings are prescribed to solve the problem of rural indebtedness.

In Chapter XI, the progress of cooperative credit institutions in rural areas is discussed. In addition, the performance of non-credit cooperative societies is also briefly evaluated. Government assistance in the form of contributions for personnel training and promotions of the cooperative organizations are suggested. The discussion on rural finance and cooperative movement in the original Report of the Commission is presented in Chapters 13 and 14.

51. Govindarajan, M. S., "Credit Worthiness of Farmers of Progressive and Less Progressive Regions of Karnataka," M.S. Thesis No. 656, Department of Agricultural Economics, University of Agricultural Sciences, Hebbal, Bangalore, 1979.

Author estimates and compares the credit-worthiness of small, medium and large farmers in progressive and less progressive regions of Karnataka using the existing and optimum cropping patterns. Linear programming was used to develop optimum plans. The returns, repayment capacity and risk-bearing ability criteria were applied to estimate credit-worthiness.

The results reveal that total credit absorptive capacities of farmers increased with size of their holdings. The credit worthiness of cultivators was higher in more progressive regions than in less progressive regions. When the risk-bearing ability criteria was used, only the large farmers of progressive regions had positive credit worthiness. The credit absorption ability of all types of farmers improved with the adoption of improved technology.

52. Goyal, R. P., "For Benefits of the Poor: State Bank of India's Experience," State Bank of India Monthly Review, Vol. 20, No. 6, June 1981, pp. 227-242.

Discusses the programs and performance of the State Bank of India in providing financial services to the rural poor. The Bank has been using various schemes to increase the supply of credit to agriculture and small-scale industries. In September 1980, 39 percent of the Bank's outstanding agricultural credit was advanced to farmers with land-holdings of less than 5 acres. The number of small-scale units financed by the State Bank were 0.3 million at the end of 1980. About one million accounts were served by the Bank under the Differential Interest Rate Scheme in 1980. The author seeks close coordination among financial institutions and agencies providing other service in the rural sector.

53. Grewal, Harpal S., An Evaluation of Research on Rural Financial Markets in India," Ph.D. Dissertation, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio 43210, 1982, 174 p.

Critiques rural financial market (RFM) research on India. The major focuses of the study are: (1) to identify the important characteristics of finance and financial markets and to do a theoretical critique of rural finance research in India, (2) to do a methodological review of rural finance studies, (3) to identify the important researchable issues on rural finance, and based upon review of literature, to lay out a resource allocation plan for future RFM research, and (4) to review the past coordination and interaction between RFM research and policies and suggest measures for improvement.

Author concludes that, despite a large amount of research conducted on rural finance in India, the focus of these investigations was excessively concentrated on relatively few issues. The conceptual models and methodologies used in a large number of studies failed to properly handle the fungibility and divisibility characteristics of financial instruments. This might have distorted the findings of these studies. A plan for future research on rural finance issues is presented.

54. Hanumantharayappa, G. N., "Small Farmers Production Credit Requirements and Repayment Problems - A Case Study in Daddaballapur Taluk, Bangalore District," M.S. Thesis No. 477, Department of Agricultural Economics, University of Agricultural Sciences, Hebbal, Bangalore - 560065, 1977.

This study was conducted in Daddaballapur Taluk of Bangalore district with the objectives of assessing the production credit requirements of small farmers, to identify the sources of credit, and to analyze credit repayment problems. Budgeting technique was used to estimate credit requirements.

The results indicate that additional cash of Rs 405 for dry farms and Rs 604 for dry-cum-wet farms was required to shift from existing to improved technology. The analysis of the supply of loans showed that many farmers were over-financed by the cooperative banks. The reasons identified for the non-repayment of loans were crop failure, diversion of loans and lack of supervision.

55. Harriss, Barbara, "Production and Circulation of Cereals in A Dry Land Tract of Coimbatore District, South India," Field Note No. 2, Madras Institute of Development Studies, Adyar, Madras 20, March 1980, 17 p.

Evaluates the linkages between commodity and money markets in rural India. The study is based upon information collected from 36 food grains traders. In addition, data were also collected from 11 weekly markets. The author finds that provision of consumption credit by urban and rural retailers was increasing in the study area. For small and marginal farmers, such consumption credit, free of interest, was indistinguishable from working capital, helping to maintain and reproduce their labor. The moneylending by traders for in-kind repayment was almost absent in the region except in the case of large farmers. However, such moneylending was small in scale.

56. Harriss, Barbara, "Agricultural Mercantile Politics and Policy: A Case Study in Tamil Nadu," Project Paper No. 4, Madras Institute of Development Studies, Adyar, Madras, December 1980, 18 p.

Agricultural markets and marketing systems are channels by which physical and financial resources are drained from agriculture. This study examines three factors important for policy formation for the agricultural mercantile sector: the degree of systematization of agricultural mercantile policy in political parties; the degree of systematization of patterns of political support by agricultural merchants; and the nature of non-party political expressions of mercantile power and interests.

The author finds that merchants were organized so as to influence for their own interests any level of State administration and any political party. The merchants were unaligned to any party in order to realize benefits from all the parties. Lobbying by merchants to defend their interests was systematically organized.

57. Harriss, Barbara, "Inaction, Interaction and Action: Regulated Agricultural Markets in Tamil Nadu," unpublished paper, Madras Institute of Development Studies, Adyar, Madras, 1980, 41 p.

Author analyzes the assumptions and examines the effects of a market intervention program to be implemented in Tamil Nadu on exchange relationships in a region of Coimbatore district. She also discusses the directions of change in the case of three sets of interests involved: those who administer the law, those whose activities are regulated, and those active in politics.

In Part I, the history of market regulations in Madras is discussed. Part II presents the analysis of markets in dry Taluks of Coimbatore district. Some of the actions of local interests affected by the intervention are examined in the final section.

58. Haque, T. and C. C. Maji, "Structure and Flows of Agricultural Co-operative Credit in India," Indian Journal of Agricultural Economics, Vol. 33, No. 4, 1978, pp. 72-78.

The objectives of this study are: (1) to compare the distribution of credit by cooperative banks in 1965-66 and 1974-75, (2) to examine whether there has been an increase in input use with credit, (3) to analyze the changes in credit supply from 1965-66 to 1974-75, and (4) to discuss the direction of credit flows according to size-group of farms. The study uses descriptive and econometric techniques.

The amount of cooperative credit supplied for fertilizer purchases increased severalfold from 1965-66 to 1974-75. There was also a significant increase in the amount of loans advanced to finance irrigation equipment. More cooperative credit for small and marginal farmers is recommended for some states.

59. Ilahi, Faiz, An Economic Survey of Launa, A Village in Kangra District of the Punjab, The Board of Economic Inquiry, Punjab Village Surveys - No. 12, Publication No. 69, Lahore, Punjab, 1940, 127 p.

Chapter VII presents details on the extent of indebtedness, purposes of borrowing, sources of loans, and rates of interest charged on loans in the studied village. The data were taken from the May 1938 Census. Total amount of unsecured debt in the village was Rs 3,735 or Rs 66 per family, or Rs 107 per family under debt. The majority of indebted families belonged to low castes. The main purposes of borrowing were business, social ceremonies, and family expenses. The sources of credit were village cooperative credit society and moneylenders. Some families with members employed in tea estates also borrowed from their employers. The rate of interest on moneylender loans varied from 12-24 percent per year. The cooperative society advanced loans at a rate of 9 percent per annum.

In Chapter VIII land mortgages in the village were discussed. The discussion was focused on extent, purposes and redemption of mortgages. Almost all the mortgages in the village were non-agriculturists.

60. Institute for Financial Management and Research, "Summary of Proceedings of 2nd National Seminar on Finance Corporations, February, 1983," SeE/23/83/Fourteen, Madras, India, February 2-3, 1983, 20 p.

Presents a summary of the views of participants in the National Seminar on Finance Corporations. The first question debated was, Why do people turn to finance corporations in spite of the remarkable growth of banks?. Another issue raised in the discussion was whether or not the finance corporations should be regulated and what kind of regulatory instruments should be used.

The reasons given for popularity of finance corporations were patronage by the people, convenient services, and high rates of interest paid on deposits. The participants also showed a general agreement to mildly regulate the corporations.

61. Islam, M. Mufakharl, Bengal Agriculture 1920-1946: A Quantitative Study, Cambridge University Press, Cambridge, England, 1978, 238 p.

In Chapter 5, the author discusses the problems of defining and measurement of capital in agriculture. The capital in the form of land, buildings, animal labor and farm implements in the agricultural sector in Bengal State is estimated and trends in capital formation over time are analyzed. The trends in capital-land ratio and capital-output ratio are also presented.

In Chapter 6, the performance of cooperative credit institutions in Bengal State during the period 1920-46 is reviewed. The discussion starts with a brief reference to some general issues related to agricultural credit. The opinions of some experts and committees of enquiry on the limited success of cooperative credit movement are briefly reviewed in the final section.

62. Iyenger, Krishna D., "Problems of Rural Credit," Indian Journal of Agricultural Economics, Vol. 2, No. 2, August 1947, pp. 98-102.

The problems of rural credit in India are complicated but not incurable. Village banks of an all-around character would bring about a far-reaching improvement in village life. Local institutions such as village Panchayats should be involved in the organization of the rural financial sector. The author suggests that the right kind of collaboration between government and cooperative movement, made possible through legislation and financial resources, would solve rural debt problems.

63. Jain, Hemchand, "Credit Supply and Deposit Mobilization: Lead Bank's Performance in Jabalpur District", Financing Agriculture, Vol. 12, No. 4, 1980, pp. 16-21.

The objectives of this article are: (1) to study the progress of banking facilities from 1972 to 1978 in Lead Bank areas, (2) to study the total and purpose-wise supply of credit to farmers vis-a-vis their time bound credit target fixed by the different institutional agencies functioning in the district, (3) to study the year-wise deposit mobilization from rural areas by these banks and their proportion extended as credit to farmers, and (4) to study the problems faced by Lead Banks as a lender to farmers. The study compares the statistics obtained from the Central Bank of India for the period 1972 to 1978.

The results show that the number of bank branches in the district increased more than three times from 1970 to 1979. Total as well as agricultural advances of the banks also increased significantly. The credit-deposit ratio in the district, however, decreased. Similarly, the rate of growth of bank deposits also slowed in recent years. The banks faced a problem of bad debt.

64. Jain, H. C. and A. K. Jain, "Impact of Farm Loans on Farm Technology, Income and its Effects on Private Borrowings," Financing Agriculture, Vol. 11, No. 1, 1979, pp. 22-25.

This study has the following objectives: (a) to analyze the utilization of borrowed funds for improving technology, (b) to measure the changes in farm business income of loan recipients, (c) to assess the effect of institutional loans on private loan agencies, and (d) to study the relationship between rates of interest charged by banks and moneylenders. Fifty farmers were interviewed to collect information for the study.

The farmers received crop loans and term loans from institutional sources. The impact of credit on borrowers was analyzed by comparing their farm business before and after the use of loans. The results show that the cropping intensity and area under double crops by farmers increased significantly after the use of credit. Similarly, the availability of loans increased the income of borrowers. The number of people who received moneylender loans reduced over time after the commercial banks started agricultural financing.

65. Jain, H. C. and H. N. Patil, "A Study Into the Demand Aspect of Agricultural Production Credit in Selected Progressive Villages in a Block of Jalgaon District of Maharashtra," Land Bank Journal, Vol. 16, September 1978.

Examines the nature, extent and sources of credit received by selected farmers, estimates their total credit requirements, and analyzes the gap between credit required and loans received. Twenty-four borrower farmers representing various farm sizes were selected to obtain data for the study.

The selected farmers obtained 62 percent of the amount borrowed from cooperative banks and 38 percent from moneylenders. The credit gap, the difference between amount of loan applied for and the amount of credit received, was about 62 percent on progressive farms and 64 percent on non-progressive farms. About 83 percent of the loan amount was repaid and 17 percent was overdue.

66. Jain, H. C. and M. K. Bera, "A Study into Farm Credit Needs, Utilization and Problems of Scheduled Tribes in Selected Area of Madhya Pradesh," Land Bank Journal, Vol. 16, Issue III, March 1978.

The authors discuss recent rural credit studies conducted in Madhya Pradesh. The major objectives of this study are: (a) to estimate the total credit needs of the selected tribal farmers, (b) to determine the gap between the amount of credit applied for and the amount of loans supplied to the farmers, (c) to find the extent of utilization of loans by the borrowers, and (3) to analyze the problems faced by farmers in obtaining institutional credit. The analysis covered 50 borrower households located in five tribal villages.

The results show that the total debt of borrowers was supplied by commercial and cooperative banks, and no loans were obtained from moneylenders. Relatively more large farmers got loans from commercial banks and more small farmers obtained credit from cooperatives. The loan repayment rate among selected farmers was only 31 percent of the total amount due.

67. Jain, H. C. and R. K. Bisen, "A Study of Utilization and Cost of Term Farm Credit," Khadi Gramodyog, January 1978, pp. 236-239.

The purposes of this study were: (a) to analyze the demand for term loans by farmers and supply of such credit by the Central Cooperative Land Development Bank, (b) to determine the extent and reasons of loan diversions, and (c) to estimate the cost of term cooperative loans to borrowers. The study was conducted on 50 borrowers from 20 villages in Madhya Pradesh.

Eighty-three percent of the loans borrowed for installation of pump sets by the sample households were supplied by the bank. However, in the case of sinking wells, up to 58 percent of the loans demanded were actually provided by the cooperative bank. The results show that about 18 percent of the total amount of cooperative loans were not utilized for the purposes specified. However, only 3 percent of borrowed loans were diverted for unproductive uses. The diversion of credit was less in the case of loans in-kind as compared to cash loans.

68. Jodha, N. S., "A Study of the Co-operative Short-Term Credit Movement in Selected Areas of Gujrat," in Serving the Small Farmer: Policy Choices in Indian Agriculture, by Guy Hunter and Anthony F. Bottorall (eds.), Croom Helm Ltd., 2-10 St. John Road, London, England, 1974, pp. 59-91.

Government policy towards cooperatives in India has been uniform. The cooperatives themselves, however, have been unable to establish any uniformity in the pattern of their operations or the degree of their success. This study attempts to examine different factors that hinder or help the movement. It covers cooperative short-term credit institutions in selected areas of Gujarat, each with widely varying characteristics.

The analysis reveals that patronage was the principal motivational factor behind rapid development of credit cooperatives. Many socio-cultural and technical factors also contributed to the growth and success of cooperative societies. The author suggests a simultaneous pursuit of credit and marketing activities by cooperative agencies.

69. Johl, S. S. and C.V. Moore, Essentials of Farm Financial Management, Today and Tomorrow's Printers and Publishers, Karal Bagh, New Delhi, 1970, 152 p.

Book analyzes farm-level financial management. In Part I, institutional and private sources of credit in rural India are discussed. The role of the Reserve Bank of India and the Agricultural Refinance Corporation in providing guidance and assistance to rural financial institutions is also discussed. In Part II, the role of credit in farm business, capital and credit requirements of farm households, farm level credit management, and use of accounting statements in farm financial management are discussed. A case for linking farm credit with marketing is also presented in this section.

70. Khatkhate, Deena and Delanop Villanueva, "Operation of Selective Credit Policies in Less Developed Countries: Certain Critical Issues," World Development, Vol. 6, No. 5, 1978, pp. 979-990.

This paper focuses mainly on the nature, scope and significance of selective credit policies, especially in economic development. While such policies are being increasingly adopted in developed countries, when the impact of aggregative monetary policy on investment and consumption is found to be differential, recourse to selective credit policies is imperative in less developed countries where development implies a total change in economic relationships and furthermore, where the dominant goals of their economic policies have come to be income distribution and greater employment through less capital-intensive techniques.

71. Khemani, C. L. and G. N. Nandi, "Rural Banking and Night Halts in Villages," State Bank of India Monthly Review, Vol. 20, No. 4, April 1981, pp. 169-174.

The authors argue that the commercial banks have shown a remarkable progress in expanding the supply of credit to rural households during the 1970s. The impact of this massive lendings, however, has been less than expected. The loan recovery performance of commercial banks was also not better than the cooperatives. The banks need to closely supervise the end-use of loans and to formulate intimate ties with rural customers. The authors suggest that an occasional overnight stay by loan personnel in villages will be helpful to understand problems of rural people and will bring the banks and their customers closer.

72. Khemani, C. L. and K. V. Balakrishnan, "Rescheduling and Conversion of Agricultural Loans - Some Important Aspects," State Bank of India Monthly Review, Vol. 20, No. 10, October 1981, pp. 424-430.

The characteristics of Indian agriculture such as heavy dependence on monsoons and preponderance of small and marginal holdings should be taken into consideration in determining repayment schedule of farm loans. The authors argue that the methods and procedures used by bankers to assess repayment capacity and repayment schedule of agriculture credit are generally incorrect and do not consider many important factors. Because of these unrealistic repayment schedules and other unfavorable circumstances, the farmers fail to repay their loans on time. They suggest that repayment schedules for both crop loans and medium and long-term loans should be flexible.

73. Khuntia, Natbar, "Successful Farm Financing By Commercial Banks Needs Branch Credit Planning," Financing Agriculture, Vol. 12, No. 1, 1980, pp 10-11.

The author argues that the rapid increase in the number of commercial bank branches in rural and semi-urban areas has caused incidents of unhealthy competition in financing agriculture not only among the branches of different banks but also between branches of the same bank. He suggests that to avoid unconstructive competition and duplication in financing, and improve the quality of bank services in rural areas, the banks should adopt the system of integrated credit planning at the branch level. For this, an assessment of household credit needs in the area should be made. In addition, the availability of inputs and marketing facilities should also be considered.

74. Kulkarni, L. G., "Restructuring of the Banking System in India," State Bank of India Monthly Review, Vol. 20, No. 11, November 1981, pp. 439-448.

The author disagrees with the view that the banking system in India needs to be restructured. He argues that there is nothing wrong with the banking structure and that it is not the basic problem of banks. The view that banks have become too big and inefficient is not true for all banks. Similarly, the argument that financial institutions are involved in unhealthy competition is also not always valid. The author, however, suggests that more studies should be conducted on the organization of individual banks in order to make improvements.

75. Lalwani, Kastur Chand, Rural Economics and Cooperation, Artha Vanijya Gabesana Mandir, 12 Duff Street, Calcutta 6, 1963, 224 p.

In Chapter VII, the author discusses problems of rural finance in India. Based upon the information collected under the All-India Rural Credit Survey, he finds that indebtedness is deep-rooted in rural households. Over time developments in government policies related to supply of institutional credit and regulation of moneylenders are also reviewed. The study concludes that the majority of laws instituted in the past were ineffective in regulating the activities of moneylenders. It is suggested that agrarian relationships and agricultural systems need to be changed in order to liberate the rural poor from the grip of moneylenders.

76. Lukose, V. C., "Private Money Lending in Indian Economy," Paper No. SE/2283/Eight, presented at the National Seminar on Finance Corporations, Institute for Financial Management and Research, Madras, India, February 2-3, 1983, 7 p.

The private money-lending business in India has significantly expanded over time. It has also become more competitive and commercialized. The author argues that although the private lenders charge higher rates of interest on loans as compared to commercial banks, however, because of low interest rates paid on deposits by commercial banks, the margins between rates of interest on loans and deposits in case of two types of intermediaries are not significantly different. He refutes the widely held view that informal lenders exploit the borrowers by charging excessively high interest rates. He also suggests that private moneylenders should not be eliminated.

77. Madiman, S. G., "Role of Private Agencies in Agricultural Credit," Indian Journal of Agricultural Economics, Vol. 10, No. 1, 1955, pp. 151-159.

This study analyzes data collected by the All-India Rural Credit Survey Committee. The author finds that rural households in India were extremely dependent on private moneylenders for their credit needs. The small cultivators were more dependent on informal lenders than medium or large farm households. The distribution of institutional credit is inversely related to the farm size of borrowers. Some suggestions are also made for the future policies related to informal moneylenders.

78. Mahabal, S. B., "Agricultural Development and Co-operative Finance," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 182-188.

This study has the following objectives: (1) Suggest and examine the important conditions necessary for the effectiveness of credit in the process of development, (2) inter-relationship of development finance with the supply of short-term credit, (3) relationship between credit and non-credit services in the development process, and (4) practical aspects of the supply of medium and long-term credit for development purposes.

The programs such as soil conservation, irrigation, and land reclamation, that enhance farmer's ability to utilize funds, are important pre-condition for credit to serve as a development instrument. In addition, financial and technical supervision, availability of extension services, and proper planning of the projects are also necessary.

79. Mathew, E. T., "Reorganization of Co-Operative Credit in Travancore - Cochin," Indian Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 63-71.

The progress of the cooperative movement has not been even between different states. The author makes a critical evaluation of the working of cooperative credit in Travancore-Cochin and suggests a reorganization of the cooperative systems based upon the recommendations of the All-India Rural Credit Survey Committee.

The study reveals that, in Travancore-Cochin states, the role of non-cooperative credit agencies was comparatively insignificant. In these states, the number of cooperative societies increased from 2650 in 1948-49 to 2815 in 1951-52. However, only 2,697 of these societies were effectively operating in 1951-52. The further analysis of cooperative banks in this study shows that the movement was weak at almost every level, the primary agricultural credit societies being the weakest link.

80. Mehta, R. C. and D. S. Sidhu, "A Study of Impact of Medium and Long-Term Loans on Short-Term Credit Needs of the Punjab Farmers," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 489-495.

This study quantifies the impact of medium and long-term loans on short-term credit absorption capacity of the farm firms. The study is conducted in Ludhiana development block of Punjab State. The data collected from the farmers related to the years 1968-69 and 1969-70. Regression analysis is used in the study. The use of short-term credit by farmers was significantly related to their long-term borrowings and disposable income. Medium-term credit did not show a statistically significant relationship with short-term borrowings of the sample farm households. Similar results were obtained from the estimated elasticities of short-term credit use with respect to medium and long-term loans and disposable income.

81. Misra, Bidyadhar, "Agricultural Development and Cooperative Finance - A Study of a Cooperative Credit Society in Orissa," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 209-212.

This study analyzes credit as a constraint on agricultural development and examines why funds available in cooperative societies are not utilized by farmers. The data were collected from Gatroutpatna Cooperative Credit Society and its member households.

In the first part of the article, issues such as membership and financial position of the society, total amount of loans advanced, default rates, and rates of interest charged on loans are discussed. Land ownership, family size, per capita income of member families, and purpose and utilization of loans by borrowers are analyzed in the later part of the study. The pressure of demand for agricultural loans on the society was not heavy mainly because people used traditional methods of production and avoided debt.

82. Mohan, Deepinder and Gurbachan Singh, "Cost and Productivity of Institutional Credit to the Farmers Financed by S.F.D.A. in the Pubjab (India)," Savings and Development, Vol. 4, No. 1, 1980, pp. 29-40.

Authors assess the effective costs of credit to small farm borrowers. They also estimate marginal productivities of the major factors of production in different farm enterprises and compare these marginal productivities with the costs of credit. The data collected from 88 borrower households were analyzed with econometric and descriptive methods.

The study reveals that interest and non-interest costs contributed approximately 80 percent and 20 percent, respectively, to the total effective cost of loans to the borrowers. When the subsidies were included, the real total cost of borrowing was negative on dairy loans. The analysis of marginal value productivities of factors of production showed that the size of holding in crop enterprise and the size of dairy herd, were the most limiting factors which constrained the optimum use of other resources. Authors conclude that farmers were facing external credit rationing.

83. Mohana Rao, L. K., "Impact of Programs on Target Groups--Case Study of A Regional Rural Bank," Indian Journal of Agricultural Economics, Vol. 35, No. 4, 1980, pp. 73-77.

The study assesses the impact of financing by the Sri Visakha Grameena Bank, a regional rural bank, (a) distribution of gains, (b) cropping pattern, and (c) assets of different categories of beneficiaries. Seventy-seven beneficiary households served by two branches of the Bank were selected as a data base. The average borrowing per member was Rs 996 in the dry region and Rs 703 in the wet region.

It was found that the Bank functioned well in meeting credit needs of the target groups. The rates of return to capital were high in all the business activities of the households. The supply of credit by the Bank significantly increased the cropping intensity on the farms. The value of assets of beneficiaries also increased considerably.

84. Mukhopadhyay, Arunedu, "Net Present Value of Loan-Financed Investment for Irrigation Development and Repayment Capacity of Farmers - A Case Study in Punjab," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 532-542.

This paper attempts to assess the repayment potential of irrigation loans advanced to different farm size households by using the net present value method. The study covers three districts of Punjab state. The data used were collected in a survey by the Reserve Bank of India. The farm businesses of owners and non-owners of tubewells are compared.

The results of the analysis show that in Patiala district loans were non-self-liquidating in all size groups except the farmers with 20-30 acres of land. The net present values of irrigation investments in Kapurthela and Ludhiana districts were mostly positive. The estimated rates of return on tubewell investments in these two districts were more than 10 percent. In Patiala district, the rates of return were less than 10 percent.

85. Murray, William G., "Evaluation of India's Rural Credit Problem," Indian Journal of Agricultural Economics, Vol. 11, No. 4, 1956, pp. 25-30.

The first part of this paper examines the 'solution through cooperation' thesis as recommended by the All-India Rural Credit Survey Committee in order to improve the supply of loans to rural households.

The author argues that recommendations of the Committee are biased in favor of the cooperative credit systems. While he agrees that cooperation could provide a way to solve Indian rural credit problems, he disagrees that all rural credit should be cooperative. He argues that the committee also did not make an indepth analysis of the causes of many rural credit problems.

86. Muthiah, C., "Cooperative Credit in Raipur District (Factors Contributing to Heavy Overdues)," Ad-hoc Study No. 9, Agro-Economic Research Center for Madhya Pradesh, Gwalior-2, 1966, 56 p.

This study evaluates the performance of cooperative banks in providing credit facilities to member households, and identifies the factors contributing to high loan default and delinquency rates of these banks. The data for the study were gathered from fourteen cooperative credit societies located in six development blocks of Raipur district, Madhya Pradesh. In addition, the information was also collected from 164 members of the societies and 100 non-members residing in the villages served by these societies.

In Chapter II of the study the structure and growth of cooperatives in Raipur district are discussed. Chapter III presents the analysis of the data of selected cooperative societies and households, and problems related to farm plan credit are discussed in Chapter IV. The author finds that, in addition to crop failures, faulty loan procedures, liberal loan supply conditions, non-productive use of credit by borrowers, and overestimations of repayment capacity led to loan overdues of cooperative societies.

87. Nair, K. P. R., "The Relevance of Finance Corporations and the Need for Their Regulation," Paper No. SEM/23/83/Two, presented at the National Seminar on Finance Corporations Institute for Financial Management and Research, Madras, India, February 2-3, 1983, 6 p.

This study discusses various drawbacks and deficiencies in the operation of finance corporations. These corporations charge excessively high rates of interest on loans. These also pay high interest rates on deposits. The finance corporations also do not use proper risk and liquidity management procedures.

The author advocates regulatory control of finance corporations. He suggests that the corporations should obtain license to conduct business. In addition, a ceiling on leverage and loan to deposit ratios should be prescribed. Similarly, maximum limits on interest rates charged by the finance corporations should be fixed.

88. Nambier, P. C. D., "Indian Banking Scene: Looking Back, Looking Forward," State Bank of India Monthly Review, Vol. 20, No. 4, April 1981, pp. 143-148.

The author briefly describes changes in the approach of Indian banks in serving the rural sector. He finds that the attitude of banks toward doing business in rural areas has changed significantly during the last decade. Many problems faced by rural bank branches are also discussed. He suggests that close cooperation among commercial banks, cooperative credit systems and regional rural banks is essential to tackle rural credit problems.

89. Nanavati, Manilal B., "Re-Thinking On Rural Credit," Indian Journal of Agricultural Economics, Vol. 12, No. 1, 1957, pp. 3-16.

Author examines some aspects of the recommendations of the All-India Rural Credit Survey Committee in regard to the reorganization of rural credit structure. He suggests that the problem of

rural credit should be viewed in the larger context of agricultural development. The cooperative credit movement can flourish if agriculture prospers. Therefore, there is need to establish and assist multi-purpose cooperative societies.

90. Nanavati, Manilal B. and J. J. Anjaria, The Indian Rural Problem, Indian Society of Agricultural Economics, Bombay, 1970 (Seventh Edition), 622 p.

In Chapter XII of this book, the authors discuss the supply of government and moneylender finance to agriculturists in India. The various laws passed to regulate and reduce the preponderance of moneylenders in rural financial markets are discussed. The study also analyzes the effectiveness of moneylender regulations to achieve these policy objectives.

In Chapter XIII the role of cooperation in Indian agricultural development is discussed. Various policies related to rural cooperative movement and their performance is evaluated. Also, the role of the Reserve Bank of India in improving the supply of cooperative credit in rural areas is discussed.

91. Narain, Raj and B. Narain, An Economic Survey of Gijhi, A Village in the Rohtak District of the Punjab, Punjab Village Surveys - No. 2, The Board of Economic Inquiry, Lahore, Punjab, 1932, 313 p.

Chapter VII and VIII present the situation related to indebtedness and land mortgages in the village. Per family amount of debt was higher in the case of non-cultivator families than cultivator households. About 65 percent of the total amount of loans borrowed by cultivators were for non-agricultural purposes. The non-cultivators mainly borrowed to buy food. The other major purposes for borrowing money by villagers were industrial purposes, to buy cattle and to perform marriages. There was no formal lender in the village. The rate of interest varied between 6 percent and 18 percent per year.

The number of mortgages as well as total acreage mortgaged in the village increased over time. About 95 percent of mortgaged land was mortgaged to agriculturists.

92. Narayana Kurup, T. V., "Price of Rural Credit: An Empirical Analysis of Kerala," Economic and Political Weekly, Vol. 11, No. 27, July 8, 1976, pp. 998-1006.

This article, based on a pilot survey in Trivandrum Taluk, looks at less-known but crucial aspects of the rural credit markets in Kerala. Non-institutional agencies provide a major proportion of loans to rural households. The institutional credit is concentrated mainly among a relatively small number of economically well-to-do households. The cost of borrowing in rural credit markets is, therefore, inversely related to the economic status of people. The results of the survey also show that the actual cost of interest on a substantial proportion of loan transactions in rural areas is concealed. The author suggests that the distinction between professional and non-professional moneylenders is unnecessary since they serve the same clientele, accept identical securities, and charge the same high rates of interest.

93. National Council of Applied Economic Research (NCAER), Effectiveness of Cooperative Credit for Agricultural Production, New Delhi, NCAER, March 1972, 396 p.

This study was sponsored by the Department of Cooperation in the Ministry of Food and Agriculture. The specific objectives of the study are: (1) to identify the forces making for the concentration of credit among medium and large farmers and the relative exclusion of small farmers from credit, (2) to investigate the problems of linking credit with marketing in the cooperative system, and (3) to investigate the causes of poor performance of the cooperative banks in supplying medium-term credit, and make suggestions for future improvements.

The objectives and methodology of the study are presented in Chapter 1. In Chapter 2, analysis of the working cooperatives in selected districts is made, and the findings are discussed in Chapter 3. The case studies of cooperative banks in Broach, Bellary and Shahabad districts are presented in Chapter 4, 5 and 6.

94. Padki, M. B. and C. S. Gajarajan, "Some Basic Conflicts in Rural Credit (With Reference to Farmers' Service Cooperative Societies)," Indian Journal of Agricultural Economics, Vol. 33, No. 4, 1978, pp. 84-91.

Special financial institutions such as Regional Rural Banks and Farmer's Service Societies have been set up in India in order to supply credit to economically weak rural households. This paper identifies some of the basic conflicts in cooperative rural finance in India. The data used in the study were collected from a farmer's service society in Karnataka State.

The farmers's service societies suffer from similar weaknesses as the general cooperative credit system. These service societies heavily rely on government assistance. The membership of these societies is not homogeneous. A relatively high proportion of farmer's societies' credit is obtained by economically well-to-do households. The authors also present some remedies to correct the shortcomings in cooperative credit system.

95. Pandey, U. K. and A. K. Kaushal, "Prospects of Increasing Farm Incomes on Small Farms of Ambala District (Haryana)," Indian Journal of Agricultural Economics, Vol. 35, No. 3, 1980, pp. 76-85.

Authors explore the possibilities of increasing income of small farmers by developing optimum cropping patterns at varying capital levels both at existing and improved levels of technology. A sample of 93 farmers was selected to collect the required information. Linear programming techniques were used to formulate optimum production plans.

The analysis indicated that systematic farm planning is a paying proposition under the existing technology and with the existing resource base on small farms. The adoption of improved technology and availability of credit further improves the income potentials of small farmers. The authors suggest that extension agencies in the study region should prepare farm plans for cultivators and provide them with inputs.

96. Panikkar, K. S. L., "Agricultural Development and Cooperative Finance in Kerala" Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 213-217.

Author discusses important features of the agrarian economy in Kerala and examines the role of cooperative credit agencies in supplying various types of loans to farmers. More than 73 percent of total holdings in the state are below one acre. The population pressure in the state has increased over time. The low per capita income in rural areas is the major constraint on agricultural improvement.

Cooperative short-term finance did not make a major contribution to development in Kerala. A large amount of loans were used to finance traditional agricultural techniques. Most short-term cooperative credit was used for consumption purposes. The author also discusses some of the problems faced by cooperative banks in supplying medium and long-term credit.

97. Parthasarathy, C. V., "Private Agencies of Rural Credit in Andhra," Indian Journal of Agricultural Economics, Vol. 10, No. 1, 1955, pp. 169-174.

This study discusses informal moneylenders in supplying credit to the villagers, their business methods, types of loans, rates of interest, and recovery rates. The data used in the study were collected from villages in the state of Andhra Pradesh. The moneylenders did not follow any standardized business methods. They did not maintain written accounts and charged implicit and explicit interest. They advanced short, medium and long-term secured and unsecured loans. The rates of interest charged on loans varied from 6 percent to 20 percent per year in the studied villages.

The author argues that the policies in India are directed to eliminate the moneylenders rather than improving their services to borrowers. However, moneylenders play a vital role in Indian rural economy. He suggests centralized control of moneylenders as opposed to the existing state level regulations.

98. Patel, A. R. and P. B. Pandya, "Banking in Gujrat: Progress, Problems and Prospects," Financing Agriculture, Vol. 12, No. 3, 1980, pp. 26-30.

Gujrat is one of the few states in India where, even in rural areas, there are large number of branches of public sector banks. This study evaluates the performance of commercial banks in supplying credit and mobilizing savings in rural areas.

The banks' statistics revealed that the amount of deposits and advances of commercial banks in the state increased severalfold during the period from 1969 to 1977. The credit-deposit ratio, however, declined from 62.6 in 1974 to 50.3 in 1978. It was even lower in rural and semi-urban areas. The distribution of credit was also biased in the favor of large and economically well-to-do farm households. The authors suggest initiating programs for small and marginal farmers which can absorb credit. They also suggest undertaking measures to improve the recovery rates of bank loans.

99. Patil, N. P., "Role of Private Agencies in Providing Agricultural Credit in the Bombay Karnatak," Indian Journal of Agricultural Economics, Vol. 10, No. 1, 1955, pp. 178-180.

Author discusses the role played by private agencies in providing agricultural credit and assesses effectiveness of government policies to provide agricultural credit and regulate the business of moneylenders. The author finds that despite significant progress made in supplying institutional credit to the cultivators, the availability of formal loans lagged behind their needs. The measures used by the government to regulate moneylenders were not effective. He suggests a multilateral approach to the rural credit problem and reorganization of the whole of the rural economy.

100. Patil, N. P. "Role of Cooperative Organizations in Dharwar District in Providing Agricultural Credit and Their Reorganization," Indian Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 35-41.

This study assesses the performance of cooperative banks in Dharwar district, the State of Bombay. More than 99 percent of the villages in the district were covered by cooperative societies. Forty-five percent of farm households were members of cooperative banks. However, the loan services provided by cooperative banks were inadequate and untimely. The author argues that the success of a cooperative reorganization scheme depends upon the linking of credit with marketing, and participation of the State in financing, organizing and executing the plan.

101. Pawar, Jagannathrao R., and Subash R. Sutar, "Impact of Lower Interest Rate Finance on Economic Conditions of Rural Weaker Section," Indian Journal of Agricultural Economics, Vol. 37, No. 3, 1982, pp. 265-272.

Authors analyze the impact of cheap credit on the economic conditions of the rural poor in India. A sample of 200 borrowers comprising small and marginal farmers, agricultural laborers and village artisans was drawn to collect data. The sample farmers obtained credit from the State Bank of India. The amount of loans borrowed by different categories of households varied between Rs 2,000 and Rs 4,500. Similarly, the credit by these borrowers was obtained for a variety of purposes. A comparison of land-use patterns before and after the loans made to cultivators reveals that total cropped area and total irrigated land increased with borrowing. The supply of credit also increased income and employment of the studied households. The authors recommend that the programs of low interest rate financing to rural poor should be expanded to cover more people.

102. Rajagopalan, V., S. Krishnamoorthy and S. A. Radhakrishnan, "Formulation, Evaluation and Financing of a Project for Agricultural Development," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 479-489.

The authors formulated an agricultural project and evaluated it for technical, financial and economic feasibility. The project suggested is for sinking 500 wells and deepening 1,000 existing wells in four development blocks of Coimbatore district. The cost of sinking a well is estimated to be Rs 15,000 and for deepening a well as Rs 6,000. Economic feasibility of the project is evaluated by using pay-back period, profit rates, return-cost ratio, pay-back reciprocal, present value analysis, and internal rate of return method. The project is revealed to be technically and economically feasible.

103. Rajasekaran, R., "How Finance Corporations Stimulate Economic Activity," Paper No. SEM/23/83/ Three, presented at the National Seminar on Finance Corporations, Institute for Financial Management and Research, Madras, India, February 2-3 1983, 7 p.

Author discusses the functions of finance corporations. The activities of finance corporations widely differ depending upon their location. These corporations, because of their small size and limited resources, do not compete with commercial banks and perform a complementary role in extending loan and saving services. Because of the relatively high interest rates charged by finance corporations, they encourage private savings and induce the borrowers to make efficient use of loans. The study concludes that finance corporations play a constructive role in economic development and should not be closely regulated as in the case of commercial banks.

104. Ramakrishnaya, M., "Rural Development Through Institutional Credit: Indian Experience," unpublished paper, The Reserve Bank of India, Bombay, 1982, 10 p.

The author discusses the progress of rural finance programs in India. He also defends Indian rural financial market policies on interest rates and institutionalization. He argues that the supply of credit and mobilization of rural savings through financial institutions increased substantially during the last two decades. The credit-deposit ratio of commercial banks in the rural areas also improved over time. He, however, admits that loan recovery performance of financial institutions has deteriorated. He also criticizes the arguments made against low interest rate rural credit policies.

105. Rao, C. H. Hanumantha, "Differential Rates of Interest: A Comment", Economic and Political Weekly, Vol. 10, No. 43, November 9, 1972, pp. 1893-1894.

This is a comment on a study titled, On Differential Rates of Interest, by A. K. Dasgupta, published in the July 1, 1972 issue of this periodical. The author argues that Dasgupta's assumption, that elasticity of demand for credit in rural areas is higher than the elasticity of demand for credit in urban areas, is incorrect. The demand for credit is actually more elastic in urban areas than in rural areas. The policy of differential interest rates is, therefore, not justified from the theory of monopoly price discrimination as argued by Dasgupta.

However, as one of the functions of the public financial institutions is to protect the weaker sections from exploitation by moneylenders, the differential interest rate policy is justified from the theory of price control and rationing. He suggests that differential interest policy should be combined with credit quotas for different sectors.

106. Rao, D. S. P. and P. V. S. Rao, "A Case Study of Repayment of Crop Loans and Causes of Their Non-Repayment in Maharashtra State," Indian Journal of Agricultural Economics, Vol. 22, No. 2, 1967, pp. 87-93.

This note presents the loan repayment position and causes of non-repayment of crop loans in Panvel taluka of Maharashtra State. The data for the study were collected from 120 cultivators. The analysis of data for the years 1962-63, 1963-64 and 1964-65 showed that loan default and delinquency rates of cooperative credit societies increased over time. The majority of borrowers reported low returns from agriculture and high family expenditures as the reasons for not repaying loans. There was also some evidence of borrowers not being willing to repay the loans although they were able to do so.

107. Rao, J. Mohan, "Interest Rates in Backward Agriculture," Cambridge Journal of Economics, Vol. 4, No. 2, June 1980, pp. 159-167.

This note is a critique of the study conducted by A. Bhaduri, On the Formation of Usurious Interest Rates in Backward Agriculture, published in December 1977 issue of this journal. The author also suggests alternative theoretical and methodological framework for future research of similar issues.

It is shown that, given Bhaduri's framework, his model fails to provide a basis for his conclusions regarding credit and interest rates in backward agriculture. Bhaduri is also criticized for not including all the possible cases of loan contracts between lenders and borrowers.

108. Rao, K. R., "Dairy Farm Financing Procedural Issues," Financing Agriculture, Vol. 14, No. 1, 1982, pp. 21-23.

The data for this study were collected from 53 households who received dairy loans from the Bank of Baroda. Loan application procedures, amount of loan sanctioned and mode of repayment are discussed. The analysis of data showed that about 55 percent of the borrowers reported that the received loans were inadequate. There were also delays reported in loan disbursement. The rate of interest on dairy loans was 11 percent per year. About 40 percent of the borrowers expressed that the interest rate was high, and 15 percent said it was low. The author suggests that loans should be advanced in-kind to farmers. He also recommends that small and marginal farmers should be charged lower interest rates on credit than medium and large farmers.

109. Rao, M. C., "Financing For Poultry - A Case Study," Financing Agriculture, Vol. 12, No. 4, 1980, pp. 42-45.

This is a detailed case study of the business of a poultry farmer of Ludhiana district in Punjab state. The farmer had total assets of Rs 150 thousand. He owned 8 acres of land, 1,000 layers, and 3 milk cattle. He applied for a Rs 35,000 loan to expand his poultry farm from 1,000 to 2,000 birds. The author has made an appraisal of the farmer's loan request. By using a detailed cost-benefit analysis, he finds that the project is technically feasible and economically viable and concludes that the loan should be sanctioned. He also makes suggestions on loan disbursement, repayment schedules, and the security documents required. Special hints for bankers for financing poultry loans are also made.

110. Ray, G. L. and R. K. Samanta, "Strategy on Recovery of Agricultural Loans," Financing Agriculture, Vol. 12, No. 3, 1980, pp. 31-35.

This paper has the following objectives: (1) to find out the agro-economic, socio-psychological, and communication characteristics of regular and defaulter credit users of a nationalized bank; (2) to identify significant variables which could discriminate between regular and defaulter credit users, (3) to identify farmer's perception of the factors helping or hindering repayment

of credit, and (4) to find out the source preference of regular and defaulter credit users of nationalized bank for future agricultural credit needs. The data were collected from 584 bank borrowers. These included the three types of borrowers, namely, those who repaid the loans on time, those who repaid credit late, and those who defaulted on loan repayment. The study finds that defaulter and non-defaulter households differed with respect to education, economic status, participation in farmers' training programs, attitude toward bank, risk orientation, economic motivation and management ability. However, characteristics such as irrigation capacity, cropping intensity, age, family type, family size, and social participation were not significantly different between defaulters and regular loan repayers.

111. Reddy, C. Venata, "Commercial Banks and Agricultural Finance; A Case Study of Anantapur District (A.P.)," Financing Agriculture, Vol. 12, No. 2, 1980 pp. 35-37.

Study analyzes the supply of agricultural credit by commercial banks by farm size and purpose of loans. The data were collected from 72 farm households. The analysis shows that small and marginal farmers owned 15 percent of the total land possessed by sample households and their share in commercial bank loans was 38 percent. The amount of loan per account, however, increased with the increase in farm size. The author concludes that commercial banks in the study area were not biased against small and marginal farmers. More crop loans and dairy loans are suggested for marginal farmers.

112. Reddy, K. Venkata, "Rural Banking and Agricultural Finance, a Case Study of Rayalaseema Region in Andhra Pradesh," Financing Agriculture, Vol. 12, No. 3, 1980, pp. 19-25.

This study examines the role of commercial banks in financing agriculture in Rayalaseema region of Andhra Pradesh. Also, the problems related to bank branch expansion, deposit mobilization, supply of farm credit and working of special financing schemes are discussed.

The number of commercial bank branches in the study region increased from 102 to 261 during the period between 1969 and 1976. The author concludes that there is a need to open more branches in unbanked rural areas. He also finds the performance of commercial banks in mobilizing deposits and supplying loans in rural areas to be unsatisfactory.

113. Reserve Bank of India, Report of the Committee of Direction, All-India Rural Credit Survey, Volume I, The Survey Report, Part I and II, Bombay, 1956, 1067 p. of Part I and 712 p. of Part II.

Part I of this volume analyzes the rural household level data collected under the Survey. The introductory chapter presents the general plan of the survey, limitations of the data and description of the districts and villages selected for the survey. A detailed analysis of the debt position of rural households is made in Chapters 2 to 5. Chapters 6 to 9 discuss the amount, purposes and types of borrowings by the sample households and their loan repayment behavior. Data on family expenditures, capital expenditures and capital formation, savings, and investments and disinvestments in the rural sector are analyzed in Chapters 10 to 14. In Chapter 15 and 16, current farm operations and credit requirements of the farmers are assessed.

In Part II, data on supply of credit are analyzed. Chapters 19 and 20 present supply of rural finance by formal financial institutions, and private credit sector in rural areas are discussed in Chapter 21.

114. Reserve Bank of India, Report of the Committee of Direction, All-India Rural Credit Survey, Volume II, The General Report, Bombay, 1956, 578 p.

This volume of the report contains the committee's recommendations and analysis of the data on which they are based. The data are drawn principally from the survey, but in part from other sources as well.

In the Background Section, socio-economic characteristics of rural households in India are discussed. Description of production and marketing activities, and rural infrastructures are also presented in this section. Main elements of the problem, the objectives, and requirements of solutions are discussed in Section II. In Sections III to VI, solution of rural finance problems is searched by considering private credit agencies, the state agency, the cooperative institutions, and state controlled and state associated agencies. The outline of the problems solution is given in Section VII and Integrated Scheme of Rural Credit is proposed in Sections VIII and IX. A summary of the recommendations is presented in the final section.

115. Reserve Bank of India, Report of the Committee of Direction, All-India Rural Credit Survey, Volume III, The Technical Report, Bombay, 1956, 1045 p.

This volume mainly contains the data, in tabular form, collected under the survey. The design and the conduct of the survey is discussed in Chapter I. Various instructions given to the field staff are presented in Chapter II. The description of statistical tables is given in Chapter III. This chapter also contains the statistical tables constructed out of the data. The questionnaire used to collect the data is printed in an appendix.

116. Reserve Bank of India, The General Report of the Committee of Direction All-India Rural Credit Survey, Abridged Edition, Bombay, 1959, 301 p.

This book is a summarized version of the three volume report presented by the All-India Rural Credit Survey Committee in 1954. The book is organized in 39 small chapters. The study covers both 'demand' and 'supply' sides of credit in rural India. Various policies related to rural financial markets are also discussed. The data used in the study were collected from household level surveys and thorough interviews with formal and informal lenders. The findings and recommendations of this study were used as a basis for the organization of rural financial markets in the country after Independence.

117. Reserve Bank of India, Rural Credit Follow-up Survey 1956-7: General Review Report, Bombay, 1960, 740 p.

The objectives and plan of this study including description of districts and villages selected for data collection, and limitations of the data are presented in the introductory chapter. Household level analysis of the rural debt, borrowings, loan repayments, family expenditure, capital expenditures, capital formation, and investment and disinvestments is presented in Chapters 2 to 9. The findings of rural household level analysis are summarized and compared with the earlier All-India Rural Credit Survey in Chapter 10.

The sources of credit in rural areas and the performance of cooperative institutions in supplying loans and marketing facilities to rural economic units are discussed in Chapters 11 to 19. Concluding remarks are in Chapter 20.

118. Reserve Bank of India, Rural Credit Follow-up Survey, 1957-8: General Review Report, Bombay, 1961, 327 p.

The introductory chapter discusses the general plan of inquiry, nature of the data, and the districts selected for the study. Chapters 2 to 7 present the analysis of household level data on rural debt, borrowings and repayments, family expenditure, capital expenditure and capital formation. The performance of cooperative institutions in selected districts in providing credit and marketing facilities to rural households is evaluated in Chapter 8 to 13 and the conclusions of this analysis are presented in Chapter 14.

119. Reserve Bank of India, Rural Credit Follow-up Survey 1958-9: General Review Report, Bombay, 1961, 279 p.

The purpose of this inquiry was to study the rural credit system in India in relation to the 'demand' and 'supply.' The data used in the analysis were collected from five districts for the year ended June 30, 1959.

The analysis of assets and resources of cultivators, their outstanding debt, borrowings and repayments, family expenditure, capital expenditure and capital formation is presented in Chapters 2 to 6. The performance of cooperative institutions in providing credit and marketing facilities to rural households is discussed in Chapter 7 to 11. The summary and conclusions of the study are presented in Chapter 12.

120. Reserve Bank of India, Rural Credit Follow-up Survey 1959-60: General Review Report, Bombay, India, 1962, 296 p.

The objectives of this inquiry are to (1) assess significant changes in the situation on the 'demand' side of credit in rural India including outstanding debt and borrowings of different classes of cultivators, (2) evaluate the performance of different agencies on the 'supply' side of credit including the manner of operation of the institutions under the Integrated Scheme of Rural Credit, and (3) discuss any matters of special significance that may be taking place in rural credit. The data were collected from nine districts. The reference period for the inquiry was the year ended June 30, 1960.

The study begins with a detailed discussion of various aspects of demand for credit in the rural sector. This is followed by an examination of the structure, organization and working of the cooperative credit system. The last chapter presents the main findings of the survey.

121. Reserve Bank of India, Report of The All-India Rural Credit Review Committee, Bombay, 1969, 1973 p.

The All-India Rural Credit Review Committee was appointed by the Reserve Bank in July 1966. The main task of the Committee was to review the supply of rural credit in the Fourth Five-Year Plan generally and, in particular, of the requirements of the intensive programs of agricultural production implemented in the country. The review of demand for credit and projections of the future credit needs in rural areas are made in Chapters 3 and 4. The overall supply as well as the by-agency supply of credit to rural households is assessed in Chapters 5 to 13. In Chapters 14 to 29, recommendations are made in order to improve the supply of finance to rural households. Other recommendations related to credit for fisheries, animal husbandary and marketing activities are presented in Chapters 30 to 33. The summary of the recommendations is given in the final section.

122. Reserve Bank of India, Report of the Committee to Review Arrangements for Institutional Credit for Agriculture and Rural Development (CRAFICARD), Bombay, India, 1981.

This is a study of demand and supply of credit in rural areas in general and to agriculture in particular. Over time changes in the number of operational holdings by major size class as well as in total are analyzed. Similarly, changes in the number of total rural households, labor households, and debt position of different classes of rural residents are studied. The report also presents an analysis of the assets positions of different types of rural households. Total supply of institutional credit to rural sector is also evaluated over time. The study goes on to assess the performance of commercial and cooperative banks in supplying agricultural credit. In addition, regional and by farm size distributions of agricultural credit by commercial and cooperative banks are discussed.

123. Satyanarayana, M. C., "Coffee Development and Finance," Indian Journal of Agricultural Economics, Vol. 8, No. 1, 1963, pp. 197-201.

Apart from their own savings, the coffee growers in India use coffee curers, bankers, and moneylenders as sources of credit. This study evaluates the development of the coffee industry since 1950-51 and the programs for increasing coffee production. The study also discusses the nature of financial needs of coffee plantations.

The area under coffee plantations as well as total production of coffee in India increased significantly during 1950-62. The Coffee Board launched many schemes to provide loans for intense cultivation of coffee estates and for buying machinery and equipment.

124. Sen, Sudhir, A Richer Harvest, New Horizons for Developing Countries, Tata McGraw-Hill Publishing Co., New Delhi, 1974, 573 p.

In Chapters 9, 25 and 26, rural finance policies in India are evaluated. The author argues that policy emphasis mainly remains on increasing the number of banks in rural areas. Less attention has been paid to improving non-banking services such as marketing, transportation, storage and technical guidance to cultivators. Low rates of interest on deposits discourage households from saving in bank deposits.

The Integrated Rural Credit Scheme gave a monopoly position to cooperative banks, however, their performance did not improve significantly even after two decades of independence. The shift of policies from cooperative monopoly to multi-agency approach is also not a solution to cultivators problems. The author argues that rural problems should be taken as more than simply a shortage of credit facilities.

125. Shah, C. H. and Tara Shukla, "An Approach to the Problem of Rural Credit," Indian Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 97-103

This study discusses the major problems of making institutional credit more acceptable in rural India. The authors find that the use of formal credit by rural households was low and there was a significant scope to increase the supply of institutional credit, provided profitable investment opportunities were made available. They suggest adopting flexible terms and conditions on rural loans. Discriminatory credit policies for large and small farmers are also recommended.

126. Shah, N. R. and A. S. Patel, "Demand for Short-Term Credit in the Context of New Strategy and the Role of Credit Cooperatives in Gujrat," Agricultural Situation in India, Vol. 27, No. 6, 1972, pp. 339-403.

This paper examines: (1) whether the demand for short-term finance in Gujrat has tended to move up, (2), if so, the prospects for further increasing such demand in the near future, and (3) the role that is expected of credit cooperatives in serving credit needs of farmers.

The authors find that in the study area, the demand for credit increased at a slow rate during 1967-68 to 1970-71 because less additional area was brought under hybrid bajra crop varieties. The analysis also showed that only 75 percent of farmers who cultivated hybrid bajra varieties were members of cooperative societies. The membership of cooperative credit societies was not popular among small farmers.

127. Sharanappa, S., Rural Credit and Economic Development, Rao and Raghavan, Prince of Wales Road, Mysore - 4, 1969, 48 p.

The objectives of this study are: (1) to assess the nature and magnitude of rural credit, (2) to measure the relative share of institutional and non-institutional credit sources in the total borrowings of farmers, (3) to assess the extent to which rural credit is development oriented, (4) to identify the problems faced by farmers in obtaining adequate finances, farm inputs, and technical guidance, and (5) to suggest a development-oriented approach.

The study used data from 175 households in Tumkur district. Using descriptive analysis, the author finds that the credit facilities provided by institutional agencies to the farm households were not adequate to meet their needs. This forced the cultivators to rely on relatively expensive private credit sources. He suggests to make changes in institutional finance to make it more development oriented.

128. Sharma, B. M., "Flow and Determinants of Rural Borrowings in the Unorganized Sector," abstract in The Indian Economic Journal, Vol. 26, No. 2, 1978, p. 93.

This paper analyzes the determinants of borrowings and their flow in the unorganized sector. Although the non-institutional agencies still occupy an important position in the supply of rural credit, their dominance has steadily declined. The households with large amounts of assets take the most advantage of credit facilities. The interest oscillations, the changing debt-asset ratio, the size of the loans and their duration coupled with the future uncertain market expectations neutralize the role of prices in inducing intensive and extensive cultivation. These factors also affect income distribution in the rural sector.

129. Sharma, J. S. and B. Prasad, "An Assessment of Production Credit Needs in Developing Agriculture," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 504-511.

This study focused on 166 farmers from two districts of U.P., India. The farms were further categorized into irrigated and unirrigated small, medium and large farms. The objectives of the study were (i) to estimate the credit needs by farm size and region at different levels of technology, (ii) to compare the credit needs between advanced and less-advanced areas, and (iii) to examine the impact of credit and/or technology on income of the farmers. Linear programming models were used in the analysis.

The per acre average production credit needs in Tarai, Nainital district were Rs 113 and Rs 332 at existing and improved levels of technology. Credit needs of irrigated farm households were more than unirrigated farms. In Rampur district, average per acre credit requirements were Rs 156 and Rs 341 at current and improved levels of technology. The use of credit increased incomes of all types of farms using different technology.

130. Sharma, J. S. "The Role of Financial Intermediaries in Mobilization and Allocation of Resources for Rural Development," Abstract in The Indian Economic Journal, Vol. 26, No. 2, 1978, pp. 84-85.

This paper outlines the role of financial intermediaries in the development strategy of the rural sector. The supply of funds in the rural sector is small because of low savings. The financial intermediaries can affect capital stock for rural development in three ways. First, financial intermediaries contribute to efficient allocation of resources by bringing about changes in ownership and composition of assets. Secondly, financial institutions can encourage a more efficient allocation of new investments - additions to capital stock - from relatively less to relatively more productive uses, by intermediation between savers and investors. Thirdly, financial intermediaries can contribute to the increase in the rate of capital accumulation by providing increased incentives to invest and work by reducing the rate of interest.

131. Shetty, S. L. (ed.) Framework for a National Credit Plan, National Institute of Bank Management, Bombay, 1979, 256 p.

This volume contains the proceedings of a seminar on scope, content, and limitations of credit planning in India at the macro-level. Credit planning is considered as a multi-dimensional and comprehensive exercise involving: (a) monetary budgeting, (b)

budgeting of financial savings to be mobilized by various financial intermediaries in general and by commercial banks in particular, (c) macro-level allocation of credit, and (d) instruments and mechanisms to get the macro-level projections translated into micro-level decision making. Twenty-two papers presented at the seminar are printed in this book. Those related to rural credit planning are: "Existing Rural Credit Channels and Credit Gap in the Rural Sector" by M. L. Dantwalla, "A Brief Note on the Implications of the Target of 60 Percent Credit Deposit Ratio for Rural and Semi-Urban Branches" by S. L. Shetty and "Credit Planning and Banking System: Some Issues" by D. N. Ghosh.

132. Shivamaggi, H. B., "Provision of Credit for Small Cultivators Reconsideration of the Problem," Indian Journal of Agricultural Economics, Vol. 18, No. 3, 1963, pp. 23-37.

Author uses the Follow-Up Survey data to analyze financial position of small cultivators and examines the problems of supplying cooperative credit to them.

The large proportion of small holdings in India are not economically viable. The repaying capacity of small cultivators can be improved by enlarging their holding size, increasing land productivity and changing cropping patterns. The author suggests introducing special credit programs for small farmers. Also, more medium and long-term credit should be provided to them. Adequate representation of small cultivators in the management of cooperative credit societies is also recommended.

133. Shivaprasad, S., "Impact of Syndicate Bank Finance on Farm Incomes in Shimoga District of Karnataka," M.S. Thesis, Department of Agricultural Economics, University of Agricultural Sciences, Hebbal, Bangalore 560065, 1980.

Assesses the impact of Syndicate Bank's short-term credit on the net farm returns of the beneficiaries in Shimoga District. The study was done with 75 borrower households. The net farm returns of sample farmers were Rs 267 on small and Rs 13,224 on large farms without borrowing, and Rs 641 and Rs 13,430 on small and large farms, respectively, with borrowing. The adoption of improved technology was found to increase farm income. The analysis also revealed that an adequate supply of credit was more important to the farmers than variations in interest rates.

134. Shukla, Tara, "Regional Analysis of Institutional Finance for Agriculture," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 542-554.

Examines the following two issues: (1) Do the cooperative and commercial banks follow the same or comparable pattern of regional diffusion of loans? (2) Does this pattern have some association with economic variables? Rank correlations were computed from the data gathered from different sources.

The author finds that cooperatives and commercial banks follow similar patterns of regional distribution of agricultural credit. The distribution of farm-finance was associated with value of physical assets. The commercial banks also concentrated in states with relatively smaller holdings, higher fertilizer use, and higher per-acre yields. Short-term cooperative credit distribution was associated with such purchased inputs as fertilizer.

135. Singh, Harjeet and Joginder Singh, "Estimation of Capital and Credit Requirements for Major Marketing Operations of Potatoes in Punjab State," Financing Agriculture, Vol. 14, No. 1, 1982, pp. 41-45.

This paper analyzes the existing borrowings of cultivators for marketing of potatoes, the impact of additional credit on marketing decisions of the farmers, and capital and credit needs of farmers for storage and transportation of potatoes. The data were gathered from 60 farms in Jullundur district in Punjab.

Ninety-two percent of the sample farmers obtained production loans from different agencies, however, only 5 percent borrowed funds for marketing operations. The marketing loans were mainly provided by private lenders. The credit requirements for storage of potatoes were estimated as Rs 7,000, Rs 9,500 and Rs 29,500 for small, medium and large farmers. Additional loans were also needed to meet transportation costs.

136. Singh, Harpal, "Agricultural Development and Long-Term Cooperative Finance," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 188 - 192.

Author argues that the agricultural sector in India consists of a wide variety of economic units and these diversities and variations must be taken into consideration in planning rural credit programs. The programs for big farmers should include, in addition to supply of long-term loans, mobilizing their own savings, creating habit of thrift and discouraging conspicuous consumption, and improving their entrepreneurial ability.

The small farmers, because of their holding size, generally are not interested in making long-term capital investments. The emphasis of programs for these farmers should, therefore, be on labor-intensive activities such as land reclamation and soil conservation. For the cultivators with land holdings above the economic minimum size, however, there is need to supply medium and long-term cooperative credit.

137. Singh, Harwant and A. S. Kahlon, "A Study of Credit Requirements and Advances to Farmers in Patiala District," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 496-503.

The objectives are: (i) to study the pattern of loan advances made by the State Bank of Patiala and their recoveries, and (ii) to assess the credit requirements of small, medium and large size land holders. The study was conducted in two villages of Patiala district of Punjab State. Seventy-three cultivators were interviewed to collect data for the year 1969-70.

The distribution of loans advanced by the State Bank to sample households by their farm size showed that, while the total amount of loans borrowed by large farmers was more than for medium and small farmers, the per acre borrowings were highest among small farms followed by medium and large farms. The recovery rates on bank loans were low in general. The results of the analysis showed capital and credit needs of farmers increased with the use of high yielding inputs and improved production methods. The authors suggest that commercial banks should use the "village adoption" approach in their initial stages of financing agriculture.

138. Singh, Kamaljit and H. K. Sandhu, "An Economic Analysis of Overdues in Kapurthala District of Punjab," Financing Agriculture, Vol. 12, No. 1, 1980, pp. 12-14.

The objectives of this study are: (1) to determine the extent and relative position of loans advanced and overdues of different categories of farmers, (2) to probe into the causes of overdues, and (3) to compute the repaying capacity of different categories of farmers. A sample of 90 farmers from Phagwara block of Kapurthala district was contacted to collect the required information.

Cooperative societies were the main source of institutional credit in the area. A higher proportion of small and medium farmers defaulted on loans than large farmers. The percentage of loans outstanding that were overdues was highest among small farmers.

The chronic overdues of all farmers was about 25 percent of their average amount of overdues. The repaying capacity was estimated as Rs 922 of small, Rs 3447 of medium and Rs 8249 of large farmers. The authors found evidence of deliberate defaults particularly among medium and large farmers.

139. Singh, L. R., J. P. Bhati and S. L. Jain, "The Supply, Utilization and Economic Rational of Credit Use on Progressive and Less Progressive Farms," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 474-479.

Authors examine the level of use of credit and rational of its allocation between different inputs on farms in Varanasi District of U.P. during 1968-69. A total of 146 farmers were interviewed to collect the information used. Econometric techniques were used in the analysis.

A large proportion of credit used by sample households was obtained from institutional sources. The less progressive farmers borrowed money mainly to buy bullocks and fertilizer, and progressive farmers invested borrowed capital in irrigation equipment. The analysis also showed that farmers were generally rational in using loans.

140. Singh, Madangopal, "Credit Needs of Farmers in Changing Agriculture," Agricultural Situation in India, Vol. 27, No. 2, May 1972, pp. 87-89.

Study assesses the credit requirements of different categories of farmers in Puri district. The farms were divided into groups according to the holding size and irrigation facilities. The results of the study showed that credit needs of the farmers increased with increases in the size of holdings. The demand for credit was also higher on irrigated farms than on unirrigated farms. The use of improved technology increased the demand for credit by farmers. The return to capital was estimated as being between 37 percent and 50 percent on irrigated farms and between -37 percent and 19 percent on unirrigated farms.

141. Singh, Rachhpal and A. S. Kahlon, "Cash Inflows and Outflows on Different Types of Farms," Agricultural Situation in India, Vol. 31, December 1976, pp. 489-497.

Paper estimates the cash inflows and outflows on various types of farms for different quarters of the year. The study was conducted

on a sample of 67 farms in Zira Block in Ferozepur district of Punjab. A profit maximization linear programming model was used for analysis. The optimum farm plans developed in the study show an increase in the returns to farmers of different categories between 90 percent to 106 percent over the existing income levels. The credit requirements of farmers were also estimated.

142. Singh, Roshan, R. K. Singh and Balishter, "Flow of Institutional Credit in Agriculture (With Special Reference to Commercial Bank's Finance)," Agricultural Situation in India, Vol. 35, No. 9, December 1980, pp. 675-679.

Authors assess the role of commercial banks in financing agriculture in Bichpuri block of Agra district in U.P. The study covers the following topics: proportion of advances to agriculture to the total bank loans, supply of bank credit to different categories of farmers, and availability of institutional finance in relation to credit requirements of different categories of farmers. The data for the study were collected from 40 small, 20 medium and 16 large farm households.

The analysis showed that the proportion of agricultural loans to the total loans advanced by the Central Bank of India in Agra district increased during 1974 to 1977. A major proportion of bank credit was, however, advanced to large farmers. Similarly, almost all the credit was advanced as investment loans, and only about 1 percent of total loan was given as production credit. There was a larger gap between credit needed and credit actually supplied on small farms than on medium and large farms.

143. Singh, S., "Regional Rural Banks (Assessing Branch Expansion and Lending Operations)", Abstract in The Indian Economic Journal, Vol. 26, No. 2, 1978, pp. 89-90.

This study examines the performance of regional rural banks in branch expansion and lending operations. The rural banks are permitted to lend Rs 10 million for every Rs 1.5 million of their own deposits. The actual credit-deposit ratio of these banks was found to be 132 percent, which was much lower than the desired ratio of 500 percent. Some banks had credit-deposit ratio of less than 100 percent. Analysis of individual rural banks revealed that lending performance of 50 percent of the banks was not satisfactory and disbursement of credit among various beneficiaries was not equitable.

144. Singh, Sampat P. (ed.), Bank Lending: Some Controversial Issues, National Institute of Bank Management, Bombay, 1975, 209 p.

This book is a collection of eleven essays on bank lending contributed by different authors. The discussion is mainly focused on bank loans to industrial and commercial sectors, however, the book contains useful discussion of financial intermediation, policies and bank management issues. The paper on historical accounts of bank lending is contributed by S. P. Singh. The studies on lending policies were conducted by S. P. Singh and N. L. Hingorani. Mr. R. K. Talwar analyzed the relationship between banker and borrowers. The analysis of money management of banks is done by S. D. Varde. The studies on bank planning of loans and advances, and credit appraisal are contributed by S. P. Singh.

145. Singh, Shiv Karan and R. Ramanna, "The Role of Credit and Technology in Increasing Income and Employment on Small and Large Farms in Western Region of Hyderabad District, Andhra Pradesh," Indian Journal of Agricultural Economics, Vol. 36, No. 3, 1981, pp. 41-51.

The objectives of this study are: (i) to analyze the existing pattern of income and employment on irrigated and unirrigated small and large farms; (ii) to assess the role of technology and credit for increasing income under current practice and improved technology situations with presently available capital and adequate credit facility; and (iii) to determine the additional employment potential on small and large farms through adequate capital use under the two technology situations. The study was conducted on 64 farm households. Linear programming was used for analysis.

The results were that there is a significant scope for increasing income of the farmers by reorganizing their resources and by using improved technology even at existing level of available capital. The adoption of improved technology coupled with adequate credit supply further increased the income and employment opportunities at the farm.

146. Singh, U. S. and D. Jha, "A Normative Analysis of the Impact of Capital Availability on Farm Income and Demand for Short-Term Credit on Farms in Delhi," Indian Journal of Agricultural Economics, Vol. 26, No. 4, 1971, pp. 524-532.

Objectives of this study are: to estimate the short-term production credit-requirements and its impact on farm income, and to evaluate the impact of interest rates on credit requirements. A sample of 43 farms was selected from three villages. Linear programming techniques were used to assess the capital requirements of different types of farms. Variable programming was used to study the impact of interest rates on demand for credit.

The optimal plans developed in the study revealed that, under the current technology, farmers faced capital rationing and provision of credit will enable farmers to move to higher income levels. The adoption of high-yielding technology is found to further increase the credit needs of low-income farmers. The demand for short-term credit is found to be highly inelastic with respect to interest rate.

147. Sinha, S. P., "Agricultural Credit: Development and Prospects," Commerce, Vol. 139, No. 3577 (Annual Number), 1979, pp. 101-113.

Study reviews the progress of formal financial institutions in supplying farm credit in India since 1951. Changes in the amount of total formal agricultural credit, share of formal and informal agencies in rural household debt, and regional and by farm size distribution of rural credit are analyzed.

The results of the study revealed that, despite a severalfold increase in amounts of total formal rural credit, the supply of loans is not sufficient to meet the needs of rural households. The availability of institutional credit has been excessively concentrated in relatively economically advanced regions. Similarly, a large proportion of formal credit has been advanced to rich and influential households. The lending procedures of financial institutions are not suitable for poor households with little or no tangible assets.

148. Sirohi, A. S. and A. C. Gangwar, "Economic Optima in Resource Allocation for the Cultivators of Kanjahwala Block," Indian Journal of Agricultural Economics, Vol. 23, No. 3, 1968, pp. 1-13.

Authors examine the potential for increasing farm net return and farm labor employment by reorganization of enterprises and farm resources in the Kanjhaawala Block under restricted and

unrestricted supplies of capital. The data were collected from 97 farm households in randomly selected villages in the block. Linear programming was used in the analysis.

The results of the investigation revealed that, at the available level of capital, the returns of different categories of farmers could be increased between 24 percent and 42 percent by reorganizing their resource use. The optimum plans also provided better opportunities for labor employment. The availability of credit and hired labor in the model further increased returns of the farmers.

149. Sri Ram, "Farm Mortgages and Cooperative Finance," Indian Journal of Agricultural Economics, Vol. 14, No. 2, 1959, pp. 1-26.

This study discusses the drawbacks in cooperative land mortgage banks and suggests methods to improve the performance of these banks in servicing loans to farmers. The growth and expansion of land mortgage banks in India is also discussed.

The author finds that the farm households faces severe shortages of medium and long-term credit. The land mortgage bank are regarded as the best agency among different term-credit sources. He points out the urgent need to increase supply of credit by land mortgage banks.

150. Sridhajan, K., "An Analysis of the Performance and Growth of a Service Cooperative: A Case Study of Tudiyalur Cooperative Agricultural Services Ltd., Tudiyalur, Coimbatore Taluk, Tamilnadu," M.S. Thesis No. 326, Department of Agricultural Economics, The University of Agricultural Sciences, Hebbal, Bangalore - 560065, 1975.

The objective of this study was to identify the sound management principles responsible for the expansion of business and transformation of an agricultural credit cooperative into a service cooperative. Time-series analysis was made of the data collected for the period between 1954 and 1974. The agency showed a rapid expansion in the volume of business in twenty years. Its policy has been to establish a sound financial structure along with low level of profitability. The membership, total assets, owned funds, sales, and average assets per member of the Society increased gradually over time.

151. Srinivasan, M. "Reorganization of Co-operative Credit in Madras State in the Second Five-Year Plan," Indian Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 46-57.

Based upon the recommendations of the All-India Rural Credit Survey Committee, an integrated rural credit and marketing scheme was formulated for Madras State. This study discusses various supply as well as demand issues important in the formulation and implementation of this scheme. The technical reorganization of the rural credit involves: (1) elimination of money-lenders-cum-traders, (2) increase in rural savings through increasing rural income and reducing wasteful consumption, and (3) mobilization of saving through cooperative banks and lending these savings to agriculture. On the demand side, there is a need to improve cooperation among the villagers and encourage the borrowers to use credit for productive and not for consumption purposes.

152. Srinivasan, M. and V. Rajagopalan, "Agricultural Development and Cooperative Finance," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 217-224.

This study evaluates the performance of nine cooperative credit institutions selected from six different types, with particular reference to the types and size of credit advanced for agricultural development purposes. The Full Finance Scheme, introduced in 1956-57 for providing both short and medium-term credit to the farmers through cooperatives, is also discussed.

153. Srivastava, Suresh Chandra, "New Credit Policy for Agricultural Sector," Agricultural Situation in India, Vol. 25, No. 2, May 1970, pp. 149-152.

Until lately, the distribution of commercial bank credit in India has been biased against the agricultural sector. The situation, however, changed after the nationalization of big commercial banks in 1969. The author suggests different measures to make credit facilities available and suitable to the needs of rural households. He argues that commercial banks lending policies were largely security oriented. These policies and procedures should be changed to supply production oriented loans. The banks should also avoid nonconstructive competition.

154. Subbarao, K., "Institutional Credit Uncertainty and Adoption of HYV Technology: A Comparison of East U.P. and West U.P.," Indian Journal of Agricultural Economics, Vol. 35, No. 1, 1980, pp. 69-90.

This study analyzes the constraints on the demand for short-term production credit from institutional sources in Eastern U.P. The region is dominated by small and tenanted holdings. Under the existing institutional and agro-climatic environment, short-term institutional credit in Eastern U.P. appears to be unattractive to the farmers. This is because of low levels of adoption of HYV paddy by small farmers, uncertain production conditions, and the necessity to generate cash on demand dictating dependence on a more flexible and dependable source of finance such as moneylenders. The author suggests providing indirect assistance in the form of irrigation facilities to the farmers.

155. Subrahmanyam, K. V., "Adoption of New Technology on Small Farms: The Role of Credit and Its Requirements," Indian Journal of Agricultural Economics, Vol. 30, No. 3, 1975, pp. 179-185.

Examines the role of credit in the adoption of high-yielding varieties of paddy by small farmers and the credit requirements of small farmers. The data used were collected from 40 small farm households in West Godavari district of Andhra Pradesh. Linear programming is used as the analytical technique to develop optimum plans.

The study concludes that: (a) the supply of credit resulted in the introduction of HYVs of paddy in optimum crop plans, (b) the provision of credit helped in increasing the area under HYV of rice on farms where they were already grown, and (c) credit requirements of small farmers varied between climatic zones due to differences in cropping pattern and capital base.

156. Surendranathan, P. K., "Institutional Credit for Capital Expenditure in Agriculture, 1957-58 to 1960-61," Indian Journal of Agricultural Economics, Vol. 24, No. 4, 1969, pp. 25-31.

This study begins with the estimation of capital expenditures in agriculture based on the data collected under All-India Rural Credit Survey. It is followed by a discussion of the role of institutional agencies in providing term-credit to cultivators.

The estimated capital expenditure by cultivators increased from Rs 3,000 million in 1950-51 to Rs 4,210 million in 1960-61. The estimated amount of borrowings for capital expenditure was Rs 1,000 million and Rs 130 million, respectively, during these years. About 8 percent of the total capital expenditure in 1957-58, and 11 percent in 1960-61 was financed by cooperative banks and the Government.

157. Suryanarayana, K. S., "Reorganization of Rural Credit in India - Farm Planning as a Guide to Extension of Agricultural Credit," Indian Journal of Agricultural Economics, Vol. 11, No. 2, 1956, pp. 41-46.

Farm households in India are not receiving an adequate supply of institutional credit. The moneylenders exploit this situation by charging excessively high rates of interest. The author suggests that the main objective of the rural finance policies in India should be to provide the right kind of credit, in the right amount and proportions, and at the right time and place. Farm level planning should be used as a guide to make appraisal of the borrowing needs of cultivators.

158. Suryaprakash, S., "Impact of Credit and Services Provided by Farmers' Service Society Ltd., Hesaraghatta, on Net Farm Returns," M.S. Thesis No. 520, Department of Agricultural Economics, University of Agricultural Economics, Hebbal, Bangalore - 560065, 1978.

This study assesses the impact of short-term credit provided by Farmers' Service Society, of Hesaraghatta on net farm returns to small farmers. Linear programming was used as the analytical tool. The results reveal that reallocating existing resources even under existing technology could significantly increase the income of the farmers. The increase in supply of credit above existing levels was found to have no significant impact on farm returns unless improved production technology is adopted by the cultivators. The borrower farmers had higher net farm returns than the non-borrowers suggesting that the use of loans by cultivators increased their net income.

159. Tewari, R. N., "Agricultural Development and Co-operative Finance With Reference to Irrigation Project," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 202-208.

The purpose of this study is to show that (1) with the introduction of irrigation from the Chambal Project, credit requirements of cultivators in M.P. and Rajasthan States went up, (2) the cultivators were not able to meet these increased financial needs from their own savings, and (3) there was a need to increase the supply of medium and long-term cooperative credit in the above states. The data used in the study were collected from selected farm households in four villages.

Sixty-seven percent of the studied households responded that, with the availability of irrigation, their credit needs would increase due to changes in cropping pattern. The study also analyzes the credit demand structure.

160. Thingalaya, N. K., "The Regional Rural Banks and Agriculture," Commerce, Vol. 139, No. 3577 (Annual Number), 1979, pp. 115-119.

Author reviews the relevance of regional rural banks in meeting the credit needs of farmers in India. The need for sponsoring more rural banks is also examined. The regional rural banks were established in 1976 to provide credit facilities, particularly to poor households.

The author argues that low cost of operation in the case of regional rural banks as compared to commercial banks may not last long. He suggests that, in addition to the present district level establishment of regional rural banks, the second tier of rural banks may be sponsored by the public sector commercial banks at the state level. All the rural branches of public sector banks should be amalgamated into a new rural bank with branches throughout the state.

161. Thingalaya, N. K., "The Impact of New Bank Branch on Household Savings and Borrowings," First Draft, A World Bank Research Project, The World Bank, Washington, D.C., October 1980, 127 p.

Chapter 1 of this study presents the discussion on progress of commercial banks in India with respect to branch expansion, saving mobilization and credit supply. In chapters 2-5, the data collected from 450 households in Karnataka State were analyzed. These households were customers of six bank branches located. The objectives of the analysis were: (1) evaluation of increases in household savings due to inducements and incentives offered by the newly opened bank branches, (2) changes in composition of household savings, (3) changes in amount of loans borrowed from different sources, (4) impact of new bank branches on borrowings and invest-

ments of households, and interest rates in the informal market, and (4) estimation of transaction cost of borrowing from formal and informal sources. The results of the study indicated that establishment of new bank branches in the area encouraged savings by the rural households. These bank branches also significantly contributed to supplying credit.

162. Tyagi, A. K. and V. K. Pandey, "A Note on the Application of Profit Function in Agricultural Finance," Indian Journal of Agricultural Economics, Vol. 37, No. 2, 1982, pp. 191-198.

This paper presents the results of an analysis using profit functions for the estimation of demand for crop loans on different categories of mechanized farms. The study was conducted on data collected from Kurukshetra district of Haryana State. The unit-output-price-profit function is used to develop credit demand functions.

Authors conclude that demand for credit was highly responsive to changes in input and output prices. But, it was inelastic with respect to interest rate. The institutional credit agencies were found to inadequately meet the credit demand of farmers.

163. Udaybhansinhji, "Agricultural Development and Long-Term Co-operative Finance in Some Parts of Gujrat," Indian Journal of Agricultural Economics, Vol. 18, No. 1, 1963, pp. 193-196.

Emphasizes the ensured supply of credit to farmers to enable them to increase agricultural production. Cultivator's own savings and supply of credit by moneylenders are inadequate to meet financial needs of farm households. The author discusses several examples from Gujrat state to suggest that availability of cooperative credit improved agricultural production through increase in cultivated area, irrigation capacity and farm productivity.

164. Venkatappiah, B., "The Role of the Reserve Bank of India in the Development of Credit Institutions," paper presented at R. R. Kale Memorial Lecture, Gokhale Institute of Politics and Economics, Poona, 1960, 19 p.

This is the talk given by the author, the Deputy Governor of the Reserve Bank of India, at the R. R. Kale Memorial Lecture. He discusses the role of the Reserve Bank of India in expanding credit to agricultural sector and small industries and in extension of banking. The Reserve Bank adopted flexible terms and conditions on its loans to cooperative banks. The Bank also set up various expert committees to study rural financial problems. The recommendations of these expert groups were implemented through policy legislations. In addition, the Reserve Bank provides consultation to the state governments and financial institutions.

165. Virmani, Arvind, "The Nature of Credit Markets in Less-Developed Countries: A Framework for Policy Analysis," Domestic Finance Study No. 71, Development Policy Staff, The World Bank, Washington, D.C., October 1981, 149 p.

The purpose of this paper is to analyze various forms of government interventions in the loan market and to study their effect on efficiency. This provides the essential basis for evaluating and judging these policies. It also shows where the earlier policy prescriptions were correct, incomplete or wrong.

One of the implications of this study is that the credit market differs fundamentally from the market for ordinary goods and services. Consequently, conventional analysis of the loan markets, based on theory applicable to these goods can be misleading even when similar prescriptions are reached. This is because the similarity may be restricted to special circumstances. Another important highlight of this paper is the vital role of collateral in the loan market.

166. Wadhva, Charan D., "Rural Banks for Rural Development: The Indian Experiment," Contributions to Asian Studies, Vol. 13, 1979, pp. 177-195.

The purpose of this paper is to examine the background and the salient features of the scheme for establishing the regional rural banks in India, and to evaluate their performance. The study concludes that the regional rural banks function under many constraints. Despite these difficulties, these banks have achieved tangible results within a short period of time. The author also presents a case for reorganization of regional rural banks in order to enable them to achieve the assigned objectives.

167. Wadhva, Charan D., Rural Banks for Rural Development: An Analysis of the Working of Regional Rural Banks in India with Two Case Studies, The Macmillan Company of India Ltd. Madras, 1980, 211 p.

This book assesses the performance of Regional Rural Banks in India. Chapter I presents the background on rural credit in the country. The recommendations of Working Group on Rural Banks and the establishment and progress of Regional Rural Banks are discussed in Chapter II. Two case studies of the workings of Regional Rural Banks are presented in Chapter III. In Chapters IV and V, respectively, an appraisal of the working of Rural Banks is made and a framework for the reorganization of these Banks is suggested. The author reveals that the Regional Rural Banks in general have succeeded in making a good start in promoting rural development. However, there is an urgent need for reorganizing their structure and improving their operation in order to enable them to be an integral part of institutional rural credit system.

PART II. RURAL SAVINGS

168. Bhalla, Surjit S., "Two Essays: Savings and Farm Production in Rural India," Ph.D. dissertation, Department of Economics, Princeton University, Princeton, New Jersey, 08544, February 1977, 212 p.

The savings and farm production behavior of rural households is examined in two essays based on the National Council of Applied Economic Research (India) survey of 4118 households, 1968-69 to 1970-71. The first essay titled Aspects of Savings Behavior in Rural India presents analysis of savings income and assets of cultivator households. Their investment behavior is also studied.

The second essay titled Farm Size, Productivity, and Technical Change in Indian Agriculture analyzes the inverse relationship between farm size and farm productivity. Non-economic and economic causes of this relationship are discussed and tested. It is concluded that distortions in factor and capital markets, rather than differences in soil quality, irrigation or cropping patterns account for the inverse relationship.

169. Bhatti, J. P., T. V. Moorti, L. R. Singh and K. K. Verma, "Income, Savings and Economic Rational of Investment in Tribal Agriculture of Nainital Tarai: A Comparative Study," Indian Journal of Agricultural Economics, Vol. 27, No. 4, 1972, pp. 37-44.

The purpose of this study is to estimate the level of incomes and savings on the tribal and non-tribal farms and to examine the rational of investment patterns at these farms. Forty farms from tribal villages and twenty farms from the non-tribal villages were randomly selected. The average sizes of both tribal and non-tribal farms were almost the same. Econometric techniques were used in the analysis.

The farm income in non-tribal farms was higher than tribal farms. However, non-farm income of tribal families was more than nontribal families. The average savings of non-tribal households were three times the savings of tribal farmers. Marginal propensity to save was high on both tribal and non-tribal farms, although it was higher on non-tribal farms than tribal farms.

170. Bhatti, I. Z. and M. T. R. Sarma, "Saving Behavior in India and Implications for Policy," in Some Problems of India's Economic Policy, by Charan D. Wadhva (ed.), Tata McGraw-Hill Publishing Company Limited, New Delhi, 1977, pp. 276-288.

The study reviews saving behavior of households in India and derives policy implications. The household sector contributes about 80 percent of the total national savings. The marginal propensity to save of the household sector is estimated as 35 percent, with 34 percent in rural areas and 39 percent in the urban sector. It has increased over time. The analysis also reveals that 65 percent of household savings in 1967-68 were in the form of financial assets, 15 percent in financial liabilities, and 50 percent in physical assets. Both urban and rural households with annual income of Rs 3,000 or less had negative savings. The authors suggest more equitable distribution of additional national income, improvement in banking facilities and appropriate interest rate policies to encourage savings in the economy.

171. Blyn, George, "Saving and Consumption Behavior of Punjab Cultivators, 1954-55 to 1964-65," The Indian Economic Journal, Vol. 24, No. 1, 1976, pp. 50-71.

This study utilizes 11 years of annual family budgets data published by the Punjab State government. The objective of the study was to understand saving and consumption behavior of cultivator households. In addition to time series analysis, cross sections are analyzed for annual and longer periods of time.

The cross sectional analysis shows low average propensity to save and high marginal propensity to save by the farm households. The amount of savings by cultivators was inversely related to family size. The results of time series regression analysis were similar.

172. Chakrabarti, Arup, "Role of Institutional Agencies in Mobilizing Financial Resources in Rural India," Indian Journal of Agricultural Economics, Vol. 30, No. 3, 1975, pp. 50-54.

The share of rural savings in total savings in India decreased from 30.7% in 1950-51 to 15.8% in 1962-63. This study evaluates the role of financial institutions in mobilizing rural surplus. Despite a rapid branch expansion by commercial banks in rural and semi-urban areas by, their record of mobilizing rural deposits has not been significant. The cooperative banks failed to attract deposits from non-members.

The author argues that existing institutional arrangements were not sufficient to mobilize potential rural investible surplus. He suggests creating better banking facilities in rural areas.

173. Chakravorty, S. K. and R. R. Pattnaik, "Income Distribution and Saving-Investment Patterns of Cultivating Households (Case Studies in Orissa), Indian Journal of Agricultural Economics, Vol. 25, No. 3, 1970, pp. 99-110.

The study's objective was to examine whether the absolute income of the household or its income trend is more significant in determining its consumption and investment pattern. Five items selected for analysis were: expenditure on durable consumer goods, luxury goods, and valuable assets such as gold, jewelry, representing household savings, expenditure on purchase and improvements of land, investments in work stock, implements and machinery, changes in net indebtedness, and sale of assets. The data used in the analysis were collected from three villages in Orissa state.

Using the descriptive methods, the author finds that investments by households studied were closely related to trends in income. The savings were related both to income level and income trend.

174. Chaudhuri, P. N., "Adoption of High Yielding Varieties Programme and Formation of Rural Savings," Summary in Indian Journal of Agricultural Economics, Vol. 25, No. 3, 1970, pp. 133-134.

The data analyzed in this study were gathered in field surveys conducted by the Programme Evaluation Organization from 1,617 cultivators in 44 selected development blocks. The objective of the study is to assess the magnitude and direction of formation of rural savings in the agricultural sector.

The savings by farm households were invested in purchase of land, construction of farm buildings and irrigation infrastructure, acquisition of machinery and equipment, and purchase of livestock. The pattern of investments varied with holding size of the cultivators. The farmers also used their savings for the repayment of debts. Only a small amount of household savings was invested in financial assets such as deposits with banks, and national saving certificates.

175. Coondoo, D., R. Mukherjee and D. S. Prasada Rao, "Occupational Variation in the Pattern of Consumer Expenditure in Rural India," Indian Journal of Agricultural Economics, Vol. 30, No. 4, 1975, pp. 29-48.

This study uses 18th Round National Sample Survey data to analyze the differences in the expenditure patterns of households having different agricultural occupations. It also reviews some of the previous studies conducted on this topic. The expenditures by

cultivator households on fifteen consumer items were examined. The households were grouped into four occupation groups: (1) cultivators, (2) agricultural laborers, (3) other agriculturists and (4) non-agriculturists. The study did not account for the possible impacts of factors such as household size and composition on household consumption expenditures.

176. Desai, B. M., "A Critique of Research on Rural Savings in India," Economics and Sociology Occasional Paper No. 782, Agricultural Finance Program, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, January 1981, 35 p.

Study makes an indepth review of research on rural savings in India. The rural saving studies in India have discussed capacity to save, composition of savings, savings measurement methods, and data requirements and availability.

The author finds that the models used in the majority of studies on saving capacity of rural households were dominated by the "ability to save" hypothesis. The existing literature has neglected the "incentive to save" hypothesis of saving behavior. Various weaknesses in the data used in rural saving investigations are also pointed out.

177. Gupta, Devendra B., "A Comparison of Consumption Patterns in Uttar Pradesh and Madras - A Study of Inter-regional Variations with Reference to India," Indian Economic Review, Vol. III (New Series), No. 2, October 1968, pp. 129-143.

This paper analyzes the variations in consumer expenditures between U.P. and Madras state. The household expenditures and the elasticities expenditure with respect to household size are compared between the two states. The differences in consumer expenditures between rural and urban households are also analyzed in each of these states.

Sixteen expenditure categories are developed and scrutinized. The results of the study show that significant regional differences in consumer behavior, especially for food grains and other essential goods such as sugar exist in India.

178. Gupta, Suraj, "Financial Progress, Banking Expansion and Savings," Indian Economic Journal, Vol. 20, No. 4, and 5, 1973, pp. 548-569.

This paper presents a framework to evaluate the contribution to saving of banking expansion or other kinds of financial progress. The author argues that the role of deposit expansion in commercial banks to promote real savings has been generally overestimated.

The study concludes that it is only a part and not the whole of the stock of financial assets outstandings which can be interpreted as a part of real public wealth. Also, due to asset substitutions induced by partial financial progress, an increase in the stock of financial assets held by households is not a correct measure of the contribution to saving of that financial asset.

179. Iyengar, N. Sreenivasa and S. Indrakant, "Pattern of Asset Accumulation in Rural India," Indian Journal of Agricultural Economics, Vol. 35, No. 1, 1980, pp. 121-129.

Authors analyze the asset portfolios and investment behavior of rural households in India. The data used in this study were collected by the Reserve Bank of India. The households were categorized as cultivators, agricultural laborers, artisans, and others. The household investments in land, livestock, machinery, durables, financial assets, and dues receivable were studied.

The desire to acquire land is strong among cultivators as well as non-agriculturalist households. The cultivators also exhibited high propensities to acquire assets such as farm machinery and equipment. The asset elasticities were more than one in the case of fixed assets and dues receivable, and it was 0.8 in the case of financial assets.

180. Jakhade, V. M., "Capital Formation in Indian Agriculture, A Note on Methods," Indian Journal of Agricultural Economics, Vol. 9, No. 1, 1954, pp. 95-104.

This note explains the methods followed in collecting capital formation statistics in India and analyzes limitations and practical difficulties in their application to measuring capital formation in agriculture. The discussion deals with methods of measuring savings and investment. The author also discusses different methods used to measure the value of newly created capital goods and the concepts of gross and net capital formation.

The main conclusion derived from the analysis is that under the existing Indian rural conditions, the "money expenditure method" is more appropriate to collect data on capital formation than are other methods.

181. John, P. V., Some Aspects of the Structure of Indian Agricultural Economy 1947-48 to 1961-62, Asia Publishing House, New York, 1968, 325 p.

Chapter VI of this book presents a discussion on various issues related to capital and finance in Indian agriculture. Section I presents estimates of the value of fixed capital in agriculture for the years 1951-52 and 1954-55. Section II deals with working capital. In Section III, a study of capital formation in agriculture is undertaken and separate estimates of private and public investments for the year 1951-2 are made. Section IV relates to financial requirements of Indian agriculture and various sources of rural finance.

182. Lahiri, Ashok Kumar, "Asset Structure of Indian Rural Households," Indian Economic Review, Vol. 13, No. 2, October 1978, pp. 143-165.

This study identifies the factors determining the asset structure of Indian rural households. The data used are taken from the All-Indian Debt and Investment Survey, 1971-72. In Section II, basic characteristics of the asset portfolios of households are discussed. Sections III and IV, respectively, present the model and the data. The empirical findings are presented in Section V.

183. Madiman, S. G., "Institutional Structure and Capital Formation," Indian Journal of Agricultural Economics, Vol. 20, No. 1, 1965, pp. 141-145.

Author discusses the role of the institutional framework on capital formation and the methodological and data problems for doing research on capital formation. He argues that the available statistical tools do not produce reliable estimates of growth rates and capital accumulation in the agricultural sector. The type of institutional framework has significant impact on rates of capital formation. Therefore, agricultural development policies should be focused at the micro level in order to account for institutional framework variations.

184. Panikar, P. G. K., Rural Savings in India, Somaiya Publications Pvt. Ltd., Bombay, 1970, 179 p.

Chapter 1 of this book discusses relationships between savings and economic development. The place of the rural sector in the economy in India is described in Chapter 2. In Chapters 3 and 4, respectively, methods of savings measurement are discussed and propensities to save in India are estimated. The estimates of gross and net rural savings are presented in Chapters 5 and 6. Some recent estimates of saving capacity in rural India are given in Chapter 7. Chapter 8 analyzes the distribution of rural savings, and issues related to disposition of savings are discussed in Chapter 9. Summary and conclusions of the study are presented in the final chapter.

185. Patel, Surendra J., "Savings, Investment and Economic Growth: A Dynamic Approach," Indian Economic Review, Vol. 4, No. 4, August 1959, pp. 128-134.

The author argues that the theory and assumptions used in static models to analyze the relationships between savings, investment, and economic growth are many times not applicable under dynamic situations. In a static sense, increases in investments can be achieved only at the cost of consumption. However, the relationship between investment and consumption is direct in dynamic situations with higher levels of investments resulting in higher future consumption. The author also suggests that there is a necessary connection between the current rate of saving and potential rate of growth; given adequate policies, economic growth could be financed as a draft on future expansion of resources or future growth.

186. Rai, K. N., D. K. Grover and D. S. Nandal, "Investment and Saving Pattern in Irrigated and Unirrigated Zones of Haryana State," Indian Journal of Agricultural Economics, Vol. 27, No. 4, 1972, pp. 75-82.

This study examines the impact of the green revolution on various sized farm households. The analysis includes income levels and income distribution in different zones of Haryana state, impact of land and labor utilization on farm family income, and estimation of average savings and investment by different holding-size households.

The authors find that the benefits of new farm technology were directly related to size of holding and availability of irrigation facilities. Small farmers had negative savings in both irrigated and unirrigated areas. In unirrigated areas, the medium size land holders also had negative savings. The average household savings were higher in irrigated zones than in unirrigated zones.

187. Raj Krishna and G. S. Raychaudhuri, "Trends in Rural Savings and Private Capital Formation in India", World Bank Staff Working Paper No. 2, South Asia Programs Department, The World Bank, Washington, D.C., 1980, 43 p.

Paper reports on trends in rural household savings, net private capital formation in agriculture and the growth and composition of tangible net wealth in rural India during 1950-1973. It also presents estimates of the marginal and average propensities to save and invest during the period measured by permanent and transient income. The results show that there has been an acceleration of saving and capital formation in recent years.

188. Rajagopalan, V. and S. Krishnamoorthy, "Saving Elasticities and Strategies for Capital Formation - A Micro Analysis," Indian Journal of Agricultural Economics, Vol. 24, No. 4, 1969, pp. 110-116.

Study discusses the capital structure in agriculture and analyzes the saving behavior of farm households in Coimbatore district. The data used were collected from 30 farmers. Regression analysis was used.

The findings reveal that household savings in rural areas are determined by the level of income, consumption and investment opportunities. A major proportion of the savings of cultivators are reinvested in the farm business. The authors suggest undertaking policy measures to mobilize rural savings through financial markets.

189. Sahni, Balbir S., Saving and Economic Development (With Special Reference to India,) Scientific Book Agency, 22 Raja Woodmunt Street, Calcutta, 1967, 149 p.

Book deals with various aspects of savings and its relationship to economic development in India. The estimates of savings, investments and saving-income ratios are made and trends in savings and investment in India are discussed. The linkages between savings

and productivity, savings and price level, and savings and taxation are also described. The role of financial institutions in saving mobilization and trends in savings and banking in India are also discussed. The conclusions and policy implications of the study are presented in the final chapter.

190. Savale, R. S., "A Multi-Period Programming Model Showing the Possibilities of Capital Formation in Farming in Maharashtra Area", Indian Journal of Agricultural Economics, Vol. 20, No. 4, 1965, pp. 29-38.

Investigates the possibilities of capital formation and achieving a specified level of standard of living of farmers in Maharashtra state with their existing resources and with borrowing a specified sum. The data used are from 80 farm households and were collected by the Government of India under the Farm Management Scheme in Bombay (Maharashtra) state. Analytical tools of budgeting, marginal analysis, and linear programming were used.

The analysis reveals that with existing resources of land, labor and management, and Rs 4000 borrowings for irrigation equipment, it is possible to accumulate capital in the form of increased irrigation facilities, irrigation machinery and ability to maintain a higher standard of living.

191. Sen, S. N., "Investment on Farm and Capital Formation in Agriculture in Bihar," Indian Journal of Agricultural Economics, Vol. 20, No. 1, 1965, pp. 163-166.

Author discusses the formation of capital in agriculture in Bihar and analyzes linkages between investment and capital formation. The data on investment in the agricultural sector are not easily available. The total investment in Bihar was estimated as Rs 1,100 million in the First Five-Year Plan, Rs 1,650 million in the Second Five-Year Plan, and Rs 2,290 million in the Third Five-Year Plan. The average annual capital formation in the state was estimated as 25 million during the First Plan, Rs 58 million during the Second Plan and Rs 110 million during the Third Plan. The proportion between capital formation and investment was 11.5 percent, 17.6 percent and 21.9 percent during the first, second and third Five-Year Plans.

192. Shah, S. L. and R. C. Agrawal, "Impact of New Technology on the Levels of Income, Patterns of Income Distribution and Savings of Farmers in Central Uttar Pradesh," Indian Journal of Agricultural Economics, Vol. 25, No. 3, 1970, pp. 110-115.

Authors compare the income, consumption and investments of farmers with respect to their holding size and level of technology. The data used in the study were collected from 211 farm households in Budaun district of U.P. Descriptive method is used to make comparisons among different types of cultivators.

The study reveals that there was a significant difference in the income levels of progressive and less progressive farmers in different holding-size groups. The progressive farmers invested a significant proportion of their income in improved inputs that resulted in higher levels of capital formation on progressive farms as compared to less progressive farms.

193. Shukla, Tara, Capital Formation in Indian Agriculture, Vora and Company, Publishers Private Ltd., 3 Round Building, Bombay, 1965, 261 p.

This study is organized into nine chapters. Chapter I presents a discussion of concepts, definitions and measurements of capital. Various views of economists on capital formation are discussed in Chapter II and theoretical analysis of conditions determining capital formation in agriculture is presented in Chapter III. In Chapter IV, types of data required for capital formation studies are described. The data used in this study and their sources are also discussed in this chapter. The results of the analysis are presented in Chapters V to VIII.

The author concludes that the stock of durable physical capital in the agricultural sector increased slowly during the period between 1920 and early 1960s and most of the increase was in traditional forms of capital.

194. Singh, D. and S. D. Bokil, "Investment Patterns in Agriculture," Indian Journal of Agricultural Economics, Vol. 20, No. 1, 1965, pp. 183-187.

The objective of this study was to evaluate the investment structure and patterns in agriculture in selected states. The data for this purpose were collected from 1,120 farms in Punjab, Maharashtra, Mysore, and Gujarat states. These farms were grouped into small, medium, and large. Investments in different agricultural assets per acre and investments in various agricultural assets as a proportion of total investment were analyzed for each farm group. Investments on land were not included.

It was observed that the total amount of investment per holding was highest in Punjab, followed by Gujrat, Maharashtra and Mysore, respectively. Farm structures constituted the principal item of investment in agriculture. It was followed by draft animals.

195. Waqif, Arifhusen A., "Investment and Saving in Indian Agriculture and the Changing Role of Financial Institutions," unpublished Ph.D. Dissertation, Department of Economics, University of California, Berkeley, California, 1976, 183 p

The state of Indian Agriculture is described in Chapter I. In Chapter II, the role of investment and the financial sector in Indian agriculture is examined. Chapter III presents a review of literature and sources of data used in the study. The relationship between income and savings in the agricultural sector is analyzed in Chapter IV. The capital formation, composition of rural wealth, and investments in agriculture are also analyzed in this chapter. The relationships between rural credit, institutional structure and investments are examined in Chapters V and VI.

196. The World Bank, "Capital and Growth in India: 1950-71," World Bank Staff Working Paper No. 279, Washington, D.C., November 1978, 249 p.

Paper analyzes overall capital/output ratios in India by using national accounts statistics for the years 1950-51, 1961-62, and 1971-72. The changes in capital/output ratios are decomposed by period, by major sector, and by changes in sectoral shares in national output.

There has been a marked rise in the aggregate capital output ratio for the economy between 1961 and 1971, and in the net ICOR between 1950s and 1960s. Half of the rise in the capital output ratio was due to rising sectoral capital output ratios and half was due to shifts from less to more capital intensive sectors. The study also discusses reasons for changes in capital output ratios in different sectors.

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