

IMPACT OF AGRICULTURAL CREDIT IN THE AGRICULTURAL DEVELOPMENT OF KUTTANAD

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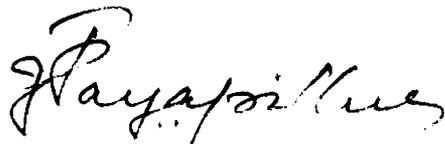
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C E R T I F I C A T E

Certified that the thesis "Impact of
Agricultural Credit in the Agricultural Development of
Kuttanad" is the record of bonafide research carried
out by Sri. Harikumar. S under my guidance. The thesis
is worth submitting for the degree of Doctor of
Philosophy in Economics.



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D E C L A R A T I O N

I declare that this report is the record of bonafide research carried out by me under the supervision of Dr. Jose. T. Payyappilly, School of Management Studies, University of Cochin. I further declare that this has not previously formed the basis of the award of any degree, diploma, associateship, fellowship or other similar title of recognition.



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CHAPTER - IINTRODUCTION1.1. Need for Agricultural Credit

The contribution of agriculture to economic development depends to a great extent on its productivity. A number of factors have been identified as causes of slow growth in this sector. Defects in tenure structure, shortage of capital, market imperfections and inefficient techniques of production are some of them. Important inputs for maximising agricultural productivity are new technology, quality seeds, fertilizers, pesticides, implements and credit.

The importance of credit as a technique of increasing productivity has been stressed. In the past couple of decades rural credit programmes have been organised in almost all the developing countries. It may be argued that agricultural credit programmes are inefficient in the absence of new technology. In traditional agriculture there are few investment opportunities and that additional employment of capital will not bring about any sufficient increase in output.¹ Some argue that programmes to provide institutional

1. T.W. Schultz, Transforming Traditional Agriculture, Yale University Press, 1964.

credit are unnecessary in the early stages of development even when new technology and profitable investment opportunities are available. They argue that farmers can meet the additional costs of new inputs by borrowing from informal credit sources and that the profits from the use of new inputs will enable them to finance much of their future production needs.

During the last decade rural credit programmes were organised in all the developing countries. Substantial amounts of money are going to agricultural credit programmes in all the developing countries, where capital is scarce. Rational allocation of these funds requires an analysis of their use.

In Kuttanad² dependence on agricultural credit can be traced from land reclamations. The cost of credit has tended to subject small peasants to an increasing burden of debt. Attempts have been made to reduce the burden partly by relief measures and partly by provision of institutional credit. Only the creditworthy farmers are benefited by the institutional credit.

2. See Appendix-1. Also see Report of the Kuttanad Enquiry Commission (1971), Report on Kuttanad Development Project (1974), Report on Comprehensive Development of Kuttanad (1980).

Introduction of new technology and multiple cropping increased the demand for credit. Implementation of land reforms increased the number of small and medium farmers. They required credit for all purposes. This also increased the demand for agricultural credit.

It is important to study the economies of credit use. Reduction of inequalities in the distribution of wealth and income has been adopted as one of the important objectives of an economic policy in developing countries. Agricultural credit policies could be effectively used towards this end, if they are properly formulated. On the other hand, it is likely that agricultural credit programmes may aggravate the existing inequalities if they are not formulated and administered well. The effectiveness of credit policies, in this respect, therefore depends very heavily on a clear understanding of the economic issues involved. A study of credit use might also indicate the effectiveness of agricultural credit as a policy instrument to achieve agricultural growth.

1.2. Research Problem

Most of the farmers are in a vicious circle of low income.* Low incomes result in low savings and low investment which, in turn, result in low incomes. Inadequate

* Ragnar Nurkse, Problems of Capital Formation in Under Developed Countries, Oxford University Press.

internal resources force the farmers to depend on informal credit sources for financing investment. The interest rates charged by the informal sources are high and exploitative. This high cost of borrowing narrows the range over which investment is viable. Increased supply of agricultural credit is not expected to solve the problem of capital shortage because of defective credit planning. The District Credit Plan[†] is prepared on the basis of the guidelines given by the Reserve Bank of India. This does not give much attention to the regional problems of credit planning.

Operation of informal credit market and tenancy resulted in the interlinkages of land, labour and capital markets. This resulted in the exploitation of small peasants. Credit programmes are meant for all, but are actually used by affluent sections only. Hence the increased credit supply could not create any impact on the agrarian relations.

Introduction of agrarian reforms and introduction of new technology increased dependence on casual labourers. High labour absorption in the subsistence agriculture and increased price of input resulted in high cost of cultivation. Price of paddy did not rise correspondingly. As a result,

[†]Features of the District Credit Plan are given in the appendix of chapter one.

subsistence economy's future is bleak. The purpose of the study is to examine these arguments and related issues with the help of empirical evidence from Kuttanad.

The credit schemes are designed to help farmers to earn higher incomes by larger output brought either by an increase in area or by an improvement in yield rates or both. It is difficult to isolate the impact of agricultural credit on agricultural development. Because agricultural development is the combined effect of all inputs. The specific criteria selected for analysing the impact of agricultural credit are how increased supply of credit would bring changes in capital formation, agrarian relations, informal lending and its cost and the changes in area, output, introduction of new technology, income, savings and employment of farm households.

1.3. Objectives

The objectives of the study are :

- 1) to examine the interlinkages of land, labour, credit and commodity markets,
- 2) to analyse capital formation in agriculture and to what extent agricultural credit contributed to it,
- 3) to examine the demand and supply of agricultural credit and interlinkage between formal and informal credit markets,
- 4) to examine different contractual arrangements in the informal sector and the implied interests involved in it,

- 5) to analyse the impact of agricultural credit on output, land utilisation and employment.

1.4. Hypotheses

This study is based on the following hypotheses :

- 1) Increased credit programmes failed to break the interlocking of factor markets.
- 2) Capital formation in traditional agriculture is very low and increased credit could not make any effect on it.
- 3) Supply of agricultural credit is not meeting the demand for agricultural credit.
- 4) Increased supply of credit at low interest could not reduce rural indebtedness.
- 5) Existence of multiple credit market in the informal sector does not mean high implied interest rate.
- 6) Agricultural credit, which is one of the major inputs, did not have expected effect on agricultural development.

1.5. Methodology

The study is based on the empirical results obtained from a three-tier survey viz., farm household, agricultural moneylenders' household and financial institutions survey. Stratified random sampling procedure is used for selecting farm households.

Kuttanad consists of seven agro-climatic zones.³ Considering the structural development status, upper and lower Kuttanad zones are selected for the study. From them two villages each are selected for a comprehensive and extensive search. The villages selected are Thalavady and Kozhimukku from upper Kuttanad and Kavalam and Veliyanad from lower Kuttanad. From each village one hundred farm households are selected at random. For analysing the role of moneylenders a separate survey was conducted. And all the financing institutions of the area were covered with the help of a structured questionnaire as used in the other two cases.

Data for the study are supplemented by holding discussions with the key officials and experts in the field.

1.6. Limitations

Agricultural credit studies are subject to some serious limitations. Credit figures are not always reliable. Peasants do not keep accounts and do not disclose even if they do. Moneylenders and traders are even more reluctant to reveal their credit transactions. Farmers feel sensitive about their debts and they cannot often distinguish between principal and interest repayments. Low income families try

3. Government of Kerala, "Report on Comprehensive Development of Kuttanad", Government Press, Trivandrum, 1980, p.9.

to overstress their economic hardships. At the same time affluent farmers and those who divert credit try to conceive details.

1.7. Plan of the Study

The thesis is divided into seven chapters. The introductory chapter highlights the problem, objectives, hypotheses, methodology, limitations and the theoretical framework of the study.

The second chapter explains the nature of capital formation in agriculture. It analyses rural asset structure, extent, components and sources of capital formation. It also discusses the major factors which determine investment in the agrarian economy of Kuttanad.

Chapter three deals with agrarian relations. It also explains the effect of increased credit supply on the interlinkages of land, labour, credit and commodity markets.

The fourth chapter deals with the demand for agricultural credit. It analyses borrowings, utilisation of credit, credit needs, indebtedness and the relationship between credit and indebtedness.

Relative importance of credit agencies, major sources of supply such as co-operative societies, commercial banks, government, moneylenders, friends and relatives and

interlinkages between organised and unorganised credit markets are included in the fifth chapter.

Chapter six explains various informal credit transactions in agrarian economies. It also discusses the co-existence of multiple systems of loans and the high implied interest rates involved in different credit transactions.

The seventh chapter analyses the impact of agricultural credit on the major determinants of agricultural development such as land utilisation, output, employment and adoption of new technology. It also contains the major findings of the study.

The tables supporting the analytical work in the thesis are appended at the end of every chapter.

1.8. Agrarian Relations in Developing Countries - Theoretical Framework

Agrarian production relations of developing countries appear to be complex.⁴ Hired-labour-based enterprise exists alongwith feodalistic farms and traditional

4. "The agrarian economy which is in the process of rural transformation is characterised by the co-existence and interaction of multiple modes of production," Krishna Bharadwaj, 'Production Conditions in Indian Agriculture', Cambridge University Press, London, 1974, p.2.

peasant farms; systems of labour hiring exist along with share cropping relations; subsistence-oriented production exists together with market-oriented production. Traditional technology plays a great influence on production and productivity stagnates.⁵ Such production relations have been termed as semi-feudal or pre-capitalist.⁶

It is possible to classify countries according to land holding, structure and certain other accompanying characteristics as bimodel and unimodel.⁷ A bimodel structure tends to be associated with a high incidence of wage labour, while a unimodel structure tends to be associated with a high incidence of tenancy. These groups could be further classified according to the level of technological development and

5. Ajit Kumar Ghose, 'Agrarian Reforms in Developing Countries', Select Book Service Syndicate, New Delhi, 1984.

6. Bhaduri describes features of semi-feudalism as share cropping, perpetual indebtedness of the small tenants, simultaneous exploitation through usury and tenancy and the lack of accessibility for the small tenant to the market.

Amit Bhaduri, "A Study of Agricultural Backwardness under semi-feudalism", Economic Journal, Vol.88, 1973, p.120-136.

7. See D. Ghai, E Lee and S. Radwan, "Rural Poverty in the Third World : Trends, Causes and Policy Reorientations", Mimeograph, ILO Geneva, 1979.

the degree of commercialisation. Such classifications do not explain the actual production system.

There are two clearly distinguishable agricultural classes in developing economies. The first class comprises of those who work on land. They include tenants, share croppers, bonded labourers and various types of hired landless labourers. This group can be further divided into independent tenants and other comprising marginal tenants, share croppers and landless labourers. Independent tenants are those who own enough land and capital to be able to continue production and meet family consumption requirements without any need to lease in land or work for wages or borrow from moneylenders. The second group consists of traders, landlords and usurers.⁸

Historical tendencies suggest that the sources of dynamism of agrarian system in developing countries must be sought in the sphere of relationships between the labouring class and the non-labouring share recipients of the produce of land. The independent peasantry has been steadily disintegrating. They have transformed into landlords, marginal

8. Ajit Kumar Ghose (1984).

tenants, share croppers and landless labourers in these countries. A constituent element in the historical process has involved a steady shrinkage of the independent peasantry.⁹

Neither the labouring class nor the non-labouring class are internally homogenous. There are reasons for this. A peasant may also be a moneylender and a trader. These groups are neither stable nor distinguishable. For labouring classes, survival is the main problem and survival strategies are dependent on employability and exchangeability of their labour. Non-labouring groups seeks to maximise their share of the produce of land, which they receive in the form of profit, rent, trading margins and usurious interest. Production relations observed may be viewed as the operation of two sets of mutually contradictory strategies - survival strategies and appropriation strategies.¹⁰

The coexistence of a variety of production relations shows two features of these agrarian systems, viz., personalised economic relations¹¹ and a very low remuneration for labour. For members of labouring class,

9. G. Myrdal, Asian Drama, 3 Vols. Allen Lane, London, 1968; also see Daniel Throner and Alice Throner, Land and Labour in India, Asia Publishing House, Bombay, 1962.

10. Ajit Kumar Ghose (1984).

11. Bhardwaj calls it as 'Operation of Non-market Forces' See Bhardwaj (1974).

employability and exchangeability of labour depends on the nature of personal relationships. Surplus in all forms is extracted in the form of tributes from the producers rather than generated in the process of production. Thus maximisation of surplus involves minimisation of remuneration for labour and not expansion of production and productivity. Personalised economic relations arise from economic and social compulsions - the poverty of labouring class and relative surplus of labour.

In the light of the above discussion some implications can be stated. Firstly, distinctions made between marginal peasants, share croppers and landless labourers are not meaningful. Secondly, surplus appropriation involves only a minimal direct intervention in the production process. This leads to lowering the wage rate. Thirdly, technological change and investment are absent because surplus appropriations are not directly involved in the production process.¹² Accumulation is in the form of transfer of existing productive assets rather than creation of new ones. Lastly, since interest rates, wage rates and rental shares are fixed in personalised relations, they can have different values.

12. Ajit Kumar Ghose (1984).

1.9. Interlinkages in the Factor Market

An interlinked contract is one in which two or more independent exchanges are simultaneously agreed upon. For e.g. when a landlord and a tenant enter into a contract in which the tenant rents a piece of land at a stipulated rent and, at the same time, the landlord extending the tenant credit on specified terms, is an interlinked contract. Interlinkage, which is an important feature of backward agriculture helps in understanding many features. Bailey writes "The watershed is exactly this distinction between single interest and multiple relationships."¹³ As a result of this appreciation, the idea of interlinked factor markets is being increasingly drawn into economic literature.¹⁴

One of the causes of interlinkage is the potential risk of the lender. If the debtor is lender's tenant or has some connection with him, it is unlikely that he will be able to get away. If the debtor has no dealings nor any previous ties with lender, it is likely that he will not repay. In fact, it is unrealistic to assume that for every

13. Bailey, F.U. "The Peasant View of Bad Life," Advancement of Science, 1966 December.

14. Braverman & Sreenivasan T.N., "Agrarian Reforms in Developing Rural Economies characterised by Interlinked Credit and Tenancy Markets," World Bank Staff Paper No.434, Washington 1980; Braverman & Stiglitz. J.E., "Share Cropping and Interlinkage of Agrarian Markets", The American Economic Review, September, 1982.

moneylender among all potential borrower there is a set of people from whom he can always recover his loans.

Traces of the basic idea occurred can be seen in economics and in social anthropology. Wharton emphasised the existence of the dealer-lender-merchant and how this tripple role gave him powers which a mere dealer or lender does not possess.¹⁵ Long¹⁶ stressed the role of interlinkage in his study of Thai and Indian credit markets. The merchants who trade with farmers in Asia frequently combine the activities of relative, moneylender and buyer of output.

The idea that agrarian markets may be interlinked was implicit in the formulation of the structure of agricultural backwardness.¹⁷ Under semi-feudal production relations landlords may refrain from yield raising investment in order to gain from the dual flow of income in the form of rent and interest. Thus, landlord's control over two rural markets has seen to constitute as a constraint on growth in agrarian economies. Bhardwaj explicitly raised rural market interlinkage as an attempt on the part of landlord's

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15. Wharton C.R., "Marketing, Merchandising and Moneylending: A Note on Middleman Monopsony in Malaya", Malayan Economic Review, October 1962.
 16. Long. M, "Interest Rates and the Structure of Agricultural Credit Markets", Oxford Economic Papers, 20, 1968.
 17. Amit Bhaduri, (1973).

exploitation,¹⁸ In this situation tenant is denied the freedom to exercise choice in production and marketing goods.

Bhardwaj's model featured inter-related markets, but they are not clearly interlinked. Tenant's involvement in the land market does not force him into any specific form of involvement in the credit market. The tenant may desist from taking a consumption loan from the landlord. According to Bardhan, labourers, borrowing from moneylenders, who cultivate land of their own were required as part of the contract to provide labour services during the peak season apart from interest payments. This is also a case of market interlinkage.¹⁹ Here, the borrower has no option but to play a predetermined role in the labour market due to the nature of his involvement in the credit market.

Prasad²⁰ supported Bhaduri's view and argued that

18. ".....the term of the lease are not only themselves quite stringent but quite often include stipulation as to what crops the tenants ought to grow and the mode of payment of rent. For instance, he can dictate the rent to be paid in kind and the time of payment", Krishna Bhardwaj, (1974), p.4.

19. Bardhan P.K., "Interlocking of Factor Markets and Agrarian Development : A Review of Issues", Oxford Economic Papers, June 1980.

20. Pradhan H. Prasad, 'Reactionary Role of Usurer's Capital in Rural India', Economic and Political Weekly, Special Number 32,33 & 34, Vol.IX, August, 1974.

semi-proletariat households were found to take consumption loans at higher interest rates from landlords. As their debt accumulated over the years they were compelled to sell their land to the landlords. In spite of selling their land, in most cases they were not able to discharge completely their debt obligations. Thus the landlords could force a system of unequal exchange deriving benefits. He concludes that "usurer's capital plays a historically reactionary role which is not only responsible for low use of means of production and inimical to net investment in agricultural sector, but also responsible for widespread poverty, debt slavery and semi-feudal bondage."

In the rural Kerala it is pointed out that non-institutional credit dominated the rural credit market. The cost of credit was inversely related to the economic status of the borrowers resulting thereby in the greater attachment of wage earning class to their respective employers in comparison to the other class. There are several loan transactions in which the borrowers may not even be aware of the fact that heavy interest is in fact under the rug.²¹

21. T.V. Narayana Kurup, "Price for Rural Credit : An Empirical Analysis of Kerala," Economic and Political Weekly, Vol.XI, No.27, July, 1976.

Bardhan and Rudra²² conclude that tenant landlord as well as labour-employer relationship do not necessarily indicate that usury dominates as the mode of exploitation and the landlord's concern for usurious income from the indebted tenant does not hamper his incentive to encourage production investment.

Khasanbis and Chakravarty's²³ study did not find any interlinkage between tenancy and credit. They observed that the typical landlords did not enter into moneylending practice with their tenants who needed production and consumption credit. The credit market was dominated by moneylenders. Thus these findings seem to be consistent with the result of Rudra and Bardhan.

Chattopadhyaya and Gosh²⁴ found a strong interlinkage between tenancy and credit in a region characterised by large scale peasant mobilisation. They argued that the existence of interlinkage between tenancy and credit could

22. P. Bardhan and A. Rudra, "Interlinkages of Land-Labour and Credit Relations. An Analysis of Village Survey Data in East India," Economic and Political Weekly, Vol.XIII, No.6 and 7, February 1978.

23. R. Khasanbis and J. Chakravarty, "Tenancy Credit and Agrarian Backwardness : Results of a Field Survey", Economic and Political Weekly, Vol.XVII, No.13, March 1982.

24. M. Chattopadhyaya and S. Gosh, "Tenurial Contracts in a Peasant Movement Belt : Field Survey Data on Naxalbari Kharibari and Phansidewa Regions", Economic and Political Weekly, Vol.XVIII, No.26, June 1983.

be explained more effectively by the lack of entrepreneurial and innovative role of landlords.

Chattopadhyaya and Battacharya²⁵ found that tenants have to depend on landlords for credit and take advantage out of it. This has been possible because of the negligible role of institutional credit. Since the relation between employer and labour is casual and the daily contract is not personalised, it is not safe to provide credit to labourers without security. Since they have nothing to offer other than labour force, they are denied credit and therefore concluded that labour market is clearly delinked from noninstitutional credit market.

A study²⁶ on credit, technology and indebtedness among fishermen of Kerala found the intermingling of lending and borrowing and the predominance of intra-community financing, interlocking of credit and labour markets as well as credit and marketing relations, and interest rates

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25. Manabendu Chattopadyaya and Ruma Battacharyaya, "Land, Labour and Credit Relations in a Peasant Movement Belt", Social Scientist, No.130, March 1984.
26. Jean-Philipine, Jose Murickan and Etienna Delbar, "Technology, Credit and Indebtedness in Marine Fishing: A Case Study of Three Villages in South India", Hindustan Publishing Corporation, New Delhi, 1985, also see, "Rural Credit Market in a Backward Area : A Kerala Fishing Village", Economic and Political Weekly, Vol.XV, No.41, 42 and 43, October 1980, "Interlinkage of Credit, Labour and Marketing Relations in Traditional Marine Fishing : The Case of Purakkad", Social Action, Vol.31, 1981.

are the sum of two components, ' the opportunity cost of the loaned amount and the risk premium destined to cover the lender's risk.' Another study²⁷ on the subsistence credit among traditional fishermen found that 'one cannot identify credit given separately from credit takers.'²⁸ By giving interest-free subsistence credit between participating households, "it is a means of guaranteeing a minimum level of consumption; for owner households in need of regular supply of labour it is a way of securing a reliable labour force."²⁹ This system operates through certain institutional arrangements which Scott³⁰ identified as the norm of reciprocity based on the right to subsistence. These studies show that in most of the cases the production relations allow the operation of two modes of production - based on property rights and on usury.

Bhaduri's conclusions have evoked a wide-ranging response. Their net effect has been to establish that there are theoretical and empirical reasons to believe that the

27. Anita Abraham, "Subsistence Credit Survival Strategies Among Traditional Fishermen", Economic and Political Weekly, Vol.XX, No.6, February 1985.

28. Anita Abraham, (1985).

29. Anita Abraham, (1985).

30. James S. Scott, "The Moral Economy of the Peasant", Yale University Press, 1976.

interlinked rural markets need not constrain output,³¹ if the landlord has sufficient power to exploit his tenant borrower and to withhold the innovation by suitably manipulating the rental share, the interest rate and other terms and conditions of tenancy and credit contracts. In terms of Bhaduri's model they are questioning the suitability of assuming exogenously-determined rental shares and interest rates.

An essential condition for Bhaduri's conclusion is that the tenant reduces his borrowings when his income increases as a result of the yield-increasing innovations. But it is argued that if the tenant is a maximiser of a standard intertemporal welfare function of a discounted stream of utility from consumption, then at an unchanging role of discount and interest, borrowing cannot be reduced by the tenant. If the rate of discount exceeds the interest rate, the tenant's borrowing will actually increase with

31. Ghose A.K. & Saith A., "Share Cropping and Interlinking of Agrarian Markets", The American Economic Review, September 1976, Griffin, K.B., "The Political Economy of Agrarian Change", Macmillan, London, 1974, Newbery D.M.G., "The Tenurial Obstacles to Innovation", Journal of Development Studies, July 1975, Raj. K.N., "Keynesian Economics and Agrarian Economics" in C.H.H. Rao and P.C. Joshi ed. "Reflections on Economic Development and Social Change", Allied Publishers, Bangalore 1979. Bliss C.J. and Stern N.H., "Palampur : The Economy of an Indian Village", Oxford, The Calrendon Press 1982, see also Bardhan 1980 and Bardhan and Rudra 1975.

increased yield.³² Even when one takes into account the unanticipated production setbacks driving the share croppers to the unpleasant means of underpaid labour service for meeting his debt obligations to his landlord, the former does not lower his consumption borrowings when his income goes up and thus the landlord's incentive to innovate is not affected. This rests on the assumption that the first period consumption is out of borrowing and the income effect of borrowing is defined as positive.³³

32. Srinivasan T.N., Agricultural Backwardness under Semi-Feudalism-Comment", Economic Journal, 1979.

33. Srinivasan T.N., "Bonded Labour Contracts and Incentives to Adopt Yield-Rising Innovations in Semi-Feudal Agriculture", Mimeograph, 1979, cited by Bardhan.P., (1980).

Problems of District Credit Planning

The functions of planning and banking are entirely different. Banks have to operate in a manner conforming to the plans made by the District Credit Plan. Within the framework of District Credit Planning the lead bank can play the part of financial leader in providing the banking facilities to the district in co-ordination with other financial agencies. Though the District Credit Plans prepared by the lead bank have helped planning and managing credit to priority sectors they still have certain inherent defects.

The district credit plan represents development programmes of bankable schemes which can be taken for implementation by financial institutions within the existing infra-structural facilities. The actual implementation will depend upon the availability of resources and organisational set up of the financing institutions and actual demand forthcoming from public for whose benefits the schemes have been drawn up. If bank's loan operations are to be fruitful and productive, they should give loans only in areas where effective follow-up is possible. Effective implementation of the district credit plan will need considerable strength of organisational base of commercial banks.

The first district credit plan¹ noted that the co-operative sector does not appear to be sufficiently strong in the distribution of credit. Crop loan needs will have to be met jointly by the commercial banks and co-operative societies. A great deal of organisational effort will be needed if the crop loan requirements of the area are to be met. It recommended the following points :

1. Allocating the area of operation in the field of agricultural credit must be based on an area basis.
2. Commercial banks will operate in the area adopted by them and take full responsibility for financing agriculture as per district credit plan. Others will confine their operations to the remaining villages.
3. Where the District Co-operative Bank is not in a position to finance the primary societies adequately, the agricultural credit societies should be affiliated to the branches of commercial banks in the block.
4. Whenever government intends to distribute credit, it must be in those areas which are not covered by other financial institutions.

The second credit plan report² pointed out that there

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1. The District Credit Plan for Alleppey District, State Bank of Travancore, Trivandrum, 1976.
 2. The District Credit Plan for Alleppey District, State Bank of Travancore, Alleppey, 1983.

were vast differences in the shares allotted and accepted under various schemes especially under agriculture during the first plan. In the second plan the shares allotted under all the sectors were accepted in full by the commercial banks. This indicates a slight improvement in credit planning.

The overall achievement of the second credit plan exceeded 100%. But there are sectoral imbalances in the achievements showing a tendency for lopsided growth.³

As per the plan report, the demand for crop loan has come down. This may be attributed to the following factors: (1) conversion of cultivable area, (2) fragmentation of holdings resulting in not availing bank finance being uneconomic, (3) large number of farmers were defaulters of old loans, (4) agriculture has become a subsidiary occupation and (5) area under each crop has come down. The demand for credit is estimated on the guidelines of Reserve Bank of India. This approach is not suitable for estimating the demand for credit. When demand for credit is estimated, the problems and the requirements of credit in the region must be given emphasis.

3. See for more details. The District Credit Plan 1983, p.11-12.

District credit plans and the annual plans prepared by the lead bank have not identified any scheme for linking marketing and credit, which could reduce considerably the problem of mounting overdues.

CHAPTER - IICAPITAL FORMATION

Capital formation signifies additions to the reproducible tangible wealth of the country and measures that part of domestic product which is used in further production. Other factors remaining constant, a higher rate of growth of national product would be the result of higher rate of investment unless the increase in production follows from decline in the average capital output ratio with constant or even lower rates of investment.¹ In a predominantly agricultural country the magnitude of investment in agriculture assumes greater significance. This chapter analyses the nature and extent of fixed capital in agriculture, capital formation and factors determining capital formation. Items of capital formation included in this study are land improvements and purchases, purchase of livestock, implements, machinery, irrigation appliances, transport equipments and repair of farm buildings.

1. Tirupati Naidu. V, Farm Credit and Co-operatives in India, Vora & Company, Bombay, 1968, p.19.

2.1. Fixed Capital in Agriculture

The term fixed capital used here includes owned lands, farm buildings, irrigation appliances, machinery, implements, livestock etc. Table 2.1 shows percentage value of farm asset in each class in each village. Of the total assets, 51.2 per cent is held by big farmers, 25.13 per cent by medium farmers and 23.62 per cent by small farmers. The per acre fixed capital stock increases upto 7.50 acres and then diminishes as size of holdings increases. It may be due to the nature of economies of scale which operate when size is increased.

2.1.1. Village-wise Comparison of Fixed Capital

The village-wise distribution of assets showed that, of the total assets, 35 per cent is in Kavalam, 26.19 per cent in Veliyanad, 20.08 per cent in Kozhimukku, 18.73 per cent in Thalavady. The per acre stock of fixed capital in all villages, diminishes as the size of holdings increases for holdings above 7.50 acres but with some fluctuations.

The village-wise analysis reveals that in Kavalam village, of the total fixed capital stock, small farmers have 17.88 per cent, medium farmers 19.60 per cent and big farmers 62.53 per cent. In Veliyanad village small farmers

have 22.63 per cent, medium farmers 24.18 per cent and big farmers 53.05 per cent. In Kozhimukku village, small farmers have 28.23 per cent, medium farmers 29.69 per cent and big farmers 43.08 per cent and corresponding shares in Thalavady are 29.44 per cent, 31.8 per cent and 31.90 per cent respectively.

2.1.2. Components of Fixed Capital

Table 2.2 shows the percentage and per acre components of fixed capital stock in each size of holdings.

2.1.2.1. Land

Table 2.2 revealed that land accounts for more than 94 per cent of the total assets in each size group. It is due to the fact that in this region land is the major item of fixed capital and conceals the true picture of asset structure. Farm land is central to the issue of capital and finance in agriculture and raises problems very different from those associated with other types of capital. While its supply is strictly limited and inflexible, land is the object of competing and growing demands. The demand for land is increasing because of the constant increase in the need for land in the process of structural change.²

2. O.E.C.D., Capital and Finance in Agriculture, Agricultural Policy Report, Volume 1, Paris, 1970, p.10.

2.1.2.2. Farm Buildings

When the size of holdings increases the value of farm buildings per acre increases upto the size 5.01 to 7.50 acres and then diminishes. A characteristic feature of farm buildings is that all farmers, except a few with landholdings less than 2.50 acres, have separate enclosures for cattle and implements. Those who do not have separate enclosures generally use a portion of the residential house as cattle and implements shed. Out of the 400 sample cultivators 23 per cent have no separate farm buildings, out of which 93 per cent are small farmers. Generally the farm produce is stored in the residential houses. Out of the sample cultivators, nearly 29 per cent are large cultivators. About 40 per cent of them have separate godowns.

As the study reveals the farm buildings constitute only about 1.2 per cent of the total fixed capital stock in Kuttanad agriculture. The proportion of farm buildings to total fixed capital stock is 1.2 per cent in Kavalam.

2.1.2.3. Irrigation Appliances, Machinery, Implements and Others

Irrigation appliances, machinery, implements and others account for 2.7 per cent of the total assets, of which 0.71 per cent, 0.70 per cent, 0.46 per cent and 0.83

per cent are the respective shares of each item. In the case of machinery and implements the per acre value of assets increases upto the holding size 7.50 to 10.00 acres and then declines. - The per acre value of irrigation appliances increases upto the holding size 5.01 to 7.50 acres and then diminishes.

2.1.2.4 Livestock

Livestock has 1.53 per cent of the total value of fixed capital stock. Of this 42.5 per cent is held by small farmers, 29.4 per cent by medium farmers and 28.1 per cent by big farmers. The per acre value and percentage share of each size of holdings, except 10.01 to 15.00 acres, diminishes with increase in the size of holdings. The major components of livestock are milch animals and poultry.

The village-wise analysis reveals that, of the total fixed capital stock in each village the share of livestock is 1.26 per cent in Kavalam, 1.53 per cent in Veliyanad, 2.02 per cent in Kozhimukku and 2.73 per cent in Thalavady. The percentage value of livestock diminishes as the size of holdings increases in Thalavady and in all other villages the percentage value of livestock increases for the size of holdings above 15.00 acres.

2.2. Extent of Gross Capital Formation

The gross capital formation includes additions to assets plus replacement of assets during a period. The sample study revealed that during the last three years investment in farm assets was increasing slightly. It was due to the increased use of inputs to bring about a breakthrough in the existing technology so as to improve agricultural situation. Table 2.3 shows the village-wise gross capital formation in different size of holdings.

Table 2.3 reveals that the per acre investment in Kuttanad is Rs.625.03. The respective per acre investments are Rs.531.89, Rs.662.61, Rs.628.78 and Rs.668.06 in Kavalam, Veliyanad, Kozhimukku and Thalavady. Of the total investment in the surveyed villages 26.00 per cent is in Kavalam, 20.06 per cent in Veliyanad, 26.68 per cent in Kozhimukku and 27.26 per cent in Thalavady. The per acre investment increased for the size of holdings upto 5.01 to 7.50 acres and then diminished with the increase in the size of holdings in all villages except Kavalam. In the village of Kavalam it diminished for holdings upto 5.01 to 7.51 acres, and then increased and again diminished. This shows that the small farmers invest partly to have more returns from the limited area under plough and to have a minimum investment essential to perform the normal agricultural operations.

2.2.1. Components of Capital Formation

Table 2.4 shows the per acre capital formation in different size of holdings in Kuttanad.

2.2.1.1. Land

Table 2.4 reveals that the investment on land is the highest, 49.35 per cent. The percentage investment on land by farmers with different size of holdings shows that all the farmers invested substantial amount on land. Small farmers invested 48.38 per cent, medium farmers 51.48 per cent and big farmers 48.19 per cent on land. Of the total investment on land, nearly 40 to 45 per cent amounts for purchase of land in all villages. The per acre investment on land diminishes as the size of holdings increases except for the size of holdings 5.01 to 7.50 acres. In all the four villages the per acre investment diminishes except in the case of medium farmers.

2.2.1.2. Farm Buildings

Of the total investment, 7.46 per cent is invested on farm buildings. The per acre investment on farm buildings is Rs.46.6. It decreases as the size of holdings increases except in the class 5.01 to 7.50 acres. The village-wise data reveal that the investment on farm buildings varies between 6 and 9 per cent in all the

Villages. The per acre investment in all the villages showed fluctuations as Rs.36.72, Rs.47.42, Rs.53.32 and Rs.49.49 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. The per acre investment by farmers of different size groups in four villages did not give a uniform pattern. The per acre investment by farmers of different sizes of landholdings declined as size of holdings increased in the three villages except Veliyanad. It has increased upto the size 5.01 to 7.50 acres and then declined.

2.2.1.3. Irrigation Appliances

The percentage of investment on irrigation equipment is 4.6 per cent of the total investment. The percentage investment in each class varied between 2 per cent and 5 per cent in each village. The per acre investment on irrigation equipment is Rs.28.77. It increased for the size upto 5.01 - 7.50 acres and then diminished. The village-wise figures show that, the per acre investment is Rs.29.7, Rs.31.19, Rs.28.93 and Rs.24.25 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. In the case of investment by different size groups, the per acre investment increased the size upto 5.01 to 7.50 acres in each class and then diminished in all villages except in Kavalam, where it showed fluctuations. In this village small farmers invested Rs.32.05, medium farmers Rs.62.66 and big farmers Rs.21.42 per acre.

2.2.1.4. Farm Machinery

The investment on farm machinery is 5.47 per cent of the total investment. The percentage investment in different size group showed some fluctuations. The average per acre investment by farmers of all four villages is Rs.36.87. The per acre investment on farm machinery increased initially, then diminished as size of holdings increased. The village-wise analysis of per acre investment by all farmers is Rs.36.65, Rs.35.72, Rs.34.95 and Rs.21.45 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. The investment per acre by farmers of all villages showed that it increased for small holdings, and then diminished as size of holdings increased.

2.2.1.5. Implements

The investment in implements is 3.79 per cent of the total investment by all the farmers. The percentage of investment in different size of holdings increased as the size of holdings increased. The average per acre investment in each class diminished when size of holdings increased. The village-wise data shows that, the per acre investment is Rs.19.65, Rs.21.67, Rs.27.87 and Rs.25.52 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. The per acre investment on farm implements in each class diminishes in all villages except in Kavalam, where it showed fluctuations.

2.2.1.6. Livestock

Table 2.4 reveals that livestock has contributed 23.12 per cent of total investment and has the second major share in Kuttanad. Of this small farmers invested 29.67 per cent, medium farmers 20.21 per cent and small farmers 19.68 per cent. The percentage investment by different size group shows that investment in livestock diminishes with the increase in holdings. The per acre investment in livestock is Rs.144.50. It diminishes with the increase in the size of holdings. The per acre investment are Rs.120.39, Rs.137.98, Rs.135.03 and Rs.184.65 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. The per acre investment increased initially and then declined in three village except in Kavalam, where it diminished as the size ^{of} ~~holdings~~ holdings increased.

Other items in capital formation include purchase of transport equipments i.e., country crafts, improvements in orchards etc. Of the total investment other items constitute 6.6 per cent. The percentage investment by farmers of each size group increased as the size of holdings increased. The per acre investment is Rs.41.62 for all villages. The village-wise data show that per acre investments are Rs.27.11, Rs.58.39, Rs.35.83 and Rs.47.73 in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively.

The per acre investment in each size group for all the villages did not show any definite pattern.

2.3. Classification of Capital Formation

Cultivators generally make new investments with a view to either save labour or increase yields. Therefore the data for investment have been classified into three categories namely, labour saving items (purchase of improved implements, machines and transport equipments) yield increasing items (land improvement and irrigation appliances) and essential items (purchase of livestock, traditional implements and construction and repairs of farm buildings). Table 2.5 shows the classification of capital formation on yield increasing, labour saving and essential items.

Table 2.5 reveals that out of the total investment 53.6 per cent is on yield increasing, 9.04 per cent on labour saving and 37.36 per cent on essentials in Kuttanad. As the size of farm increases, percentage investment on yield increasing and labour saving items increases. In the case of essential items, even though it declines, there is no definite pattern. The per acre investment on yield increasing, labour saving and essentials diminishes as size of holdings increases. The average investment per acre on yield increasing items is Rs.339.98, on labour saving items Rs.56.31 and for essentials Rs.232.19. As the size

of each class increases, percentage investment in yield increasing items increases upto the size 5.01 - 7.50 acres and then diminishes; in the case of labour saving items it increases initially and then diminishes; and investment on essentials diminishes initially and then increases. The above analysis reveals that farmers are interested in investments on yield increasing and essential items. The increased yield in turn creates funds for further investment. Because of the nature of cultivation, labour saving devices have little applicability.

The village-wise analysis revealed that the percentage of investment on yield increasing, labour saving and essentials did not show any definite pattern, but it showed some fluctuations as the size of holdings increased. But investment per acre on three items showed decreasing trend with some fluctuations as the size of holdings increased in all the four villages.

2.4. Sources of Capital Formation

The major sources of capital formation are savings, borrowings, liquidation of assets, family labour and other sources especially appreciation in the value of assets. It is evident from table 2.6 that major portion of the total capital formation is financed by borrowings. In Kuttanad

more than 40 per cent of the investment is financed by borrowings, 23 per cent by savings, 18 per cent by liquidation of assets, 4 per cent by family labour and 12 per cent by other sources. Percentage of investment financed by borrowings diminished as the size of holdings increased and the share of savings to capital formation increased as the size of holdings increased. Thus we conclude that investment in agriculture depends on borrowings. In this context it is worthwhile to analyse income saving and investment of farm households.

2.4.1. Income Saving and Investment - Cross Section Analysis

The total income is the value of all crops produced on the farm. The main product as well as by-products have been evaluated at the prevailing prices. Income earned from other sources in agriculture (dairying, hiring out of implements etc.) are also included to the total income. It is observed from table 2.7 that total income increases (both per acre and household) as the size of holdings of farm households increased. Income on all size groups of farms continued to rise slightly from year to year. This may be the result of persistent rise in the prices of agricultural commodities accompanied by the increase in farm output.

Savings may be measured by two methods, namely direct and indirect.³ In the direct method, savings are straightaway estimated at the end of a particular year; while in the indirect method, income and expenditure of households are measured to estimate the savings. In this study, indirect method has been followed to measure the savings of the farmers, since the adoption of the direct method present a number of difficulties relating to accuracy. A perusal of table 2.7 indicates that savings increase with the increase in size of holdings. In other words large farmers are able to save higher percentage of their total net income in comparison with small farmers. This behaviour is due to the fact that marginal propensity to consume goes on decreasing with an increase in the incomes of the cultivating families. Therefore, the percentage of total income consumed decreases as the size of holdings increases resulting in comparatively higher savings of large farmers. The average savings per acre is Rs.190.

The net funds available for investment has been worked out by deducting the amount of borrowings repaid

3. Bansal. M.R., Capital Formation in Agriculture,
Pragat Prakashan, Meerut, p.79.

and financial investments from the sum of savings, borrowings and receipts from the liquidation of assets during the period under study. The net amount available for investment and actual amount in agricultural operations are given in table 2.7. The average amount available for investment is Rs.1830, actual investment Rs.1723 and balance Rs.107. The figures reveal that as the size of holdings increases (both per family and per hectare) funds available for investment increases. This is consistent with the trend observed in the case of savings. The balance is the amount hoarded, or which is not reported by cultivating families. Probably the cultivators hoard a part of their income for precautionary demand for money.

2.5. Determinants of Investment

Agriculture in many backward agrarian economies are characterised by low rate of capital formation. Some authors⁴ argue that the main reason for the low rate of

4. Schultz. T.W., (1964); Lockwood. S, "Pattern of Investment in Farm Machinery and Equipment", Economic and Political Weekly, Vol.7, No.40, 1972;

(contd.)

investment in agriculture is the absence of profitable investment opportunities. Traditional farmers allocate resources optimally among various uses. Since resource allocation is optimum, returns are low. This means that new investment opportunities created with better technology will increase returns and, in turn, capital formation. Investment as a positive function of opportunities created has been challenged by some writers.⁵ They are of the view that interlinkages in factoral market may impede capital formation. According to Bhaduri,⁶ semi-feudal characteristics of agriculture may help to create a situation where innovation is impeded and investment constrained. He argues, under semi-feudal relations, landlords assume dominance in decision-making and impede innovation and investment by tenants through interlinkages in the factoral market. In

(F.N.4 contd.)

Johnson D.G., "Resource Allocation Under Share Contracts", Journal of Political Economy, Vol.58, No.2, 1950; Lipton. M., "Theory of Optimum Peasant", Journal of Development Studies, Vol.4, No.3, 1968.

5. Bhardhan P.K. & Rudra A., (1978); Bhaduri, A., (1973); Bharadwaj and Das. P.K., "Tenurial Conditions and Mode of Exploitation : A Study of Some Villages in Orissa", Economic and Political Weekly, Vol.10, No.5-7, 1975.
6. See Chapter Three.

this situation some such factors are examined to identify the ways in which they affect capital formation in agriculture.

2.5.1. High Net Returns

High net returns or profitability of farm investment is an important variable explaining investment behaviour of farm households. If we assume the availability of necessary resources and farmers take rational decisions, it is then expected that farmers will undertake productive investments, if such investments fetch high returns than alternative investment funds.

In this connection we can examine the returns from agriculture and that from informal sector, especially moneylending. Informal moneylending has two effects : firstly, high returns may divert capital away from productive channels and secondly, under semi-feudal production relations, it is informal money lending which impedes innovation and investments. Here we examine both these views.

It is observed that in all the villages the rate of interest⁷ is higher than the marginal rate of

7. Rate of return on moneylending has been calculated as the percentage of total interest payment to total loan advanced. The interest rate in informal sector varies from 40 to 60 per cent per year and that of organised sector 11 per cent, the average comes to 33 per cent.

return⁸ on capital employed in agriculture. Since large households are usually the main suppliers of credit, the above finding may be advanced as a factor explaining lower investment among them.

As far as the effects of moneylending and semi-feudal relations on investment, one cannot be sure of such a phenomenon. According to Bhaduri, landlords enjoy two sources of income, one from providing consumption loans to tenant and the other from rent. Landlords will impede investment by tenants if the expected loss in moneylending is larger than the gain from share rent through investment. The doubt about this reasoning arises due to the assumptions of the model.⁹ One cannot argue that the

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8. Marginal rate of return has been calculated by partially differentiating the respective linear regression equations, land labour capital as independent variables and output per acre as dependent variable. The linear regression for each village and Kuttanad are given below : See Appendix Chapter - II.

Kavalam :- $Y = -.56 x_1 - 2.05 x_2 + 3.32 x_3 + 1.07$
(Table 2.8 (a))

Veliyanad :- $Y = 16.5 x_1 + 3.6 x_2 - 6.53 x_3 + 6.07$
(Table 2.8 (b))

Kozhimukku :- $Y = 2.92 x_1 - .75 x_2 + 1.75 x_3 + 1.37$
(Table 2.8 (c))

Thalavady :- $Y = -1.04 x_1 + 2.12 x_2 - .48 x_3 + 3.82$
(Table 2.8 (d))

Kuttanad :- $Y = - 0.63 x_1 - 0.60 x_2 + 1.56 x_3 - 1.03$
(Table 2.8 (e))

9. See Chapter Three.

coexistence of share-cropping and moneylending will necessarily enhance investment. Existence of high returns from moneylending in some cases and under special circumstances does not necessarily mean that capital is diverted to that channel from productive uses of funds.

In traditional agriculture the relationship between productive investment and returns from such funds may be affected by several other factors. Firstly, traditional households may be very doubtful about the returns from any investment and therefore may attach a high risk premium in their calculation of expected profits. Lipton¹⁰ calls this view as 'survival algorithm'. They do not base their calculations on marginal returns but on average returns, and unless marginal returns are high they may refrain from undertaking productive investment.¹¹ Secondly, even if returns are very high the farm households may not be able to invest because of lack of opportunities. Thirdly, in pre-capitalist agriculture there may be various other alternative uses of funds which may not yield high returns, may nevertheless be an integral part of life styles. This may lead to an enhancement of social prestige.

10. Lipton, M., "The Theory of Optimising Peasant", Journal of Development Studies, Vol.4, No.3, 1968.

11. Epstein, T.S., "Economic Development and Social Change in South India", Manchester University Press, Manchester, 1962.

Finally, the ex-post relationship between productive investment and profitability is positive in some cases, it may not be a genuine one. Even with a static technology such a relationship may obtain because of the variation of labour use per acre of land. Reference may be made to the arguments on size of holding and land productivity.¹² The inverse relationship observed between the two in many studies¹³ stems largely from greater use of 'cheap labour on smaller holdings. Unless we eliminate the effect of variation in the use of labour among different farm households, one cannot conclude anything about the relationship.

2.5.2. Existence of Share Cropping

The traditional view on the disincentive effect on tenants arising out of share cropping is given by Johnson.¹⁴

12. Bhardwaj, K. 1974; Battacharya, N. & Sani G.R., "Farm Size and Productivity : A Fresh Look", Economic and Political Weekly, Vol.7, No.26, 1972; Chandra N.K., "Farm Efficiency under Semi Feudalism and Some Marxist Formulations", Economic and Political Weekly, Vol.9, No.32-34, 1974. Chattopadhyay, P and Rudra A., "Size Productivity Revisited", Economic and Political Weekly, Vol.11, No.39, 1976. Rudra A. and Bandopadhyay B., "Marginalist Explanation for more Intense Labour Input in Smaller Farms : Empirical Verification", Economic and Political Weekly, Vol.8, No.2, 1973.

13. Bhardwaj, K., (1974); Battacharya N. and Sani G.R., (1972); Chattopadhyay, P. and Rudra A., (1976).

14. Johnson, D.G., (1950).

Cheung¹⁵ raised serious challenge and argued that resource allocation is invariant to the tenurial status of farms. The landlords maximise their income by stipulating in the lease contract, and/or the amount of non-land inputs and/or by parcellisation of leased land among a number of tenants. By controlling any of the variables the landlords can optimise their income and ensure an optimal utilisation of resources by their tenants. Cheung gave a very dominant role to landlords and ignored objective functions by tenants and derived his results. Bardhan and Sreenivasan¹⁶ argued that if the objective functions of the tenants are included, Cheung's conclusion becomes invalid and thus revert the argument that resources are misallocated under share-cropping.

Difference in opportunity cost of resources for different categories of farm households and its implication for the existence of share cropping arrangements will give only partial answer for incentive to invest. Share croppers, who have lower opportunity cost of labour in relation to capital, will not have much of an incentive for productive

15. Cheung, S.N.S., "The Theory of Share Tenancy", University of Chicago Press, Chicago, 1969.

16. Bardhan, P.K. & Sreenivasan T.N., "Crop-sharing Tenancy in Agriculture : A Theoretical and Empirical Analysis", American Economic Review, Vol.61, No.1, 1971.

investment, especially labour saving.¹⁷ Only minimum amount of labour and capital can be used for productive investment, if they have some incentive for undertaking investment. Such investments may have some constraints. Where landlords have sufficient power to vary the share rent, any improvement in the quality of land may tempt them to demand a larger share of increased produce. Insecurity of tenure and risks may reduce incentive for investment. Thus tenants may not be interested in investments on leased land, not even by their own labour, but may prefer to lease in more land or accept wage employment to supplement their income.¹⁸ In Kuttanad, after the Tenancy Abolition Act,¹⁹ leasing of land is informal and landlords lease out land only for one or two crops. After each crop landlords change terms and conditions. Thus there is no security of tenure and hence impedes productive investment.

Under share cropping arrangements, landlords receive only a portion of the produce from their land.

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17. Atique Rahman : "Surplus Utilisation and Capital Formation", Bangladesh Development Studies.
18. Myrdal, G., Asian Drama : An Enquiry into the Poverty of Nations, Vol.II, Penguin Press, London, 1968.
19. Land Reforms Act 1963.

Unless they can control complementary input-use by tenants and able to vary rent to their advantage they are unlikely to be interested in productive investment on leased out land. If the marginal return from productive investment on leased out land is higher than opportunity cost of capital plus enforcement of stipulated input use and other forms of related controls, the landlords would refrain from productive investment on leased out land.²⁰

According to table 2.8 the participation by landlords and tenants in productive investment has resulted in only a small proportion of landlords and tenants making investments on leased land i.e., only 22 per cent in Kavalam, 18 per cent in Veliyanad, 26 per cent in Kozhimukku and 24 per cent in Thalavady. In the case of tenants the respective percentages were 14, 18, 15 and 17. Participation of tenants and landlords in productive investment reveals that share-cropping arrangements may have disincentive effect on productive investment.

2.5.3. In Kuttanad most of the farmers are not able to save anything from agriculture. They are perpetually in debt. As a result land cultivated by any average farmer has no chance of improvement. Since the returns are very low,

20. Atique Rahman.

even if they could save, there is a common tendency among farmers to divert the funds to informal sector. In addition to affecting capacity to save and invest, low incomes are of direct relevance on propensity to innovate. This is because when incomes are low the risks appear to be greater.²¹

2.5.4. Population

Another factor which prohibits application of capital is excess pressure of population. Labour intensive agricultural production, the type followed in Kuttanad, greatly restricts the value of output per head, since there is an inverse relation between labour intensity and yields per labour.²² Low income and consequent low ability to take risk, small size of farms and labour intensive techniques are basic to mode of capital handling and give the technology used an appearance of traditionality.

2.5.5. Government Investment

Government investment in agriculture and various support activities are designed to create infrastructural

21. Belshaw, H., Provision of Credit with Special Reference to Agriculture, Cambridge, England, 1931.

22. Belshaw (1931).

facilities and to provide necessary incentives for increased production and it will create external economies. One such investment in Kuttanad is the construction of permanent bunds by Kerala Land Development Corporation. This helped to convert paddy fields to double cropping areas. But certain investments by government may compete with that of the private sector and thereby dampen the incentive of the private sector to undertake such investments. For example, the government is spending substantial amount in supplying improved inputs, with the expectation that the poor farmer will be able to derive the benefits of the subsidised programme. However, in many cases such programmes are monopolised or diverted to influence large farmers.

2.5.6. Size of Holdings

In Kuttanad the average size of holdings is small and almost all the holdings are fragmented. About 60 per cent of cultivators have holdings less than 5 acres and almost all fields are fragmented in two or more pieces. A small size farm can hardly afford a firm economic basis for large scale investment. If the size of farm is too small, any addition of capital may mean underutilisation or waste. Small farms are more capital-intensive because of the indivisibility of certain forms of capital.

2.5.7. Religious and Social Factors

In a peasant society the religious and social ideology of farmers can have a negative effect on capital formation. The claims of kin and fulfilment of ritual obligations frequently override considerations of economic efficiency. The data collected do not permit us to analyse this aspect.

2.6. Future Capital Requirement

Future capital requirements depend on several factors, in particular the rate of increase in agricultural production, the rate of outflow of agricultural labour and the rate of structural change. The more rapid these trends, the greater capital requirements are likely to be. Furthermore, capital requirements are influenced by technological developments.

Appendix to Chapter -II

Since the number of observations are small, we use chi-square test to find goodness of fit. The values are tested at 5% significance level. The calculated X^{2+} values and table values are given in the following table.

Villages	Calculated Values of $X^2 \leq \left(\frac{O - E}{E}\right)^2$	Table Values (5% level)
Kavalam	518	18.307
Veliyanad	1404	18.307
Kozhimukku	-703	18.307
Thalavady	549	18.307
Kuttanad	978	18.307

For Kavalam, Veliyanad and Thalavady villages, the calculated value of X^2 is higher than the table value and the result of the experiment does not support our hypothesis. For Kozhimukku and for Kuttanad, the table value is higher than the calculated value of X^2 hence the result of the experiment does not provide any evidence against the hypothesis.

[†]Chi-square

Table 2.1. Farm Assets Structure in Each Class in the Selected Villages of Kuttanad
(in Rs.)

Village	Size	Upto						Total
		2.50	2.51-5.00	5.01-7.50	7.51-10.00	10.01-15.00	15.01 and above	
Kavalam	11827.38 (7.69)	12450.72 (10.19)	11709.48 (12.08)	12108.00 (7.52)	11605.37 (21.00)	12257.16 (41.53)	71958.11 (29.89)	
Velliyand	10140.45 (11.04)	10536.23 (11.59)	11463.06 (11.50)	8267.45 (12.68)	10859.26 (21.40)	13016.22 (31.65)	64282.67 (26.72)	
Kozhimukku	9996.20 (14.67)	10405.39 (14.86)	10475.32 (14.75)	10094.14 (14.94)	6750.38 (19.24)	5629.52 (21.52)	53350.95 (22.16)	
Thalavady	8777.72 (14.34)	9163.74 (15.10)	11188.53 (15.69)	10606.62 (16.21)	6005.79 (18.37)	5369.44 (20.29)	51111.84 (21.23)	
All Villages	10068.84 (11.21)	10929.77 (12.41)	11660.35 (13.14)	10110.07 (11.99)	8829.03 (20.25)	9383.49 (30.95)	240703.57	
		23.62	25.13			51.2		

Figures in brackets show percentages

Source : Sample Survey.

Table 2.3. Per Acre Capital Formation in the Selected Villages

Village	Size Upto	At Kuttanad (in Rs.)						Per-centage
		2.51 -	5.01 -	7.51 -	10.01 -	15.01 and above	All Class	
Kavalam	1083.38	964.02	740.17	1081.96	402.99	242.24	531.89	26.00
Viliyanad	821.13	939.79	1043.41	662.12	509.17	421.25	662.61	20.06
Kozhimukku	900.23	938.63	970.39	776.54	443.91	329.69	628.78	26.68
Thalavady	900.96	925.38	1107.38	909.40	456.05	377.65	668.06	27.26
All Villages	924.4	968.64	1003.21	831.45	452.21	322.36	625.03	100.00

Source : Sample Survey.

Table 2.4. Per acre and Percentage* Components of Capital Formation in Kuttanad
(in Rs.)

Items	Upto 2.50		2.51- 5.00		5.00- 7.50		7.51- 10.00		10.01- 15.00		15.0 & Above		All Class
	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	
Land Improvement	466.38 (50.84)	445.43 (45.92)	478.51 (48.73)	443.75 (53.63)	222.15 (49.33)	150.80 (47.04)	235.71 (48.80)						
Buildings	66.47 (7.25)	58.17 (6.00)	97.92 (9.97)	64.80 (7.80)	39.57 (8.80)	24.01 (7.50)	44.66 (7.46)						
Irrigation	24.69 (2.69)	27.28 (2.80)	62.99 (6.40)	47.37 (4.70)	25.32 (5.60)	14.81 (4.62)	28.77 (4.60)						
Machinery	27.82 (3.03)	71.80 (7.40)	53.83 (5.48)	48.10 (5.80)	19.89 (4.40)	16.05 (5.00)	36.87 (5.47)						
Implements	26.05 (2.80)	29.94 (3.09)	22.52 (2.29)	23.23 (2.80)	18.19 (4.03)	25.18 (7.86)	23.70 (3.79)						
Livestock	257.33 (30.01)	284.48 (29.33)	230.19 (23.44)	140.49 (16.98)	88.05 (19.55)	63.48 (19.80)	144.50 (23.12)						
Others	37.68 (4.10)	51.53 (5.31)	57.26 (5.80)	63.71 (7.60)	37.17 (19.55)	29.36 (9.16)	41.62 (6.66)						
Total	917.27	969.93	982.02	827.48	460.69	320.55	580.70						
Percentage total	17.32	18.68	18.77	16.64	17.52	17.93	100.00						

*Percentage to total.

Figures in Bracket show percentages, Source: Sample Survey.

Table 2.5. Classification of Capital Formation

(In Rupees)

Classification Size	Yield Increasing	Labour Saving	Essentials
T	127080	13290	97000
Upto 2.50		5.60	40.86
P.A	491.07	(10.00)	374.84
2.51-5.00			(17.66)
T	125090	26800	104070
P.A	474.00	(15.87)	394.35
5.01-7.50			(18.95)
T	141750	23700	91800
P.A	541.11	(17.99)	350.44
7.50-10.00			(16.71)
T	135290	23150	69505
P.A	491.12	(17.17)	252.31
10.01-15.00			(12.65)
T	131960	21700	86470
P.A	247.46	(16.74)	162.16
15.01 and above			(15.74)
T	126825	22600	96480
P.A	165.48	(16.09)	125.89
15.01 and above			(17.56)
T	788085	132870	549315
P.A	333.98	(100.00)	232.79
All Class			(100.00)

T - Total. P.A. - Per Acre
 Figures in Square Brackets show Percentage in Each Class.
 Figures in small brackets shows Percentage total Expenditure for Each Item in Each Class.
 Source : Sample Data.

Table 2.6 Sources of Capital Formation

Size of holdings in Acres	Percentage of savings	Percentage of borrow- ings	Percentage of liqui- dation of Assets.	Percentage of family labour	Others	Total
Upto 2.50	16	48	10	18	8	100
2.51 - 5.00	21	43	15	6	15	100
5.01 - 7.50	28	42	18	--	12	100
7.51 - 10.00	30	40	16	--	14	100
10.01 - 15.00	32	38	20	--	10	100
15.01 and above	36	38	21	--	5	100
All	23	43	18	4	12	100

Table 2.7 Income Saving and Investment Relation

Size of holdings in Acres	Income		Savings		Amount Available for Investment		Actual Investment		Balance	
	P.H	P.A	P.H	P.A	P.H	P.A	P.H	P.A	P.H	P.A
Up to 2.50	991	588	64	38	2743	1620	2245	1500	500	120
2.51- 5.00	3219	975	354	108	7415	2255	6963	2110	452	137
5.01- 7.50	5244	1000	893	170	11810	2263	11100	2120	702	134
7.50 -10.00	7898	976	1617	200	21738	1795	13500	1670	629	78
10.01-15.00	11707	966	2824	233	25575	1302	20063	1650	1676	138
15.01 and above	18176	925	4785	243	25575	1302	25370	1290	204	104
All Class	5245	889	4487	190	10095	1830	9467	1723	627	107

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P.H - Per Household.

P.A - Per Acre.

Table 2.8(a). Levels of Output Per Acre And Inputs Per Acre in Different

Size of Holdings in Kavalam

Size of Holdings	x ₁ Land Holdings	x ₂ Investment Per Acre	x ₃ Labour	Y Gross Output	N No. of Households
Upto 2.50	53	1500	60	22	40
2.51 - 5.00	67	1575	70	24	17
5.01 - 7.50	84	1600	80	26	12
7.51 - 10.00	51	1550	80	25	7
10.01 - 15.00	147	1520	85	24	11
15.01 and Above	276	1625	90	22	13

Source : Sample Survey.

Table 2.8(b). Levels of Output Per Acre and Inputs Per in Different Size

<u>of Holdings in Veliyanad</u>					
Size of Holdings	x ₁ Land Holdings	x ₂ Invest- ment	x ₃ Labour	Y Gross Output	N No. of Households
Upto 2.50	66	1400	63	21	42
2.51 - 5.00	66	1860	67	23	21
5.01 - 7.50	61	2170	70	25	10
7.51 - 10.00	89	1438	80	24	10
10.01 - 15.00	119	1138	84	24	9
15.01 and Above	147	1065	88	22	8

Source : Sample Survey.

Table 2.8(c). Levels of Output Per Acre and Inputs Per Acre in Different
Size of Holdings in Kozhimukku Village

Size of Holdings	X ₁ Land Holdings	X ₂ Invest- ment	X ₃ Labour	Y Gross Output	N No. of Households
Upto 2.50	68	1150	60	24	33
2.51 - 5.00	67	1575	70	26	19
5.01 - 7.50	66	1920	70	28	13
7.51 - 10.00	69	2140	75	30	10
10.01 - 15.00	133	1300	80	28	13
15.01 and Above	178	1188	85	26	12

Source : Sample Survey.

Table 2.8(d). Levels of Output Per Acre and Inputs Per Acre in Different Sizes

of Holdings in Thalavady Village

Size of Holdings	X ₁ Land Holdings	X ₂ Investment	X ₃ Labour	Y Gross Output	N No. of Households
Upto 2.50	71	1330	60	24	38
2.51 - 5.00	72	1770	67	26	23
5.01 - 7.50	61	2400	74	25	15
7.51 - 10.00	67	2400	80	28	8
10.01 - 15.00	133	1540	82	30	10
15.01 and Above	164	1332	84	26	6

Source : Sample Survey.

Table 2.8(e). Levels of Output Per Acre and Inputs Per Acre in Different

Size of Holdings in Kuttanad						
Size of Holdings	x ₁ Land Holdings	x ₂ Investment per acre	x ₃ Labour	Y Gross Output	N No. of Households	
Upto 2.50	258	1470	62	23	153	
2.51 - 5.00	264	1600	64	25	60	
5.01 - 7.50	262	1675	68	26	50	
7.51 - 10.00	275	1650	74	24	31	
10.01 - 15.00	533	1700	82	25	44	
15.01 and Above	766	1525	86	24	39	

Source : Sample Survey.

Table 2.9. Extent of Participation by Landlords and Tenants in ProductiveInvestment in the Selected Villages ofKuttanad

Villages	No. of Landlords	of Productive Investment leased out land	Percentage of investment	Investment per acre	No. of Tenants	of Percentage investment	Participation in Productive Investment on leased in land	Investment Per acre
Kavalam	28	22	69	45	14	35		
Veliyanad	32	18	42	40	18	46		
Kozhimukku	24	26	80	25	15	42		
Thalavady	20	24	74	10	17	40		

Source : Sample Survey.

CHAPTER - IIIAGRARIAN RELATIONS IN KUTTANAD

Although the land reforms of the 1960s have brought changes in the agrarian structure of Kerala, the trends that emerge in recent years show a different picture. Increasing cost of cultivation, declining profitability of paddy cultivation and land management problems have forced farmers of Kuttanad to seek new land relations. The special conditions prevailing in Kuttanad helped this new trend. In this situation it is possible to point out two alternatives on the part of the farmers. One is less intensive cultivation or leave more land fallow. Constraints like capital intensity and strong protest from agricultural labourers to conversion stand against this. In this situation farmers are forced to find out other ways of land utilisation. Unemployment of agricultural labourers forced them to find possible alternatives. This resulted in the emergence of informal leasing.¹ This new land relation is a phenomenon of 1980s. This needs special investigation because any form of leasing is illegal in post land reform period. Moreover, it is significant that

1. Informal means illegal.

this new development is occurring in a state like Kerala where the implementation of land reforms has been more successful than in other states. It becomes all the more important when we realise that it happens in a place where peasant and agricultural labour movements have been powerful.

In many parts of India tenancy in various forms is reported to exist even after its abolition. Tenancy in the form of crop sharing is widely prevalent in Uttar Pradesh, where it was abolished in 1950.² In Andhra Pradesh the traditional form of share cropping has been substituted by new arrangements like cost sharing.³ Various forms of tenancy have existed in different parts of the world in different historical situations. The reasons of this might vary from region to region.⁴

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2. Kripa Sankar, Concealed Tenancy and Its Implications for Equity and Economic Growth, Concept Publishing Company, New Delhi 1980.
 3. G. Parthasarathy and D.S. Prasad, "Responses to and Impact of HYV Rice According to Land Size and Tenure in a Deltaic Village, Andhra Pradesh", The Developing Economics, June 1974.
 4. Pearce, "Share Cropping : Towards a Marxist View" Journal of Peasant Studies, January - April 1983.

Land leasing has been legally abolished and informal leasing has been reported in certain parts of India. Share cropping is still the predominant form of tenancy in North East India, while cost sharing and fixed rent leasing are predominant in South India.⁵ It seems that in areas other than Kerala the existing tenancy arrangements are largely a contribution of earlier systems. In Kerala, after the implementation of land reforms, land leasing is virtually extinct. The present trend in Kuttanad is a clear departure from hitherto existing one. The predominance of cash rent is also a new development. In the case of other regions in India cost sharing and fixed rent tenancies are considered as an advancement over the existing share cropping arrangement.⁶

3.1. Evolution of Agrarian Relations

The traditional agrarian structure in Kuttanad was the one which evolved over a long time and established by the 19th century. "A complex division of labour based on caste system

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5. Pranab Bardhan, "Variations in Extent and Form of Agricultural Tenancy, Analysis of Indian Data Across Regions and Overtime", *Economic and Political Weekly*, 11 & 18 Sept. 1976.
 6. Ashok Rudra, "Organisation of Agriculture for Rural Development" : The Indian Case in : Dharam Ghai et.al (Eds) Agrarian Systems and Rural Development, Macmillan Press London, 1979.

and differential rights and duties in relation to land and labour",⁷ developed very early. This enabled privileged strata in society to extract the surplus produced by the actual cultivators. The important features of the system⁸ were the following :

It was a caste-based hierarchical society wherein the superior ownership on land called Janmom rights were held by the temple authorities (devasom), the Brahmin families (brahmaswoms) or the Nair chieftains.⁹ They were non-cultivating landlords who thrived on the rent from the tenants. Land used to be leased out to tenants in large parcels by the janmies. The tenants mostly belonged to the Nair or Syrian Christian community in Kuttanad.

Under the traditional system there existed a protected land market. The privilege of leasing in land was not extended to the members of the scheduled castes and scheduled tribes.

7. Joseph Tharamangalam, Agrarian Class Conflict The Political Mobilisation of Agricultural Labourers in Kuttanad, South India, The University of British, Columbia, 1981, p.32.

8. T.C. Varghese, 'Agrarian Change and Economic Consequences', Allied Publishers, Calcutta, 1970, Chapters 2, 3 & 4.

9. Joseph Tharamangalam (1981), p.36.

This discriminatory rule restricted their entry to the land market on potential tenants. Land ownership was associated with high status. Labour in the field is negatively valued and is associated with low status and low castes. Pillai and Panikar remarked that in Kuttanad, the divorce between proprietorship of land and work in the fields was as complete as it could be.¹⁰

The actual tilling operations in land thus leased out was not necessarily by tenants but by the labourers belonging to the backward communities. The scheduled caste members, who were socially relegated to carrying out the agricultural operations, were treated as slaves tied to the land and transacted alongwith it by the janmies.

Since labour input in rice farming is subject to high degree of seasonality resulting in labour commanding a higher price in the peak season, it would be in the interest of every farmer to ensure an adequate supply of labour to meet the seasonal requirements. Hence in areas where rice farming is predominant, we find institutions like attached labour system, whereby employer ensures the services of adequate number of labourers by attaching them to his households by

10. V.R. Pillai and P.G.K. Panikar, "Land Reclamation in Kerala," Asia Publishing House, Bombay, 1965, p.118.

offering him pecuniary benefits.¹¹ When the farmer enters into formal or informal contracts he is motivated by two considerations. Firstly, to assure adequate supply of labour and secondly, to reduce the labour costs. The attached labour system is devised in such a way that the labourers in the lean season are at least potentially met by the employer as a trade off for rendering their services during the peak season in adequate quantum on a regular basis. The labourer's family was often housed on small plots of land attached to the farmers. They were assured of employment opportunities within the farms and were given cash advances. A good proportion of the annual subsistence requirements of the attached labourer households are met by the wage income provided by the employer.

The attached labour system was a feature of Kuttanad region, as labour requirements in Kuttanad were relatively higher compared to other regions. Owing to the very rigorous natural constraints paddy cultivation in Kuttanad has to be conducted within a strict time-schedule. The sowing season

11. A.V. Jose, "The Origin of Trade Unionism Among the Agricultural Labourers in Kerala", Social Scientist, No.60, 1977.

commences everywhere in Kuttanad simultaneously. Such circumstances necessitated steady supply of labour and hence secured the services of attached labour. The services of male labourers and their families were contracted : and those workers are called Ōnapanikkār¹² or Paniyāls. They used to attend to all kinds of operations specific to Kuttanad cultivation. The prospects of accommodation and continued employment served to lure the workers to become paniyāls. They scarcely changed their masters. As they continued to stay in the households provided to them they also became the kudikidappukar of the landlords.¹³ Till 1940s they were attached labourers.

The effect of tenancy reforms, initiated in the Travancore region in the 19th century, became visible in Kuttanad region from the beginning of the present century. The rising class of capitalist farmers initiated the extension of cultivation to the adjoining Kayal zones. Extensive areas in the backwaters of Kuttanad were reclaimed for rice cultivation through operations which required substantially large capital investments.¹⁴

12. Collected from the discussions with farmers. The system of attached labour can be seen in Thakazhi's "Two Measures of Rice", NBS, Kottayam, (Malayalam), see also K.C. Alexander, Economic and Political Weekly, Vol.8, No.34, August, 1973.

13. A.V. Jose, (1977).

14. V.R. Pillai and P.G.K. Panikar (1965).

These operations, though initiated as early as in 1866, gathered momentum in the first two decades of the 20th century. The advent of pumping machine in 1912¹⁵ made this scheme more operational. The rapid rise in the price of paddy during the first world war made this scheme more profitable.

Increase in cultivable land under individual ownership had repercussions on the agrarian relations in Kuttanad. There were two major changes : firstly, the extensive use of casual labour for agricultural operations and secondly, breakdown in the traditional labour relations.

With the increase in the extension of cultivation the labour requirements of agricultural operations in Kuttanad increased. This necessitated the inflow of migrant workers in large numbers into Kuttanad from the adjoining taluks. Such migrant workers poured in at the commencement of the sowing season and also at the time of harvesting. The large scale employment of migrant workers brought about a shift in emphasis towards the use of casual labourers and they became the largest segment of the total agricultural force in Kuttanad.

15. V.R. Pillai and P.G.K. Panikar (1965).

The introduction of oil engines during the early part of this century and subsequently introduction of electric pumps for dewatering implied that in the Kuttanad region dependence on human labour for dewatering purposes could almost completely be dispensed with. This resulted in the shift from the labour-intensive technique to the capital-intensive technique in agriculture.

Another shift from traditional to capital intensive methods came through strengthening of the ring bunds around the paddy fields with permanent granite walls. This also resulted in minimising the deployment of labour to maintenance and repair of ringbunds at the beginning of the season.

The introduction of new technology and adoption of high-yielding varieties of paddy in Kuttanad resulted in the rescheduling of operations and increased dependence on casual labourers. The new techniques increased labour requirements in specified operations in a short period of time to finish the operations faster. Despite the early development of capitalism in Kuttanad, the relationship between farmers and labourers remained precapitalist or semifeudal and authoritarian, at least until the early 1940s. According to Pillai and Panikar, "relations between the attached labourers and the landed properties in Kuttanad, however, were of semi-feudal

nature."¹⁶ Caste and caste prejudice were important factors in this relationship.¹⁷

During the inter-war period price of paddy decreased.¹⁸ This considerably affected the paddy cultivation. Agricultural labourers suffered a lot during this deteriorating phase. During the period from 1921-22 to 1931-32 money wage rates also declined by 34 per cent.¹⁹ During the Second World War the conditions of labourers did not improve and they were subject to other forms of exploitation.²⁰ By 1947 farm labour in Kuttanad was organised and class prolitarianisation was sharp. The bargaining power of farm labourers in Kuttanad was stronger than others.²¹ At present the unionisation among the agricultural

16. V.R. Pillai and P.G.K. Pañikar (1965), p.119.

17. Joseph Tharamangalam (1981).

18. By 1936-37 the prices had come down to Rs.0.45 per standard para. T.K. Velupillai, Travancore State Manual, Vol.III, p.30.

19. A.V. Jose, 1977, Estimated from Report of Kuttanad Enquiry Commission, Government of Kerala, 1971, and Census of India 1931, Vol.XXVIII, Travancore, Part-II, Table-VI.

20. K. Ramachandran Nair, "A Study of Wage Structure of Agricultural Labourers in Kuttanad" in Agricultural Development in Kerala, ed. P.P. Pillai, 1982.

21. K.C. Alexander, "Nature and Background of Agrarian Unrest in Kuttanad", Journal of Kerala Studies, 1975, June.

workers in Kuttanad are extremely stronger. It has succeeded in bringing about some degree of homogenisation in the labour market by narrowing down the wage differentials.²²

Unemployment is a very serious problem in Kuttanad. The rate of unemployment is higher than the state average.²³ Though second crop is not yet popular in all parts of Kuttanad, majority of sample households reported two crops. Taking the two crops together, a male worker could get work for about 115 days annually and a female worker for 136 days. Non farm employment provided some marginal employment.²⁴ Despite double cropping, the reasons for unemployment and underemployment may be the introduction of new technology, population growth, migration etc.

The wage rates in Kerala are higher than in most other states. The prevailing wages in Kuttanad have been higher than the statutory minimum wage. At the time of the present survey, the actual wages of male and female agricultural workers in the region were Rs.15 and Rs.12 respectively.²⁵ Even though labour is highly unionised, some element of attached labour could be seen.

22. K. Ramachandran Nair (1982).

23. P.G.K. Panikar, "Employment, Income and Food Intake among Selected Agricultural Labour Households", Economic and Political Weekly, Vol.XII, No.31,32, 33, August 1978.

24. Sample Survey.

25. Now wage rates are raised to Rs.18 for male workers and Rs.15 for female workers.

In all villages in lower Kuttanad²⁶ this form of attached labour exists. Of the 41 big cultivators from Kavalam and Veliyanad, 28 cultivators have the services of attached labourers. Almost all attached labourers are from pulaya community. They have to work for an employer whenever the latter would want his services; but when the employer does not have any work for the labourer, the latter would be free to go to other employers. Generally they are paid in kind on a contract basis. In addition to the wages, they are eligible for some pecuniary benefits provided to paniyāls. This system is similar to 'semi-attached labourers of the second type' as pointed out by Bardhan and Rudra.²⁷ One difference is that in Bardhan - Rudra's model wages are paid on a daily basis.

Another notable feature in the labour market is 'credit-labour'. This situation can be seen in Kuttanad after transplanting work. Under this system wages will be paid only after the harvest. This situation mainly arises because of the low income from paddy cultivation and availability of plenty of labour. Since returns are very low, we cannot point it as a method of exploitation, even though labourers have opportunity cost equivalent to price difference of paddy before and

26. Report on Comprehensive Development of Kuttanad, (1980).

27. Bardhan & Rudra, (1979).

after the harvest. But many agricultural labourers said that some farmers are using this technique to have some control on the supply of labour.

3.2. Land Owners

Various classes of land owners discussed here pertain to paddy which is the major crop. Reports on landownership in Kuttanad reveals that the available land in the area is unequally distributed.²⁸ Unfortunately, one who attempts to collect information on landownership in Kuttanad faces a serious problem. Those who own above the legal limit of 15 acres or even close to it are reluctant to provide the relevant information. A landlord discloses only those lands he owns on paper as his own. The excess land has been transferred to other names.

The Kuttanad Development Project gives extensive data on the pattern of landholdings in this region. These are given in table 3.1 and 3.2. These figures indicate that in 1973, 36 per cent of cultivators of Kuttanad owned less than 1 acre of land accounting for only 12 per cent of the area. Eightysix per cent of all cultivators owning less than 5 acres each accounted for only 60 per cent of the area. If the

28. Report on Kuttanad Development Project, (1974).

agricultural labourers who form nearly 70 per cent of the total labour force are taken into account, the top 1 per cent of the population engaged in agriculture own nearly 20 per cent of the land.²⁹ In Kerala 5 acres is generally taken to be the dividing line between small and big farmers. By this standard, 5 per cent of the population are big farmers accounting for 40 per cent of the land. The most striking feature is that 80 per cent of the entire labour force in agriculture is landless or own less than 1 acre of land.

Kuttanad taluk, which has the largest kayal padasekharams, has the highest proportion of large landowners. In Kuttanad 35.7 per cent of all the cultivators have holdings of 5 or more acres, 13 per cent hold 15 acres or more and 1.7 per cent are very large landowners which holding of 49 acres or more.³⁰ It is well-known fact that there is a small class of large cultivators concentrated in the kayal areas of lower Kuttanad. Pillai and Panikar remarked that the pattern of large landholdings in Kuttanad is in sharp contrast to the subsistence farming in the rest of Kerala. The average area of the holdings here exceeded 147 acres. They remark, "while 90 per cent of the

29. District Census Handbook, Alleppey, 1971, p.43.

30. District Census Handbook, Alleppey, 1961, p.131.

holdings in Kerala are below 2.5 acres, an equal proportion of holdings in the kayal area are above 25 acres."³¹

There have been some changes in the situation since the early 1960s when these two sets of data were collected. It is necessary to examine whether and to what extent recent land reform measures have affected the land tenure system of Kuttanad. Kerala has passed a number of land reform legislations. These measures had three goals :

- 1) to confer ownership rights on the tenant cultivators and to abolish all intermediaries,
- 2) to protect the kudikidappukars by conferring upon them permanent occupancy and even ownership rights, and
- 3) to attain a more equal distribution of land by putting a ceiling on holdings and distributing the surplus land to the landless.

The first two goals seem to have been achieved in Kuttanad. The third, if achieved, would have radical implication on the pattern of landholdings in Kuttanad. Still it remains an unattained one.³²

31. V.R. Pillai and P.G.K. Panikar, 1965, p.49.

32. K.C. Alexander, 'Land Reform Legislations in Kerala Since Independence', Behavioural Sciences and Community Development, Vol.8, No.2, 1974.

Our study, given in table 3.3, shows that the households, reporting landownership, mostly belong to the small peasants. Nearly 60 per cent belong to small farmers and possess nearly 23 per cent of land. Nearly 21 per cent are big farmers and have 56.18 per cent of land.

We further observe (table 3.4) that out of 400 landowning households, 142 households enter into the land lease market in terms of either leasing in or leasing out land. Of these 142 households, 38 households fully or partly let out their land and the rest of the households partly lease in land from others. Among the remaining 258 households, 157 households are purely owner cultivators and remaining 101 households either enter labour market through hiring out their labour or do service in the non-agricultural sector. This indicates that nearly 35 per cent of households are participating in the tenancy market. It is small farmers who are leasing in land. Big farmers lease out land because the net return from agriculture is low compared to the rent that they can get from leasing out land. This is contrary to the results of Chattopadhyay and Buttacharyya.³³ The tenants attached with such type of landowning households do not represent debt-slavery and semi-feudal bondage.³⁴

33. Manabendra Chattopadhyay and Ruma Buttacharyya, "Land Labour and Credit Relations in a Peasant Movement Belt", Social Scientist, No.130, 1984.

34. Number of tenants who depends landlords for credit is very low.

With respect to the involvement of households in the labour market, the households have been divided into three broad categories in terms of hiring in and hiring out labourers. This is given in table 3.5. There are 61 households reported to be depending exclusively on family labour-based cultivation. Thus, these households do not enter the labour market because they are satisfied with the income they derive from cultivation. They are small farmers. Just above 50 per cent of the households entering labour market are employers, 12.25 per cent purely employees and 22.25 per cent as both employers and employees. Thus, the analysis reveals that above 50 per cent of the households are agricultural labourers either in their own land or on others'.

Tenants

We could trace 120 tenant households from four villages under study, of which 45 are from Kāvālam, 40 from Veliyanād, 25 from Kōzhimukku and 10 from Thalavady. All tenant households are landed tenants with less than 2 acres. Most of them gained land either through land reforms or from land redistribution scheme of government. In many cases one landlord employed more than one tenant and in few cases one tenant saved more than one landlord.

Caste-wise analysis of tenancy in Kuttanad (table 3.6) revealed that christian and backward caste households are the major participants in informal tenancy. Scheduled castes and Nair households have only low participation. This is a clear departure from the pre-land reform tenancy. Though in the past the privilege to lease in land in Kuttanad was limited to upper caste Hindus and Christians, now there is no caste barrier. Any person from any caste can lease in land. It is significant that a majority of christian and Nair lessors were tenants in the pre-land reform period.

Even though tenant households' asset base are poor in terms of landholdings, it would not affect the bargaining power of the tenant. Because rent in each season is almost fixed in the range of 3 quintals to 5 quintals per acre. Moreover, in most of the cases leasing out landlords have only limited bargaining power.³⁵ In 60 per cent of the cases they are leasing out land, because either they are indebted to a financing agency or due to the management problem.

Table 3.6 shows tenant household's relationship between tenant and landlords in terms of caste and tenurial contracts.

35. Terms and Conditions of leasing are discussed separately.

Six tenant households are associated with 50 : 50 crop-sharing and cost sharing. This kind of share cropping arrangement is usually highly exploitative.³⁶ This form of share cropping was prevalent in Kuttanad.³⁷ Landlords participation of cost implies that his claim to his share is not only on the rights of property rights, but also based on a portion of working capital supplied by him. Therefore, he is expected to participate in the farm production divisions. Regarding surplus appropriation, Marx held this as a sort of half way home between pure rent and pure profit and this characteristics has been described as semi-feudal relations.³⁸ Other types of contracts with cost fully borne by the tenant is considered on the post-reform of tenancy (informal tenancy and indicates relative freedom of tenant in production relations. Remaining tenant households take production decisions by themselves. Since production decisions are taken by the tenants, landlords will have no interest in introducing output raising

36. Manabendu Chattopadhyay and Sumitkumar Ghosh, "Tenurial Contracts in a Peasant Movement Belt", Economic and Political Weekly, Vol.XVIII, No.26, June 1983, pp.71-79, also see Chattopadhyay and Battacharyay (1984).

37. Collected from discussions with farmers. Now exists due to special reasons.

38. Karl Marx, Capital, Vol.3, Foreign Language Publishing House, Moscow 1962, p.769.

innovations. This means that cultivators are not prepared to accept agriculture as a major area of investment.³⁹ Even tenants will not adopt output raising innovations because of their poor asset base and lack of security of tenure. Amit Bhaduri explained this phenomenon in terms of the interlinkage between credit and tenancy conditions.⁴⁰

Terms and Conditions of Land Leasing

The present land leasing arrangement in Kuttanad is entirely different from that of the pre-land reform period. Unlike in the earlier days land is leased out for a strictly short term period. After one crop is raised the land is taken back by the landowner and allotted to a new tenant. Even when the same tenant is given the land for a second crop the lease contract is a fresh one. This is the same throughout the region. The rotation of tenants is mainly owing to the landowner's fear of any future protective legislations in favour of tenants.

Regarding the terms of renting there is only fixed rent tenancy in the region. The rent payment is done either

39. Even if costs are shared and decisions taken by tenants, the profit element in the surplus appropriated is not associated with output raising innovation : Manabendu Chattopadhyay and Sumit Kumar Ghosh (1983).

40. Amit Bhaduri (1973).

in kind rent tenancy and the system of cash rent makes our case different from those of other areas in India.⁴¹ The reason for the predominance of cash rent may be that the rent can be collected even before farming operations start. It eliminates the risk factor in the event of crop failure.

Unlike in many parts of India the terms and conditions of tenancy in Kuttanad show that the relation between landowners and tenants is not one of dominance and dependence. The freedom of the tenant to enter the lease market is in no way restricted. However, his ability to raise funds for cultivation is a constraint. Once the land leased in, the tenant is at his liberty to take decisions regarding cultivation, marketing of the produce and such other matters. The tenant can lease in land from more than one landowner at a time. No tenant is liable to provide unpaid labour services or any obligatory payment to the landlord.

A comparison between pre-land reform tenancy and post-land reform tenancy reveals that the participation of tenants in the pre-land reform period in manual farm operations was relatively high. But the family labour contribution of the present tenants is relatively high. There

41. Pranab Sharan (1984).

was extra economic coercion exercised by landlords over tenants and agricultural labourers. Tenants were also exercising such control and authority over agricultural labourers. Regarding the security of tenure, the position of the present tenants seems to be much worse. Now the landowners frequently rotate the tenants and the lease contract is only for one crop. But in both the situations the land lease market is controlled by landowners. Similarly the ratio of rent is also very high in both the situations.

Data on incidence of credit with the types of tenurial contracts is given in table 3.7. Incidence of credit is very high among the tenants. Of the 120 tenants 13 depended on landlords, 67 on moneylenders and 25 on institutional sources. This reveals that landlords are not a major source of credit, their economic position itself is not safe. Hence moneylenders are cashing this position. Since landlords are not a major source of credit, the explanation given by Bhaduri for abstention of landlords from production cannot be considered here. Tenants are participating in the informal credit market because of their increasingly high credit requirements. It is very easy to get credit from moneylenders because of their personal contact. This is

similar to the earlier findings.⁴²

Typewise credit from landlords and moneylenders (table 3.7) indicates the presence of investment through consumption and production credit. Of the total number of credit given by landlords, a small proportion is used for productive investment (number of consumption loans are very high). Because of the weak economic position of landlords, moneylenders have an upper hand in credit market. Thus our data on tenancy and credit did not support the hypothesis that a land lease contract is linked with a credit contract in backward agriculture.

Agriculturist moneylenders in this region give loans for both consumption and production purposes. Majority of loans advanced are to be repaid in terms of paddy. Tenants borrowed Rs.43,700 as consumption loans and Rs.4,18,250 as production credit. All agriculturist moneylenders conduct black marketing of paddy. Since the ultimate aim of moneylenders is to make profit the distinction between consumption and production credit is irrelevant for them. Most of the consumption loans are given in paddy and they bear a high interest. Thus the moneylenders link credit and marketing and appropriates surplus.

42. Chattopadhyaya and Battacharyya (1984) and also see Ratan Khasanbis and Jotiprakash Chakravarthy, "Tenancy Credit and Agrarian Backwardness", Economic and Political Weekly, Vol.XVII, No.13, 1982.

Table 3.1. Pattern of Landholdings in Kuttanad June 1973 (in acres)

Holdings in acres	Alleppey District		Kottayam District		Total		Percentage
	No. of culti-vators	Extent of Holdings	No. of culti-vators	Extent of Holdings	No. of culti-vators	Extent of Holdings	
Less than 2.50	10112	10206.7	6464	6262.2	16576	16468.90	36 12
2.51 - 5.00	7723	16334.15	4460	9753.45	12183	26054.60	26 18
5.01 - 7.50	6203	24110.45	4957	17595.9	11160	41606.35	24 30
7.51 - 10.00	3816	21305.20	1215	8582.35	5031	29887.55	11 21
10.01 - 15.00	1013	10564.4	238	2624.4	1251	13190.80	3 9
15.01 and above	201	10615.85	141	3241.35	342	13857.20	0.7 10
Total	29068	93136.75	17475	48061.65	46543	141198.4	100 100

Source : Government of Kerala, Report on Kuttanad Development Project, 1974.

Table 2. Percentage Distribution of the Labourforcei Agriculture in Relation to Landholdings

Extent of Holdings	Percentage of the Labourforce in Agriculture	Percentage of Area Owned
Upto 2.50	80	11.7
2.51 - 5.00	15	48.0
5.01 - 7.50	3	21.2
7.51 - 10.00	1.8	9.3
More than 10.01	0.2	9.8
Total	100	100

Source : Compiled from District Census book, Alleppey, 1971, p.50
and Report on Kuttanad Development Project (1974), p.17.

Table 3.3 Ownership Holdings in Size in Kuttanad Taluk

(in acres)

Size	No. of Households	Total Area	Percentage Area	Average
Upto 2.50	153 (38.25)	258.78	10.96	1.69
2.51 - 5.00	80 (20.00)	263.90	11.18	3.30
5.01 - 7.50	50 (12.50)	261.96	11.10	5.24
7.51 - 10.00	34 (8.5)	275.47	10.67	7.57
10.01 - 15.00	44 (11.00)	533.25	22.60	12.12
15.01 and above	39 (9.75)	766.39	32.48	19.65
All Class	400 100.00	2359.79	100.00	5.90

Source : Sample Survey
 Figures in brackets show percentages.

Table 3.4. Landholding House holds in Terms of Their Association with Land Lease

Market in Kuttanad

Size of Holdings	No. of Households Entering into the Tenancy Market Through	No. of Households Entering into the Tenancy Market	Letting out land in land	Pure owners	Owner-cum Labourers	Owner-cum other activities	Total
Upto 2.50	x	75	18	42	18	153	
2.51 - 5.00	x	16	35	18	11	80	
5.01 - 7.50	1	13	24	x	12	50	
7.51 - 10.00	9	x	25	x	x	34	
10.01 - 15.00	15	x	29	x	x	44	
15.01 and Above	13	x	26	x	x	39	
All Class	38	104	157	60	41	400	

Source : Sample Survey.

Table 3.5 Description of Family Farming Households in Terms of their association with Labour Market in Kuttanad

Size of Holdings	Number of Households Entering the Labour Market Through				Total
	Hiring in But not Hiring out	Hiring in But not Hiring out	Both Hiring in and Hiring out	No Hiring in and Hiring out	
Upto 2.50	38	33	45	37	153
2.51 - 5.00	16	16	27	21	80
5.01 - 7.50	32	x	15	3	50
7.51 - 10.00	32	x	2	1	34
10.01 - 15.00	44	x	x	x	14
15.01 and Above	39	x	x	x	49
All Class	201	49	89	61	400

Source : Sample Survey.

Table 3.6. Relationship Between Tenant and Landlord in Terms of Caste and

<u>Tenurial Contracts</u>						
Type of Contract	Number of Tenants Serving the Landlord					Total
	Scheduled Caste	Other Backward caste	Christians	Nairs		
50 : 50	x	2	3	1	6	
Upto 70%	4	13	14	5	36	
Upto 75%	9	12	14	7	42	
Upto 80%	4	8	10	2	24	
Above 85%	2	4	5	1	12	
All Class	19 (16)	39 (33)	46 (38)	16 (13)	120	

Source : Sample Survey.

Figures in brackets show percentages.

Table 3.7. Amount Borrowed for Various Types of Tenurial Contracts from Different

Types of Contract	Number of Tenants	Agencies in Kuttanad (in Rs.)			Total
		From Landlords	From Moneylenders	From Institutions	
50 : 50	6	x	9450 (2)	26000 (4)	35450 (16)
Upto 70%	36	29800 (5)	117600 (26)	80750 (5)	228150 (36)
Upto 75%	42	52200 (12)	99250 (23)	143200 (7)	294650 (42)
Upto 80%	24	23000 (5)	88850 (15)	84600 (4)	194650 (24)
Above 85%	12	16000 (3)	29600 (4)	25500 (5)	71100 (12)
All Class	120	121000 (25)	344750 (70)	360050 (25)	825800 (120)

Source : Sample Survey.

Figures in brackets show number of tenants.

CHAPTER - IVDEMAND FOR AGRICULTURAL CREDIT AND INDEBTEDNESS

One of the basic features of subsistence agriculture is the deficit nature of family budgets of a large number of cultivators. In India 62.2 per cent of the reporting households with income less than Rs.1200 have no savings.¹ The deficit nature of cultivator's family budget may be explained by the low income per capita, uneconomic use of land, absence of the availability of basic inputs, vagaries of weather and lack of education. As a result, cultivators have to borrow, whenever their expenditure exceeds income. Evidence of such borrowings and indebtedness is abundant in periods before and after independence.²

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1. NCAER, All India Rural Household Survey: Savings, Income and Investment, Vol.11, New Delhi, 1965, p.96-100.
 2. Government of India, The Indian Central Banking Enquiry Committee, Vol.I, Part-I, Calcutta, 1931, p.55; Government of India, Report of Agricultural Finance, 1945, p.2-17; Government of Madras, Report of the Economists, 1946, p.24-56; Government of India, Report of the Rural Banking Enquiry Committee, 1950, Delhi, p.36-39; R.B.I. Bulletin, September 1965, p.1296-1393.

The demand for agricultural credit depends on the cost of credit (ie. interest rate) on the one hand and marginal efficiency of capital on the other. The introduction of new techniques increases the prospects of higher ratio of return on capital and the demand for external capital. This chapter explains borrowings, factors affecting borrowings, credit needs and indebtedness.

4.1. Borrowings

Table 4.1 shows the total and average amount borrowed by the sample farmers of Kuttanad. It reveals that the sample farmers' borrowings amounts to Rs.35,89,265 during 1983-84. The per household borrowings is Rs.8,961.91 and per acre borrowings Rs.1,519.17. Of the total amount borrowed, small farmers borrowed 27.15 per cent, medium farmers 26.07 per cent and large farmers 38.81 per cent. The per household borrowing increases as the size of holdings increases. But borrowings per acre diminished as the size of holdings increased. On a per acre basis, the larger farmers in general required relatively smaller amounts and the smaller farmers considerably larger.³

In all villages as the size of holdings increased, total amounts borrowed increased with fluctuations. In

3. NCAER, Credit Requirements in Agriculture, New Delhi, 1974, p.10.

Kavalam village the total amount borrowed is Rs.10,19,465. Of this, small and medium farmers borrowed 28 per cent and big farmers 44 per cent. Borrowings per household amounts to Rs.10,194.65 and it increases as the size of holdings increases, but for size 15.01 acres and above per household borrowing diminishes. The per acre borrowings for the village amounts to Rs.1,506.39 and it diminishes with increase in the size of holdings. In Veliyanad, total amount borrowed is Rs.9,16,050. Of this, small farmers borrowed 27 per cent, medium farmers 28 per cent and big farmers 45 per cent. Average borrowing per household is Rs.9,165.50 and it increases with increase in the size of holdings. Per acre borrowing is Rs.1,661.95, it diminishes with increase in the size of holdings, but with fluctuations. In Kozhimukku village the total borrowing by the sample borrowers amounts to Rs.8,44,900. Of this, small farmers borrowed 25 per cent, medium farmers 26 per cent and big farmers 49 per cent. The per household borrowing is Rs.8,449 and it increases with increase in the size of holdings. The average borrowing per acre is Rs.1,453.34. The average borrowing per acre diminishes with increase in holdings, but in the case of small farmers it increases. In Thalavady total borrowings amounts to Rs.8,03,850. Small farmers borrowed 28 per cent, medium farmers 25 per cent and big farmers 47 per cent. The average borrowing per household

is Rs. 7,910.50 and it increased with increase in the size of holdings. The per acre borrowing is Rs. 1,375.52 and it diminishes as the size of holdings increases, but with fluctuations. Thus in all villages size of holdings and borrowings per household are directly related, but size of holding is inversely related to per acre borrowing.

4.1.1. Factors Affecting Borrowings

Attempts have been made in India to analyse the composition pattern and cause of borrowings by Indian farmers.⁴ The need to borrow is a reflection of excess expenditure over income. The reasons of such excess expenditure have been considered in different committee reports as illiteracy, small holdings, the defective system of accounts kept by debtors and lack of saving habit among the cultivators. The Royal Commission Report argued that longer the interval between successive receipts of the

4. The Indian Central Banking Enquiry Committee Report (1931), Report of Agricultural Finance (1945) Report of the Economists (1946); Report of the Rural Banking (1950).

return on labour, greater the need would be to borrow.⁵ Reference has been made to such factors as poverty arising from the social condition, climate, irregular income, extravagance, growth of population and opportunities to borrow because of moneylenders' influence.⁶

Demand for credit in agriculture is of several kinds which may broadly be classified according to the period for which it is sought and the security on which it is based. Every farmer requires all the three types of credit; but the relative importance varies in accordance with a number of factors like land tenure and the type of agricultural practices.

When farmers are small with small fragmented holdings yielding a very low income, and where labour is abundant and the level of technology followed being low, it would be unrealistic to expect that there would be

5. According to the Royal Commission, "If wages were paid monthly instead of weekly only a very small proportion of the working class in the world could exist without credit, but the cultivator has to wait for half a year before he receives the return for his labour, and in far too large an area, where there is only one crop a year, the interval between successive receipts may be full twelve months." Government of India, Royal Commission on Agriculture in India, 1928, Bombay, p.432; see also Reserve Bank of India, All India Rural Credit Survey, Bombay, 1956.

⁶ The Indian Central Banking Enquiry Committee Report (1935)

greater demand for agricultural credit for development purposes. Agricultural requirements would not call for credit so long as the seed is not purchased, but is kept aside from the annual produce. Credit is also not necessary when borrowed in kind and when agricultural practices are primitive and labour is provided by the members of family. Then credit taken is utilised to meet family needs rather than for productive purposes.

In the initial stages of agricultural development, credit to farmers has only consumption character. A large proportion of cultivators cannot manage from one harvest to another without borrowings. The need to borrow arises from small surpluses out of which savings can be made, or from its complete nonavailability and the seasonal nature of farm income. "In traditional agriculture, problems of financing and credit arise in large parts from a seasonal cycle of production which is superimposed on a largely noncontinuous and steady pattern of total consumption."⁷

The degree of producer finance will be governed by the size of farm operations, as also by the nature of farming. However, the variations in the need for producer finance may not be much marked in either class of cultivators if they do not practise intensive and commercialised

7. John Meller, The Economics of Agricultural Development, Cornell University Press, Ithaca, New York, 1966, p.310.

agriculture.⁸ While the requirement finance for development purposes may be expected to vary with the size of holdings and variations in livestock, implements finance are not so clear partly because their need is universal and partly because its volume does not correspond much to the size of holding. On the contrary, it is possible that farmers with smaller size of holdings may borrow more in view of the invariable nature of the need for such capital.

Borrowings for current expenditure on farm may show considerable variations from class to class of cultivators. As size of farm operation increases, it is difficult for the farmer to conduct his business without outside labour.

No such clear relation may be seen between the size of the farm and the borrowing for family purposes. Its obvious connection is with the size and status of family. However, the level of expenditure, no doubt, is also related to the level of income and therefore to the economic position of cultivators. Variation in the need to borrow, though important, is not a sufficient cause to bring about variations in the level of borrowings by different classes of cultivators. Borrowing may depend

8. All India Rural Credit Survey (1956).

as much on the need as on the capacity to borrow. The capacity to borrow is reflected in the nature and amount of security. The adequacy of security depends on the capacity of the farmer to earn income over his basic and conventional needs and the marketable value of the assets pledged as security.

4.1.2. Changes in the Volume of Borrowings

Table 4.2 shows the changes in the volume of borrowings. In Kuttanad borrowings increased by 9 per cent in 1983-84 compared to 1982-83. Increase in borrowings of small farmers is the highest, 17 per cent, medium farmers 8 per cent and big farmers 4.5 per cent. In Kavalam borrowings increased by 9 per cent during the period. Increase in borrowings for small farmers is 8.5 per cent, medium farmers 8 per cent and big farmers 7 per cent. In Veliyanad borrowings increased by 10 per cent. Borrowings by small farmers increased by 28 per cent, medium farmers 7 per cent and big farmers 3.5 per cent. In Kozhimukku borrowings increased by 7 per cent. Small farmers' borrowings increased by 10.5 per cent, medium farmers' by 13 per cent and big farmers' by 3.5 per cent. In Thalavady borrowings increased by 8 per cent. Small farmers' borrowings increased by 8 per cent, medium farmers' by 4 per cent and big farmers' by 10.5 per cent. Above

analysis reveals that increase in borrowings of small farmers is the highest in all surveyed villages. Increase in borrowings diminished as the size of holdings increased, except in Thalavady, where for the size of holdings between 7.51 - 10.00 acres, borrowings decreased by 3 per cent.

4.1.3. Purpose-wise Borrowings

Table 4.3 shows the purpose-wise distribution of percentage amount borrowed in Kuttanad. Of the total, 75.34 per cent is borrowed as crop loans, 9.35 per cent for land improvements, 2.81 per cent for housing purposes, 4.39 per cent as business loans, 1.37 per cent as consumption loans, 2.47 per cent under IRDP schemes and 4.17 per cent for other purposes. Percentage of crop loans to total borrowings in each class increases as size of holdings increases. The purpose-wise borrowings reveal that paddy cultivation depends heavily on credit.

Purpose-wise borrowings per acre and per household is given in table 4.4. Average borrowing per household for all classes is Rs.6,785.54 for crop loans, Rs.838.13 for land improvements and Rs.1,263.25 for other purposes. On per acre basis it is Rs.1,150.25 for crop loans, Rs.142.07 for land improvements and Rs.214.14 for other purposes. Purpose-wise borrowings per acre and per household reveals that average borrowings per household increases

while per acre borrowings diminishes as the size of holdings increases. Small farmers borrowed Rs.3,028.19 per household and Rs.1,172.13 per acre as crop loans, Rs.440.74 per household and Rs.159.03 per acre for land improvements and Rs.1,463.18 per household and Rs.550.89 per acre for other purposes. Medium farmers borrowed Rs.4,968.49 per household and Rs.1,344.31 per acre as crop loans, Rs.1,268.50 per household and Rs.191.56 per acre for land improvements and Rs.1,308.15 per household and Rs.145.38 per acre for other purposes. Big farmers borrowed Rs.16,712 per household and Rs.1,099.49 per acre as crop loans, Rs.1,78,788 per household and Rs.121.17 for land improvements and Rs.1,352.20 per household and Rs.88.66 per acre for other purposes.

Village-wise analysis given in table 4.5 shows varying results. In Kavalam farmers borrowed Rs.7,094.65 per household and Rs.1,048.83 per acre as crop loans, Rs.970 per household and Rs.143.33 per acre for land improvements and Rs.2,125 per household and Rs.314 per acre for other purposes. Per household borrowings and per acre borrowings have increased on an average as size of land holdings increased.

In Veliyanad village farmers borrowed Rs.6,881.50 per household and Rs.1,242.36 per acre as crop loans, Rs.859 per household and Rs.155.76 per acre for land improvements

and Rs.1,455 per household and Rs.263.83 per acre for other purposes. Compared to Kava'am, in Veliyanad per acre borrowings increased with some fluctuations. Per acre and per household borrowings for crop loans, land improvements and other purposes show the same trend.

In Kozhimukku farmers borrowed Rs.6,723 per household and Rs.1,156.45 per acre as crop loans, Rs.817 per household and Rs.140.53 per acre for land improvements and Rs.1,839 per household and Rs.381.44 per acre for other purposes. Per household borrowings and per acre borrowings are inversely related as size of holdings increases. But per acre borrowings of crop loans diminishes with some fluctuations as size of holdings increases. Borrowings per acre for land improvements increases with fluctuations as the size of holdings increases.

In Thalavady farmers borrowed Rs.6,473 per household and Rs.1,139.97 per acre as crop loans, Rs.706.50 per household and Rs.124.42 per acre for land improvements and Rs.631 per household and Rs.111.13 per acre for other purposes. There is an inverse relation between per acre borrowings and per household borrowings when the size of landholdings increases. Moreover, when borrowing decreases with the increase in the size of holding per acre borrowing decreases progressively.

4.1.4. Borrowings According to Cost

The average rate of interest on borrowings by all classes of cultivators exceeded by 50 per cent. In the case of loans from informal sector, if secured, rate of interest varies between 20 and 30 per cent, but in the case of usufructuary mortgage loans, explicit rate of interest varies in the same range, but implicit rate is very high. Borrowings classified according to rate of interest is given in table 4.6. Among medium and big cultivators, interest rate and amount borrowed are inversely related. The pattern of distribution of borrowings according to the rate of interest shows that as the rate of interest increases borrowing diminishes. Of the total borrowings 11.4 per cent is borrowed free of interest. A major portion of interest-free loan is availed by big farmers. Most of the interest-free loans are given by friends and relatives. The proportion of borrowings at interest rate between 1 and 10 per cent is higher among small farmers. More than fortysix per cent of the total borrowings (46.4%) costs between 16 and 20 per cent. In this range the proportion of borrowings by big farmers is very high. Institutional loans are given between 10 and 20 per cent for agricultural purposes. Thus big farmers are the major recipients of advances from institutional sources.

4.1.5. Security

Table 4.7 shows borrowings according to security among farmers. Land was the most important item of security for loans among all farmers. Silver and gold constituted collateral for nearly 31 per cent of the loans. About 13 per cent of the loans were against personal security. Promissory notes were also used for borrowings. As per table 4.7 it may be particularly noted that about 76 per cent of the small farmers' borrowings are against gold and silver and about 24 per cent against personal security. Similarly, about 12 per cent and 6 per cent of the medium and big farmers' borrowings respectively are against personal security.

4.1.6. Grain Loans Borrowed

An analysis of grain loans showed that they were borrowed mostly for current farm expenditure and family consumption purposes. Table 4.8 shows the descriptions of grain loans borrowed by the 400 sample households. About 188 households had borrowed 527 qtls. of paddy, of which 135 households had borrowed 407 qtls. for purposes of seeds and 53 borrowed 120 qtls. for consumption purposes. Only farmers with holdings less than 10 acres had borrowed paddy. Households with holdings less than 2.50 acres had borrowed 188 qtls. of paddy, of which 92 qtls. as seeds and

93 qtls. for consumption purposes. Sixtyone households with landholdings between 2.50 - 5.00 acres borrowed 152 qtls., of which 125 qtls for seeds and 27 qtls. for consumption. Households with holdings between 5.00 - 10.00 acres borrowed 190 qtls. as seeds only.

The village-wise analysis reveals that 46 households in Kavalam, 40 in Veliyanad, 45 in Kozhimukku and 57 in Thalavady borrowed 135 qtls., 102 qtls., 130 qtls., and 159 qtls., of paddy respectively. In all villages households with less than 2.50 acres borrowed more compared to other households. In all villages 70 per cent of this transaction is in such a way that paddy will be returned at the time of harvest forcing the cultivator into "distress sales".⁹

4.1.7. Seasonality of Borrowings

There are two crops in Kuttanad, Punja and the second crop. Punja season is generally during the period between the usual mid mundakan and mid summer. Second crop is during regular virippu crop season. Almost all borrowers and officials of the financing institutions reported higher demand for credit during punja than during the second crop. During the second crop, generally the cost of cultivation is low, as this season is just after punja crop.

9. Amit Bhaduri : "Towards A Theory of Pre Capitalistic Exchange."

4.2. Utilisation of Credit

The proper utilisation of agricultural credit cannot be overemphasised when resources are limited and enhancement in agricultural production is essential. Further, proper utilisation of credit is essential to create the necessary resources for their repayment.¹⁰ Table 4.9 reveals the pattern of utilisation of agricultural credit. In Kuttanad 53 per cent utilises credit for specified purposes, 4 per cent uses credit for production other than specified, 11 per cent for consumption, 13 per cent for payment of old debt and 19 per cent for re-lending purposes. The village-wise analysis shows that 55 per cent, 56 per cent, 51 per cent and 52 per cent use credit for purposes of production in Kavalam, Veliyanad, Kozhimukku and Thalavady respectively. In all villages funds used for re-lending purposes have only secondary importance.

4.3. Problems of Assessment of Credit Requirement

The assessment of credit requirement is a difficult task. This is partly because of the problems relating to the definition of the concept of credit requirement and

10. Varshney, R.L., Some Aspects of Co-operative Credit, Role of Co-operatives in Agricultural Development, Faculty of Commerce, University of Jodhpur.

partly because of difficulty in actually assessing such requirements of various types of cultivation in different situation from available data. Here a brief review of literature on assessment of production credit requirements is made to assess the various methods adopted in different studies.

A brief review of literature prior to the publication of the All India Rural Credit Survey Report gives the impression that the crushing burden of debt was mostly discussed. With the advent of planning, the debt burden has given way to credit requirements.¹¹ As regards the approach and methodology used for assessment and for projections of credit requirements, borrowing approach and expenditure approach have been adopted.¹² In the last three decennial surveys conducted by the Reserve Bank of India, the term 'credit requirements' has been defined in the narrow sense and the borrowing approach has been adopted in the assessments.

11. Thingalaya N.K., Rapporteur's Report on Rural Credit: Structure and Flow, Indian Journal of Agricultural Economics, Conference Number, Vol.XXXIII, No.4, Oct-Dec. 1978, p.173.

12. Choubey, B.N., Institutional Finance for Agricultural Development, Shubhada Saraswat, Pune 1977, p.37.

There has been a shift towards the 'expenditure approach' or 'cost of production approach' with the adoption of the New Agricultural Strategy in India. A.C. Shah's study was probably the first attempt to give a projection of the demand for agricultural credit at the end of the Third Plan.¹³ He has used a simple method of explanation of the relationship between the output and borrowings. It appears from the literature that assessment of credit requirements has become a much discussed topic in each work related to agricultural finance in India since the mid-sixties. The working group set up by the Agricultural Production Board (1965), the Panel of Economists headed by Dantwala (1966), the Fertilizer Committee (1968), the Study Group under the Chairmanship of Gadgil (1969), the All India Rural Credit Review Committee (1969), the sub-group on Agricultural Credit of the Working Group on Co-operation for Fifth Plan (1974) and the National Commission on Agriculture (1976), have mainly adopted the 'cost of production' method in their assessments of production credit requirements. However, a close examination of all these macro estimates shows that these have been made on the basis of different assumptions, with differences in the components of farm expenses.

13. Indian Council of Social Science Research, A Summary of Research in Economics, Vol.III, Agriculture 15, Bombay 1975, p.83.

The Review Committee (1969), taking into account the technological change in agriculture and the attitudinal change in the agriculturists towards the adoption of the new technology, made an attempt to project production credit requirements at the end of the Fourth Plan period. The National Commission's (on Agriculture) projection of production credit requirements under full programme coverage is an improvement in this direction. The projection has been made both area-wise and farmer-wise.

The Reserve Bank of India in its New Guidelines has adopted two approaches for estimating crop loan requirements:

- i) The first approach seeks to estimate total investment required to meet the cost of cultivation by applying the existing norms of finance to the cropping pattern. It is assumed that all the farmers may not need institutional credit support to meet the cost of cultivation as they may have their own resources to meet their respective requirements. As per this method, 50 per cent of the total investment can be taken as the crop loan requirement.
- ii) The second method envisages the apportioning of the total investment among the different classes of farmers in the same ratio as these classes are to the farmers' population. The provision for the crop loan in this case is 100 per cent of the cost of cultivation for small and marginal farmers, 50 per cent for medium and 25 per cent for the big farmers. Applying the norms these total requirements under crop loan may be worked out. Thus both the approaches of the Reserve Bank of India are based on cost of production basis and while the first approach indicates the total credit requirements on crop-wise and area-wise, the second one estimates farmer's credit requirements, group-wise in a particular area.

One general criticism against all macro level approaches on credit requirements is that such estimates cannot give proper guidance to the institutional executives as the demand for credit is a derived demand for the use of different inputs¹⁴ with variations in their applications on crop-wise, area-wise and farmer-wise bases. Hence macro analysis based on certain pre-determined norms of credit requirements will be of little use.¹⁵ This leads to the influence that the proper way of assessment of credit-requirements would be as disaggregative in nature as possible, in order to make them more realistic and comprehensive.¹⁶ Owing to the above limitations of macro level assessments, attempts have been made for micro level studies on production credit requirement.¹⁷ In this study

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14. Desai, B.M., and Desai D.K., Farm Production Credit in Changing Agriculture, Indian Institute of Management, Ahmedabad, 1971, p.1.
 15. NCAER, Credit Requirements in Agriculture (1974).
 16. Reserve Bank of India, Regional Rural Banking, Report of the Review Committee, Bombay 1978, p.9.
 17. Desai B.M., and Desai A.K (1971), Sharma J.S. and Prasad B, "An Assessment of Production Credit Needs in Developing Agriculture", Indian Journal of Agricultural Economics, Vol.XXVI, No.4., Oct.-Dec. 1971, p.496-503; Gurdev Singh and Gupta L.C., "An Estimation of Short term Credit Requirements for an Area", Indian Journal of Agricultural Economics, Vol.XXVI, Oct-Dec. 1971, p.566; Bhanja F.K., "Institutional Credit and RRT Programme : An Analysis of Credit Requirement and Economic Feasibility A Case Study of Birbhum, West Bengal", Indian Journal of Agricultural Economics, Vol.XXVI, No.4, Oct-Dec. 1971, pp.514-515.

we make an attempt to assess the production credit requirements of farmers by considering regional requirements of farmers in Kuttanad region.

4.3.1. Credit Needs in Agriculture

Inadequate capital resources with the farmers necessitate the influx of the external finance into the sector. In this section an attempt is made to analyse the credit needs depending on the aggregate production, consumption demand and the surpluses to meet further requirements. Table 4.10 shows the projections of credit needs of farmers in Kuttanad. Present projection of the credit needs has been undertaken firstly to assess the demand on the basis of actual costs incurred such as costs of seeds, fertilizers, pesticides, labour and maintenance of land. The second approach assesses the demand for external finance, taking into account the imputed costs in addition to the actual costs. It has generally been observed that the income becomes very low for most of the farmers when imputed costs are taken into consideration. However, to estimate the demand for external finance for the next year's cropping it has been assumed that the sample households would follow the existing pattern of family consumption during the following year and all the items consumed originate from cultivation. Though there are so many other expenses which

the farmers have to incur, our exclusive consideration here depends on the notion that the subsistence farming is not capable of yielding enough to meet all the obligations of the farmers. Thus the formula for credit needs is $CN = CC + Cfi - VP$, where CC is the cost of cultivation, Cfi consumption of food items and VP value of production of farm produce.

According to the table, cost of cultivation increases as size of holdings increases and the value of production per acre diminishes as size of holdings increases. The table 4.10 reveals that the value of the food items consumed also increased with increase in the size of holdings. An average household consumed Rs.7,642 per annum. By deducting the value of food items consumed from the value of the produce we get the balance to meet the next year's cost of cultivation and other obligations. Hence we have neglected other obligations and have given priority to the cost of cultivation which is assumed to be the same as this year. On this basis, an average farmer had a balance or residual of Rs.6,742 per annum after deducting his consumption. Such balance for holdings of the size upto 2.5 acres was only Rs.403 which began to increase as size of holdings increased and reached as high as Rs.33,674 for holdings above 15.01 acres. The per acre balance on average was Rs.239 for farmers with holdings

less than 2.5 acres. And for farmers above 15.01 acre holdings, the balance was Rs.1.714 on an average.

The current costs of cultivation account for approximately 29 per cent of total costs. Against the initial requirement of Rs.9,440 for growing the same crop in the same area as in 1982-83, the average farmer would need Rs.3,306 as external finance. Such requirement was Rs.2,267 for holdings less than 2.50 acres, Rs.2,679 for holdings above 15.01 acres, Rs.1,840 for holding size 2.51 - 5.00 acres, Rs.2,293 for holding size 5.01 - 7.50 acres, Rs.1,336 for size 7.51 - 10.00 acres and Rs.1,058 for size 10.01 - 15.00 acres. Since Agricultural Credit includes both production credit and investment credit (dynamic nature of credit) assessment of total credit requirement using this method may lead to misleading conclusions. So we analyse investment credit separately.

4.3.2. Assessment of Investment Credit Requirements

As production credit is required to meet current farm expenses, even so investment credit is required to meet capital farm expenses. Due to the varying magnitude of such expenses under different situations relating to various stages of agricultural development prevailing in different

parts of a region, the problem of assessment becomes more difficult as compared to the assessment of production credit requirements. In the absence of specific schemes for agricultural development and cultivators' capacity to finance such schemes out of their owned funds, the targets fixed for supplying investment credit are accepted as credit requirements.

The Annual Action Plan of Alleppey district reveals that the total financial outlays¹⁸ on the basis of average unit cost for each item comes to 927 lakhs approximately. While small and marginal farmers get subsidy at the rate of 25 per cent and 33.33 per cent of each unit of physical investment respectively, medium and large farmers are assumed to invest some portion of their owned funds. In the absence of available data relating to such owned funds, it is assumed that, on an average, 25 per cent of each unit cost is given on subsidy basis to the former two categories of farmers and that the latter two categories also contribute equal proportion of such expenses out of their own funds.

18. Item-wise break-up is not available in the plan report. The field study revealed that pumpsets, sprayers, drillers and land improvement are in the major heads of investment expenditure for which term loan is required.

On the basis of these assumptions, the aggregate investment credit requirements are estimated approximately at Rs.150 lakhs for 1983-84, after deducting the subsidy.

4.4. Indebtedness

Borrowing and indebtedness are two sides of the same coin. While borrowing is the cause, indebtedness is the effect. It is not borrowing that leads to debt, but failure to repay which leads to debt. The incidence, and even the growth of debt do not tell us much about the role of credit in economic development. Credit can be dynamic or static. Dynamic credit brings about an improvement in output and income, whereas static credit does not. The volume of indebtedness is a function of two variables namely the proportion of indebted families and the average level of debt.

4.4.1. Volume of Indebtedness

4.4.1.1. Proportion of Indebted Families

Table 4.11 shows the proportion of indebted families in the selected villages of Kuttanad. The proportion of indebted families increases as the size of holdings diminishes. Eightythree per cent of

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cultivators are indebted with land holdings less than 2.50 acres, 42 per cent with holdings between 7.50 acres and 10.00 acres and 44 per cent with holding more than 15.01 acres. Alternatively, it may be said that the classes of medium and big farmers have large proportion of families free from indebtedness. The proportion of families free from debt is relatively less in the case of small farmers. This indicates that medium and big farmers are able to clear their debt due to their superior economic position. In the case of small farmers it may be noted that not only they are not able to clear their old debts, but also they have to incur fresh debts.

4.4.1.2. Factors Affecting the Proportion of Indebted Families

In a low monetised subsistence economy the proportion of indebted families may be low. When agriculture is largely commercialised and the economy is highly monetised, borrowings for current and capital purposes may be general and the proportion of indebted families may be high.¹¹

Failure of the agricultural seasons may push up the proportion of indebted families. The proportion of

11. All India Rural Credit Survey (1956).

indebted families may be low in a region where there was a succession of good agricultural seasons.

In Kuttanad high indebtedness may be attributed to the high cost of cultivation, especially high wages and low price of paddy.¹²

4.4.1.3. Size of Debt

Average debt per family and indebted family according to land holdings is given in table 4.12. The pattern of distribution of debt among the cultivators of different size of holdings diminishes with the decline in the size of holdings. The average debt per family for all classes of farmers is Rs.7,044.73 in Kuttanad. The average debt per family with holdings less than 2.50 acres is Rs.1,627.95, between 7.51 and 10.00 acres Rs.19,407.14 and more than 15.01 acres Rs.13,011.77. Similarly, average debt per indebted families goes on decreasing with the decline in the size of cultivated holdings. The average debt per indebted family is Rs.4,596.69 for all classes. The average debt per indebted family with landholdings less than 2.50 acres is Rs.1,351.31, between 2.51 - 5.00 Rs.2,222.50, between 5.01 to 7.50 Rs.3,694.00, and between 7.50 and 10 acres Rs.7,991.18, between 10.01 - 15.00 Rs.10,693.75 and more than 15.01 acres Rs.13,517.95. Thus medium and big cultivators are more heavily indebted

than small cultivators. This shows that debts are conditioned by credit. Thus these figures show the fact that debt follows credit. A study conducted in Nepal by Jha arrives at the same conclusion.¹³

The village-wise figures show that average debt per family and debt per indebted household varies in all villages. Average debt per family is the highest in Koshimukku and lowest in Veliyanad for all classes. But average debt per indebted family is highest in Kavalam and lowest in Kozhimukku.

Total debt does not by itself tell much about the nature of the burden of debt. Hence, the way in which outstanding debt is related to the borrowing position of a cultivator is important. The main indicators of the economic position of a cultivator are the size of cultivated holding, value of assets and the value of gross and sale proceeds. Here we try to analyse the relation of the debt outstanding to the above mentioned variables.

As this size of cultivated holdings is an important indicator of the relative economic position of cultivators, a comparison of the outstanding debt

13. Kumer Kant Jha, Agricultural Finance in Nepal, Heritage Publications, New Delhi, 1978, p.79.

position of the different classes of cultivators with the size of their cultivated holdings would prove of some value. The distribution of the burden of debt per acre of cultivated holdings among different classes of cultivators would show the extent to which the size of debt is related to the largeness or smallness of the size of cultivated holdings.

Table 4.13 shows debt per acre of cultivated holdings among cultivators with different landholdings. In Kuttanad the debt per acre is Rs.779.21. Debt per acre diminishes with increase in size of holdings with fluctuations. Debt per acre for cultivators with landholdings less than 2.50 acres is Rs.798.94, that for landholdings between 7.51 and 10 acres is Rs.986.31 and for above 10 acres is Rs.687.90.

The village-wise data revealed that average debt per acre is Rs.653.41, Rs.714.76, Rs.886.73 and Rs.851.12 in Kavalam, Veliyanan, Kozhimukku and Thalavady respectively. Except in Veliyanad debt per acre in each class of cultivators with fluctuations as size of holdings increased. Veliyanad debt per acre increased as size of holdings increased. Among the three classes of farmers debt per acre of medium farmer is the highest in all the surveyed villages.

cultivators debt constitutes a small proportion of the reported value of the total assets owned by them.

The debt per acre and the debt asset ratio indicate only the burden of debt as well as creditworthiness of cultivators, but fail to answer the repayment of loans. It is not the amount of collateral of a cultivator which determines his capacity to repay the loan but his earnings out of which loan is repaid. Repayment capacity of a cultivator is reflected in his value of gross produce and value of sale proceeds. Table 4.15 shows the ratio of debt to the value of gross produce and sale proceeds among cultivators. The proportion of debt to the value of gross produce is 25.92 per cent for all farmers. It can be seen that the proportion of debt decreases with increase in the size of holdings. The proportion is 39.43 per cent for cultivators with landholdings less than 2.50 acres, 27.02 per cent for cultivators with landholdings between 7.50 and 10 acres and 10.31 per cent with landholdings more than 15.01 acres. In the case of proportion of debt to value of sale proceeds the same inverse relation holds good, except for cultivators with landholdings more than 15.01 acres.

The village-wise debt ratio shows variation among villages and the size of holdings. In general, in all

four villages the debt ratio is inversely related to landholdings.

The proportion of debt to the value of sale proceeds is more important from the standpoint of measuring the relative burden of cultivators. As the value of sale proceeds generally represents the actual marketable surplus, that might be directed to the repayment of loans. The percentage debt to the value of sale proceeds is 39.75 per cent for all the cultivators. The percentage is 51.55 per cent for landholdings less than 2.50 acres, 35.69 per cent for holdings between 7.51 and 10 acres and 40.76 per cent for holdings above 15.01 acres.

The largest single factor depleting the agriculturists' income is determined, among other things, either by the rate of interest or by the amount of interest payable on the loan. As interest rates vary from class to class of cultivators, our main concern is to know the amount of interest in relation to outstanding debt.

Table 4.16 shows data relating to the proportion of interest outstanding to total outstanding debt among cultivators. The data do not show any consistent trend. The proportion is highest among small and big cultivators which is 12 per cent for small cultivators, nearly 10 per cent for medium cultivators and 11 per cent for big

cultivators. The proportion is 9.6 per cent for all cultivators and it is 8.4 per cent in Kavalam, 10.31 per cent in Veliyanad, 9.5 per cent in Kozhimukku and 10.26 per cent in Thalavady. Since interest rates are not uniform among cultivators, there is variation in the length of period for which debt has been outstanding. Thus the proportion of interest outstanding to the total outstanding debt does not appear to be associated with the economic position of cultivators.

4.4.2. Credit and indebtedness

For the agricultural sector as a whole, recourse to credit is increasing in all countries. The need for constantly growing gross investments, the increase in real prices of investment goods and above all the increase in land prices are responsible for the fact that farmers are induced to increase their borrowings. Now an important question to be answered is whether the increased use in credit and indebtedness improves farmer's economic position. Dependence on credit is the sign of dynamic development since it serves to finance investments which make it possible to increase productivity and income. A high volume of debt need not necessarily indicate the impoverishment of the peasantry. It is important to examine the purpose for which such debts are increased. According to

Hirashima Shigimochi "Indebtedness is not a problem
As long as indebtedness means investment, it is regarded as
a sign of progress in the capitalist framework of production.
However, indebtedness becomes a problem when money is
borrowed with high interest rates and used for economically
unproductive purposes."¹⁴

However, if debts become high in relation to
assets and returns to capital fall below the interest rate
on borrowed money, then farmer's position is not improved.
If a farmer borrows when the expected return on the new
investment is only little more than the cost of borrowing,
his net spendable income increased very little as a result
of the investment, and may fall if the return on the new
investment is less than expected or if the rate of
interest on the debts increases. Debts may also become
excessive for farmers who have bought land at a price
which is unrelated to the economic possibilities of the

14. Hirashima Shigimochi, The Structure of Disparity
in Developing Agriculture, Institute of Developing
Economies, Tokyo, 1978, p.36.

holdings.¹⁵ On the whole the increase in credit may be regarded as being helped to improve farmer's income and have helped in the enlargement of the size of holding and in improving the economic organisation of agriculture.

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15. OECD (1970); As far as Travancore is concerned, Jose states that a large share of rural debts since the beginning of present century were secured for the purposes of reinvestment in land for expanding commercial cultivation. A.V. Jose, Agricultural Labour in Kerala. A Historical and Statistical Analysis, Unpublished Ph.D. Thesis, University of Kerala, 1980. Also see Government of Travancore, Report of the Agricultural Debt Redumption Committee, Trivandrum, 1935.

Table 4.2. Changes in the Volume of Borrowings Claified According to

Village	Size of Holdings in Selected Villages					(in Rs.)	All Villages
	Kavalam	Veliyanad	Kozhimukku	Thalavady			
Upto 2.50	19000 (18)	21250 (30)	7250 (8)	8500 (9)	56000 (16)		
2.51 - 5.00	15000 (10)	32000 (26)	14350 (13)	8450 (7)	69800 (18)		
5.01 - 7.50	21765 (16)	9000 (6)	5550 (5)	11200 (11)	48015 (10)		
7.51 - 10.00	1700 (1)	8150 (8)	18600 (21)	(-2500) (-3)	25950 (6)		
10.01 - 15.00	18500 (9)	5300 (2)	5360 (3)	15900 (8)	45060 (6)		
15.01 & Above	9500 (5)	9000 (5)	7750 (4)	18550 (13)	25610 (3)		
All Class	85465 (9)	85200 (10)	53860 (7)	60100 (8)	284625 (9)		

Source : Sample Survey.

Figures in brackets show percentage change over last year.

Table 4.3. Purposewise Distribution Amount Borrowed by Cultivators in Selected

Purpose	Villages of Kuttanad (in Rs.)					All Villages
	Kavelam	Veliyanad	Kozhimukku	Thalavayy		
Crop Loans	709465 (69.59)	675150 (73.7)	672300 (79.57)	647300 (80.52)	2704215 (75.34)	
Loans for Land Improvements	97000 (9.51)	85900 (9.37)	81700 (9.67)	70650 (8.79)	335250 (9.35)	
Housing Loans	58000 (5.69)	19500 (2.13)	11000 (1.30)	12500 (1.55)	101000 (2.81)	
Business Loans	63000 (6.18)	51500 (5.61)	24900 (2.95)	18000 (2.24)	157400 (4.39)	
Consumption Loans	6500 (0.63)	13000 (1.42)	14500 (1.72)	15000 (1.87)	49000 (1.37)	
Loans under IRDP	32000 (3.14)	25000 (2.73)	15000 (1.77)	165000 (2.05)	88500 (2.47)	
Others	53500 (5.25)	46000 (5.07)	25500 (3.02)	23900 (2.97)	148900 (4.17)	
Total	1019465 (100.00)	916050 (100.00)	844900 (100.00)	803850 (100.00)	3589265 (100.00)	

Figures in brackets show percentages.
Source : Sample Survey.

Table 4. Amount Borrowed Per Acre Per Household According to Purpose and Size of

Size of Holdings	Holdings in Kuttanad					
	Crop Loans		Loans for Land improvement		Loans for Other Purposes	
	Per acre	Per Household	Per acre	Per Household	Per acre	Per Household
Upto 2.50	1039.11	1757.52	104.34	176.77	440.53	745.10
2.51 - 5.00	1303.15	4298.75	213.72	705.00	661.24	2181.25
5.01 - 7.50	1592.67	83443.00	197.98	1037.00	192.01	1005.00
7.51 - 10.00	1095.95	8879.41	185.14	1500.00	198.75	1610.29
10.01 - 15.00	1299.58	15750.00	157.52	1909.09	103.60	1255.68
15.01 and above	899.41	17674.36	84.81	1666.66	73.72	1448.72
All Class	1150.25	6785.54	142.07	838.13	214.14	1938.25

Source : Sample Survey.

Table 4. 5. Debt as a Percentage of Value of Gross Produce, Sale Proceeds

Village	Kavalam		Veliyod		Kozhimukku		Thalavady		All Villages	
	G.P	S.P	G.P	S.P	G.P	S.P	G.P	S.P	G.P	S.P
Upto 2.50	48.02	53.41	18.71	25.07	55.12	79.03	37.28	50.47	39.43	51.55
2.51-5.00	23.22	32.14	33.72	43.57	27.67	43.25	33.81	41.10	29.59	41.30
5.01-7.50	13.00	19.59	30.57	35.87	31.34	77.51	46.39	67.40	28.98	39.48
7.51-10.00	27.44	37.53	35.20	41.03	37.96	55.84	58.27	81.44	27.02	35.69
10.01-15.00	29.76	41.10	32.10	36.57	48.18	67.51	42.84	60.33	22.50	29.77
15.01 and above	29.65	36.94	26.26	34.52	38.90	50.31	26.65	38.50	10.31	10.76
All Class	27.62	36.81	31.64	38.95	40.51	56.21	38.93	62.09	25.92	39.75

Source : Sample Survey.

G.P. - Gross Produce. S.P. - Sale Produce.

Table 4.5(a). Average amount Borrowed Per Household and Per Acre Classified According to Size of Holdings in Kavalam

Size of Holdings	Crop Loans		Loans for Land Improvement		Loans for Other Purposes		Total	
	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household
upto 2.50	1247.87	1650.00	160.07	212.50	898.09	1187.50	2316.12	3062.50
2.51-5.00	1344.65	5264.71	187.55	735.29	901.44	3529.41	2433.39	9529.41
5.01-7.50	1350.00	9438.75	190.70	1333.33	357.57	2500.00	1898.27	13272.08
7.51-10.00	1399.72	10100.00	296.97	2412.86	791.92	5714.29	2488.52	17957.14
10.01-15.00	1273.34	17045.46	203.74	2727.27	101.87	1363.64	1578.04	21136.36
15.01 and Above	662.07	14038.46	54.42	1153.85	72.56	1538.46	789.04	15730.77
All Class	1048.33	7094.65	143.33	970.00	314.00	2125.00	1506.39	10194.65

Source : Sample Survey.

Table 4.5(b). Average Amount Borrowed Per Acre Per Household Classified According to Size

Size of Holdings	of Holdings in Veliyanad (in Rs.)						
	Crop Loans Per Acre Household	Loans for Land Improvement per Acre Household	Loans for Other Purposes Per Household Acre	Loans for Other Purposes Per Household Acre	Total	Per Household	Total
Upto 2.50	991.70	112.45	177.38	279.25	440.48	1383.40	2182.14
2.51-5.00	1311.82	197.22	628.57	806.81	2571.43	2315.85	7380.90
5.01-7.50	1867.32	237.51	1450.00	442.26	2700.00	2517.09	1550.00
7.51-10.00	813.09	148.19	1325.00	223.69	2000.00	1184.99	1059.50
10.01-15.00	1379.90	208.51	2777.78	100.08	1333.33	1688.49	22491.44
15.01 and above	1213.25	84.49	1562.50	94.63	1750.00	1392.36	25750.00
All class	1242.36	155.76	859.00	263.83	1455.00	1651.95	9165.50

: Sample Survey.

Table 4.5(c). Average Amount Borrowed Per Acre Per Household Classified According to

Size of Holdings	Size of Holdings in Kozhimukku (in Rs.)									
	Crop Loans		Loans for Land Improvement		Loans for other Purposes		Total			
	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household
Up to 2.50	975.75	2024.24	95.68	198.48	314.05	615.52	1385.48	2074.24		
2.51-5.00	1236.49	4336.84	186.82	655.26	405.16	1421.05	1828.48	6413.16		
5.01-7.50	1514.05	7669.23	154.90	784.62	192.10	973.08	1861.05	9425.92		
7.51-10.00	1216.51	8400.00	181.03	1250.00	123.10	850.00	1520.64	10500.00		
10.01-15.00	1162.78	11996.15	112.78	1153.85	107.14	1096.15	1382.71	14146.15		
15.01 and Above	1035.88	15395.83	140.17	2083.33	67.28	1000.00	1243.34	18479.17		
All Class	1156.45	6723.00	140.53	817.00	381.44	1839.00	1453.34	8449.00		

Source: Sample Data.

Table 4.5(d). Average Amount Borrowed Per Household and Per Acre Classified According

Size of Holdings	to Size of Holdings in Thalavady (in Rs.)									
	Crop Loan	Loans for Land Improvement		Loans for Other Purposes		Total				
	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household	Per Acre	Per Household
Upto 2.50	990.43	1852.63	63.31	118.42	365.79	684.21	1419.53	2655.26		
2.51-5.00	1174.34	3660.87	254.53	793.48	582.29	1815.22	1756.62	5476.09		
5.01-7.50	1479.51	6016.67	128.79	743.33	125.41	510.00	1787.70	7270.00		
7.51-10.00	1120.30	9312.50	154.14	1281.25	63.91	531.25	1338.35	11125.00		
10.01-15.00	1392.94	18540.00	105.18	1400.00	105.18	1400.00	1603.30	21340.00		
15.01 and Above	866.88	23578.33	76.02	2083.33	85.14	1750.00	1006.75	27591.67		
All Class	1139.97	6473.00	124.42	706.50	111.13	631.00	1375.52	7810.50		

Source : Sample Survey.

Table 4.6. Borrowings Among Cultivators Classified According to Rate of

Interest (in Rs.)

Class of Cultivators	Interest (in Rs.)						51 & Above	Total
	Nil	1-10	11-20	21-30	31-40	41-50		
Small Farmers	62250 (6.39)	171900 (17.64)	287460 (29.49)	109835 (11.27)	110500 (11.34)	102700 (10.54)	130000 (13.34)	974645 (100.00)
Medium Farmers	122250 (12.58)	102800 (10.58)	447915 (46.09)	178900 (18.41)	40500 (4.17)	42055 (4.33)	37200 (3.83)	971620 (100.00)
Big Farmers	224500 (13.66)	149000 (9.06)	930150 (56.61)	157350 (9.58)	95200 (5.79)	49700 (3.02)	37100 (2.25)	1643000 (100.00)
All Class	409000 (11.40)	423700 (11.80)	1665525 (46.40)	446085 (12.43)	246200 (6.86)	194455 (5.41)	204300 (5.69)	3589265 (100.00)

Source : Sample Survey.

Figures in brackets show percentages.

Table 4.7. Borrowings Classified According to Securities (in Rs.)

Type of Farmers	Small Farmers	Medium Farmers	Big Farmers	All Class
Security				
Personal	233915 (24)	116594 (12)	98580 (6)	449089 (13)
Silver and Gold	155943 (16)	330351 (34)	657200 (40)	1143494 (31)
Land	389858 (40)	427513 (44)	690060 (42)	1507431 (42)
Promissory Notes	68225 (7)	97162 (10)	197160 (12)	362547 (10)
Others	126704 (13)	--	--	126704 (34)
Total	974645 (100)	971620 (100)	1643000 (100)	3589265 (100)

Figures in brackets show percentages

Source : Sample Survey.

Table 4.8. Description of Grain Loans Borrowed (in Qtls.)

Size of Holdings	No. of Households and Quantity Borrowed				Purpose			Total No. Qty.								
	KVLM	VLD	KMK	THDY	KTD	Seeds			Consumption							
						No.	Qty.			No.	Qty.					
Upto 2.50	(54)	(30)	(39)	(62)	(185)	24	17	20	27	88	92	36	93	88	185	
2.51-5.00	(32)	(43)	(38)	(37)	(152)	12	18	14	17	61	44	125	17	27	61	152
5.01-7.50	(33)	(29)	(30)	(34)	(126)	8	5	8	10	31	31	126	--	--	31	126
7.51-10.00	(17)	--	(23)	(24)	(64)	2	--	3	3	8	8	64	--	--	8	64
All Class	(136)	(102)	(130)	(159)	(527)	46	40	45	57	188	135	407	53	120	188	527

KVLM - Kavalam. VLD - Veliyanad. KMK - Kozhimukku. THDY - Thalavady
 KTD - Kuttanad.
 Figures in bracket shows Quantity borrowed.
 Source : Sample Survey.

Table 4.9. Utilisation of Agricultural Credit in Selected Villages

Villages	Of Kuttanad				All Villages
	Kavalam	Vellayanad	Kozhimu- kku	Thalavady	
Specified Purposes	560706 (55)	570900 (56)	433449 (51)	418002 (52)	214 1902576 (53)
Production other than specified	40779 (4)	50973 (5)	33996 (4)	24116 (3)	16 143591 (4)
Consumption	91752 (9)	112141 (11)	93489 (11)	88424 (11)	42 394874 (11)
Repayment of old debt	142725 (14)	122336 (12)	110487 (13)	104500 (13)	52 466659 (13)
Relending	183504 (18)	163114 (16)	178479 (21)	168809 (21)	76 682055 (19)
Total	1019465 (100)	916550 (100)	849900 (100)	803850 (100)	400 3589755 (100)

Figures in brackets show percentages.

Source : Sample Survey.

Table 4.11. Proportion of Indebted Families Classified According to Size

Villages Size	<u>of Holdings</u>					Total
	Kavalam	Veliyanad	Kozhimukku	Thalevady	Total	
Upto 2.50	34 (85)	36 (86)	27 (82)	30 (79)	127 (83)	
2.51 - 5.00	12 (71)	11 (52)	10 (53)	14 (61)	47 (58)	
5.01 - 7.50	7 (58)	8 (80)	10 (77)	11 (73)	36 (72)	
7.51 - 10.00	4 (57)	3 (30)	4 (40)	3 (38)	14 (42)	
10.01 - 15.00	5 (45)	4 (44)	6 (46)	5 (50)	20 (45)	
15.01 and above	6 (46)	3 (38)	4 (33)	4 (67)	17 (44)	
All Class	68 (68)	65 (65)	61 (61)	67 (67)	261 (65)	

Figures in brackets show proportion of indebted families in each class in each village.

Source : Sample Data.

Table 4.13. Average Debt Per Acre of Cultivated Holdings
(in Rs.)

Village	Size Upto	Average Debt Per Acre					All Villages
		2.51- 2.50	5.01- 7.50	7.51- 10.00	10.01- 15.00	15.01 & Above	
Kavalam	1035.17	540.87	306.31	722.63	736.84	655.72	653.41
Veliyanad	386.42	729.87	717.44	890.28	760.00	711.05	714.75
Kozhimukku	1101.37	611.49	705.39	906.59	1078.20	823.66	886.73
Thelavady	717.50	728.03	1127.05	1398.50	957.93	573.77	857.32
Total	798.94	673.74	705.07	986.31	882.37	687.90	779.21

Source : Sample Data.

Table 4.14. Debt in Relation to Value of Assets Among Cultivators in Selected

Village	Size	Assets						All Class
		Upto 2.50	2.51-5.00	5.01-7.50	7.51-10.00	10.01-15.00	15.00 & above	
Kavalam		8.75	4.34	2.62	5.97	6.35	5.35	5.43
Veliyanad		3.81	6.93	6.26	10.32	6.99	5.46	6.47
Kozhimukku		11.01	5.87	6.73	8.98	15.97	14.63	11.04
Thalavady		8.17	7.94	10.07	13.18	15.95	10.69	11.19
All Villages		7.93	6.16	6.05	9.75	9.99	7.43	7.90

Source : Sample Survey.

CHAPTER - VSUPPLY OF AGRICULTURAL CREDIT

This chapter analyses the supply of agricultural credit in Kuttanad. Here we examine both the institutional and non-institutional credit in agriculture. Under institutional credit relative sizes of cooperative credit, commercial bank credit and government direct finance through Agricultural Development Units (ADU) are traced. The term structure will be examined in terms of short, medium and long term credit depending on the duration of credit. The study also analyses the flow of informal credit and how far informal money market is linked to formal money market.

Short term credit is required as working capital for financing the agricultural operations, whereas the medium and long term credits are needed for investment purposes which increase the productive potential of land over a period. While short term credit is directly productive, medium and long term credits are indirectly productive through their capital formation function.

5.1. Relative Importance of Credit Agencies

The relative importance of various credit agencies could be explained with the help of the following measures, such as the proportion of borrowings of cultivators from each agency to their total borrowings, proportion of debt owed by them to each agency to their total debt and the proportion of credit supplied by each agency to total credit during the year.

5.1.1. Proportion of Borrowings

Table 5.1 shows the proportion of borrowings of cultivators from each agency to their total borrowings. In Kuttanad 59 per cent of the total borrowed amount is from organised sector and the remaining from unorganised sector. The village-wise data shows that in all villages, except Veliyanad borrowings from informal sector is nearly 40 per cent.

Table 5.1 reveals that the percentage of borrowings from moneylenders is the highest : 32 per cent of the borrowings from cooperatives, 23 per cent from commercial banks, 10 per cent from Agricultural Development Units and 9 per cent from friends and relatives. This shows the importance of moneylender as a single agency in the supply of agricultural credit.

The village-wise data shows variation in the case of borrowings from cooperatives. It is 25 per cent in Kavalam, 19 per cent in Veliyanad, 22 per cent in Kozhimukku and 26 per cent in Thalavady. In Veliyanad village there are two Primary Agricultural Credit Societies, of which the one at Kumarankary is dormant for the last three years. But details of dormancy are absent in the records of Primary Agricultural Credit Societies with Kuttanad circle office. In all the four villages borrowings from moneylenders are highest. It is highest in Kozhimukku (33 per cent) and lowest in Kavalam 26 per cent).

5.1.2. Proportion of Debt

The proportion of debt against each agency to total debt are given in table 5.2. Of the total debt 65 per cent is against institutions in the organised sector. Of this, debt against cooperatives is 40 per cent, against commercial banks 18 per cent, against Agricultural Development Units 7 per cent. Thirtyfive per cent of the debt is against unorganised sector, of which debt against moneylenders is 30 per cent. This is because of the strict recovery procedure of moneylenders. Most of the loans will have to be paid in paddy at the time of harvest. The rate of interest charged is very high. Moreover, if the loan is not repaid on the stipulated date the collateral would be forfeited.

The 1962 survey of rural debt conducted by the Reserve Bank of India showed that, in Kerala, cash indebtedness to government is 4.5 per cent, to cooperatives 9.1 per cent, to commercial banks 4 per cent and to non-institutional agencies 82.4 per cent.¹ According to All India Debt and Investment Survey 1971-72, indebtedness to government is 4.83 per cent, to cooperatives 26.14 per cent, to commercial banks 13.45 per cent and to non-institutional agencies 55.55 per cent.² This shows that the debt against moneylenders diminished and the importance of the organised sector increased.

5.1.3. Proportion of Credit Supplied

Proportion of credit supplied by each agency is given in table 5.3. It shows that 50 per cent of the total credit is supplied by Primary Agricultural Credit Societies, 36 per cent by commercial banks, 10 per cent by Agricultural Development Units and 3.5 per cent by moneylenders.³ The above analysis reveals that during 1983-84 organised sector

1. Government of Kerala, "Poverty, Rural Indebtedness and Moneylending Practices in Kerala", State Planning Board, Trivandrum, 1975, p.9.

2. Reserve Bank of India, All India Debt and Investment Survey, 1971-72, p.88.

3. Estimated from the case study of five moneylenders from each village.

supplied considerable portion of credit. But the relative role of moneylender in the agricultural finance is still important.

5.2. Co-operative Credit

Kerala shares alongwith most of the other states in the co-operative credit boom. During the two decades the quantum of short term and medium term loans issued through cooperatives rose more than three times, while for the country it increased by 22 per cent.⁴ The rapid growth of credit facilities has been associated with a corresponding increase in the number of credit societies, membership to societies and the growing coverage of the cooperative credit movement.

The cooperatives provide credit of all durations. The period of short term credit for meeting the working capital requirements had been reduced from one year to one season after renaming them as crop loans. They are generally production credit which immediately increases the total production by the end of the season itself. Though a small proportion of credit is for making and processing agricultural produce, short term credit may be classified

4. Government of Kerala, Report of the Utilisation of Short Term Agricultural Cooperative Credit in Kerala, State Planning Board, Trivandrum, 1972.

broadly as credit for current production. A summary statement of variation in the structure and flow of cooperative agricultural credit in Kuttanad is given in table 5.4.

The overall cooperative agricultural credit supply increased from Rs.30.90 lakhs to Rs.82.21 lakhs during the ten year period from 1960-61 to 1970-71. In terms of index it rose to 266 in 1970-71 and 532 in 1980-81 and reached 662 in 1983-84. Agricultural credit distributed per hectare increased from Rs.332.83 in 1970-71 to Rs.750.61 in 1980-81 and further increased to Rs.1213.88 in 1983-84. The structural composition shows that the proportion of short term credit had increased to 69.48 per cent in 1960-61 and further to 85.31 per cent in 1983-84 though it had declined to 85.15 per cent in 1980-81. Another feature of the cooperative credit structure is that both the medium term and the long term credit have been increasing. In general the trend has been in favour of production credit which rose mainly due to the technological changes, application of modern inputs and increase in the cost of cultivation.⁵

5. Mohandas. M., "Structural and Flow of Agricultural Credit in Kerala" in Agricultural Development of Kerala, Edited by P.F. Pillai, Agricole Publishing Company, New Delhi, 1962, p.102.

In spite of the accepted ratio 3 : 2 between the short term and the medium term credit of the Primary Agricultural Credit Societies, the medium term credit remains very low not only in Kuttanad, but also in the whole state.⁶ This predominance of the short term loans may be attributed to three factors : firstly, reduction of its duration from one year to one season and its conversion into crop loans; secondly, they were attractive due to their quick-yielding nature as well as quick dispersal compared to complex and time-consuming procedures of medium term (M.T) loans and as a result, there has been a tendency to avail short term credit and to divert part of it for investment purposes; lastly the spread of new varieties and techniques has increased production credit requirement. The inability of the small and marginal farmers to avail the medium term credit under specified conditions tended to reduce the medium term loans.

With the increase in the flow of short term credit from the Primary Agricultural Cooperative Societies, there has been substantial growth in the amount of credit outstanding. While the amount of the outstanding credit had gone up from Rs.54.75 lakhs in 1960-61 to Rs.282.65

6. Report on the Utilisation of Short Term Credit (1972).

lakhs in 1983-84 (Table 5.5), the index of outstanding credit rose from 100 to 516 during the same period. In Kerala the total amount outstanding had gone up from 297.7 lakhs at the end of 1958-59 to Rs.7599.1 lakhs at the end of 1976-77, whereas the index of outstanding credit increased from 100 to 2552.6 during this period.⁷ The substantial growth in the outstanding credit has been brought about by the policy of the Reserve Bank of India (RBI) to reimburse the short term loans to the full extent, the introduction of crop loan system and the Action Programme for the implementation of the state governments.⁸

Details of overdues are given in table 5.6. With the growth in the annual flow of credit and increase in the outstanding credit the size and proportion of overdues also went increasing. The amount of overdues increased from Rs.8.43 lakhs in 1960-61 to 42.70 lakhs in 1983-84 and the corresponding index rose from 100 to 507 during the same period. The proportion of overdues to outstanding credit in 1960-61 is 15.39 per cent, then it diminished to 12 per cent in 1970-71 and to 10 per cent in 1980-81 and then increased to 15 per cent in 1983-84. The

7. Mohandas, M., (1982).

8. Government of India, Report of the National Commission on Agriculture, 1976, p.6.

state average increased from 25.4 per cent in 1958-59 to 30.3 per cent in 1976-77⁹ and in 1983-84 it decreased to 21.5¹⁰ per cent. Of the total overdues in Kuttanad, proportion of overdues less than one year has gone up from 48.42 per cent in 1960-61 to 60.40 per cent in 1983-84, while overdues more than one year went down from 51.58 per cent in 1960-61 to 39.6 per cent in 1983-84.

The index of Primary Agricultural Credit Societies in Kuttanad increased from 100 in 1960-61 to 327 in 1983-84 (Table 5.4). The average membership per society increased from 612 to 1257 during the same period. Average membership per society in Kerala in 1983 is 3052.¹¹ The proportion of borrowing members to total members of Primary Agricultural Credit Societies in Kuttanad increased from 63 per cent in 1960-61 to 94 per cent in 1983-84. The proportion for the state increased from 30 per cent in 1964-65 to 40 per cent in 1980-81 and in 1983-84 it increased to 38 per cent.¹² Loans per advancing societies rose from Rs.1.65 lakhs in 1960-61 to Rs.6.92 lakhs in 1983-84 in Kuttanad and for the state it increased from Rs.0.5 lakhs in 1964-65 to Rs.3.94 lakhs in 1975-76¹³ and

9. Mohandas, M., (1982).

10. Government of Kerala, Economic Review, 1984, State Planning Board, Trivandrum, 1985.

11. Economic Review, (1984).

12. Economic Review, (1984).

13. Mohandas, M. (1982).

to Rs.18.86 lakhs in 1983.¹⁴ Consequently, the average loan advanced per borrowing member also increased from Rs.427 in 1960-61 to Rs.584.2 in 1983-84 in Kuttanad. The average loan advanced per borrowing member was highest in 1970-71. At the state level it increased from Rs.230 in 1964-65 to Rs.505 in 1975-76 and to Rs.1483 in 1983.¹⁵

5.2.1. Flow of Short Term Credit

Short term agricultural credit is advanced by both the Primary Agricultural Credit Societies and the Non-agricultural Credit Societies. In Kuttanad the Primary Agricultural Credit Societies are the dominant source of short term credit. Percentage of short term agricultural credit to total short term credit increased from 85.78 per cent in 1960-61 to 89.28 per cent in 1970-71, then diminished to 86.47 per cent in 1980-81 and further to 85.31 per cent in 1983-84 (Table 5.4). But the percentage of the short term agricultural credit to the total credit increased from 59.29 per cent in 1960-61 to 68.41 per cent in 1970-71. In 1980-81 it increased to 74 per cent and diminished to 72 per cent in 1983-84. The growth of agricultural credit to total short term credit is mainly due to the policy adopted

by the Reserve Bank of India to reimburse fully the short and the medium term loans since the second plan.

5.2.1.1. Distribution of Inputs

A good part of the credit for the seasonal agricultural operations extended by the Primary Agricultural Credit Agencies are normally used for the distribution of the agricultural inputs to the cultivators. The introduction of ABC component systems had given a boost to this function since 1967-68.¹⁶ Table 5.7 shows the value of inputs distributed in Kuttanad during 1960-61 to 1983-84. The value of inputs distributed increased from Rs.14.56 lakhs in 1960-61 to Rs.40.63 lakhs in 1970-71. It again increased to Rs.88 lakhs in 1980-81 and to Rs.127.43 lakhs in 1983-84. The percentage value of inputs distributed to the total short term credit advanced increased from 47.11 per cent in 1960-61 to 72 per cent in 1983-84.

The break-up of inputs distributed shows that fertilizers accounted a major share of inputs distributed. In 1970-71 it accounted for 48 per cent and increased to 51 per cent in 1980-81 and in 1983-84 it again increased to 53 per cent. During these periods value of seeds and pesticides distributed increased considerably.

16. Government of Kerala, Report on the Utilisation of the Short term Agricultural Co-operatives in Kerala, Trivandrum, 1972.

5.2.2. Medium Term Credit

Flow of medium term credit increased from Rs.9.43 lakhs in 1960-61 to Rs.16.63 lakhs in 1983-84. The index rose from 100 to 139 in 1970-71 and then to 155 in 1980-81 and to 176 in 1983-84 (Table 5.4). Of the total agricultural credit distributed relative share of the medium term credit decreased from 30.52 per cent in 1960-61 to 8.13 per cent in 1983-84. Relative share of medium term credit to total credit distributed diminished from Rs.26.04 lakhs to 6.86 lakhs during 1960-61 to 1983-84 (Table 5.5). Of the total medium term credit distributed, minor improvements to land and purchase of livestock received major shares. The field survey revealed that most of the loans received for improvements to land were used for other purposes.

5.2.3. Long Term Co-operative Credit

Long term credit is advanced by the Co-operative Land Mortgage Banks under two programmes, namely, ordinary lending programme and special agricultural development programme. Long term credit distributed increased from Rs.4.33 lakhs in 1970-71 to Rs.13.43 lakhs in 1983-84 (Table 5.5). The index increased from 100 in 1970-71 to 188 in 1980-81 and further to 310 in 1983-84. The relative share of long term credit decreased from 16.07

per cent in 1970-71 to 6.56 per cent in 1983-84. Percentage of long term credit distributed to total credit increased from 4.6 per cent in 1970-71 to 5.5 per cent in 1983-84. In Kerala State long term credit issued in 1958-59 was Rs.24.7 lakhs in 1970-71, it increased to Rs.206.7 lakhs¹⁷ and in 1983-84 it increased to Rs.559 lakhs.¹⁸

5.2.4. Securities

Though there had been some attempts to shift from the conventional approach of security-oriented to production-oriented credit, the flow of credit is not linked with production requirements. With the introduction of crop loan systems emphasis were shifted to expected value of the crops. In spite of these policies the security portfolio has not changed much as shown in table 5.8. While loans on security of agricultural produce formed only 4.1 per cent in 1960-61, it slightly increased to 5.5 per cent in 1983-84. The proportion of credit advanced against gold and silver increased from 11.8 per cent in 1960-61 to 18.9 per cent in 1983-84. In the case of immovable properties, the share decreased from 58.1 per cent in 1960-61 to 41.5 per cent in 1983-84. Percentage of amount advanced against securities increased from 16.4 per cent to 18.5 per cent.

17. Mohandas, M., (1972), p.101.

18. Economic Review, (1984).

5.3. Commercial Banks

The Commercial Banks began lending to agriculture on an increasing scale only after the nationalisation. Here we consider only the direct finance given by the commercial banks. Credit distributed to agriculture excluding plantations was only 1 per cent of the total commercial bank credit in 1967-68 and it increased to 7.3 per cent in June 1979.¹⁹ The performance of commercial banks was still better in the state.

Before the nationalisation of commercial banks, in Kuttanad there were 6 branches of commercial banks. They advanced only secured loans. Indicators of credit operations of commercial banks are given in table 5.9. In 1971, there were 976 accounts and credit outstanding was Rs.23.6 lakhs. By 1983-84 the number of accounts increased to 57.42 and the outstanding credit increased to Rs.150.12 lakhs. The index for the corresponding period increased from 100 to 636. The outstanding credit per branch increased from Rs.3.93 lakhs in 1971 to Rs.6.52 lakhs in 1983-84. After nationalisation the percentage of agricultural credit outstanding to total credit increased from 42 per cent in 1971 to 77 per cent in 1983. In Kerala outstanding credit to agriculture in 1977 was Rs.6683.4 lakhs,

19. Mohandas, M., (1982).

of which 88 per cent was direct advances.²⁰ In 1981 outstanding credit increased to Rs.20,463.7 lakhs of which 90 per cent was direct advances.²¹ Share of overdues in outstanding credit in 1971 was 18.22 per cent in 1983-84 it slightly increased to 19.12 per cent. Table 5.9 also reveals that the nationalised banks give the major share of the agricultural credit in Kuttanad.

5.4. Government Loans

State government issues direct loans to paddy cultivation through Agricultural Development Units. Formerly those loans were given through NES Blocks. Agricultural Development Units are following the component systems in advancing loans. Every farmer is entitled for assistance at the rate of Rs.400 per acre. During 1983-84 Rs.42.87 lakhs were distributed under this scheme in Kuttanad through seven development units.²² The field study revealed that most of the farmers who availed themselves credit from

20. Government of Kerala, Statistics For Economic Planning, 1980, The Directorate of Economics and Statistics, Trivandrum, 1980, p.153.

21. Government of Kerala, Statistics For Economic Planning 1983, The Directorate of Economics and Statistics, Trivandrum, 1984, p.199.

22. Office of the Joint Director of Agriculture, Alleppey.

Agricultural Development Units have not repaid the amount. Therefore, government is renewing the loans after adjusting the rate of interest every year. Therefore, those farmers are perpetually indebted to government. Since there is lot of delay in clearing the papers for sanctioning loans, the component system is utter flop. Because of further delays, the facility provided are taken advantage of the dealers of inputs.

5.5. Moneylending

Moneylending in Kuttanad has a history from the kayal reclamations.²³ The credit provided at the time was cheap not only to lending rates in other parts of India, but also to institutional rates prevailing in this area. "The Usurious Mahajan, so far as Travancore is concerned, is more apparition called into being by the enthusiastic co-operater than a reality."²⁴ Moneylending at that time was based on mutual confidence. They found that conditions changed over the years and withdrew from the field. During 1983-84 moneylenders provided Rs.14.40 lakhs in four villages. The estimated figures for Kuttanad taluk is Rs.144 lakhs.²⁵

23. V.R. Pillai and P.G.K. Panikar, (1965), pp.92-96.

24. Travancore Banking Enquiry Committee Report, Government Press, Trivandrum, 1930, Vol.I, p.24.

25. Estimated from the Sample.

5.6. Friends and Relatives

Relatives provided Rs.1.01 lakhs in the surveyed villages and for Kuttanad the estimated figure amounts to Rs.10.1 lakhs.

5.7. Relation Between Moneylenders and Organised Institutions

One of the major problems of rural money market is the lack of integration between the unorganised sector and the organised sector.²⁶ The Committee on Finance for Private Sector (1954) indicated a few measures for promoting integration between organised and unorganised money markets.²⁷ It recommended that the Reserve Bank of India would offer rediscounting facilities to rural moneylenders through commercial banks provided they maintained proper books and accounts.²⁸

It is difficult to understand the linke between the moneylenders and the organised agencies, which can grow if the demand for loans is increased and if the moneylenders

26. Reserve Bank of India, All India Rural Credit Survey, Vol.1, Part-2, Bombay, 1957, pp.672-3.

27. Reserve Bank of India, Report of the Committee on Finance for Private Sector, Bombay, 1954, pp.68-70.

28. Gupta. U.P., The Reserve Bank of India and Monetary Management, Asia Publishing House, London, 1959, pp.209-11.

start using negotiable credit instruments. To develop the links, it may be necessary to create incentives for the moneylenders to increase the scale of activity and to reduce interest rates. This may be done by changing the elasticity of demand for funds.²⁹ The elasticity of demand for loans may be increased through increased competition among moneylenders. But such a situation is difficult to visualise where cultivators have an allegiance towards moneylenders.³⁰ Moreover, in rural money markets entry into the market for moneylenders and borrowers is not so easy. Borrower's access to credit and lender's mobility are restricted in fragmented credit market structure.³¹

Some estimate the degree of contact between the two markets and examined the nature and growth of linkages between organised and unorganised money markets in underdeveloped countries.³² Here we examine the linkage in the following ways :

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29. Anthony Bottomley, "Credit Expansion and Growth in Underdeveloped Rural Areas", The Indian Economic Review, Vol.VI, No.2, August 1962, pp.125-43.
 30. Subrata Ghetak, Rural Money Markets in India, The MacMillan Company of India Limited, Bombay, 1976, p.143.
 31. Ashok Rudra, Indian Agricultural Economics Myths and Realities, Allied Publishers Pvt. Ltd., New Delhi, 1982, pp.65-67.
 32. U Tun Wai, Interest Rate Outside the Organised Money Markets of Underdeveloped countries, IMP Staff Papers, Vol.VI, No.1, 1977, pp.80-144; also see Subrata Ghetak (1976), pp.110-27.

The extent to which the commercial banks finance agricultural sector, directly or indirectly. Since the nationalisation of banks, the amount outstanding to agricultural loans paid out by the commercial banks in Kerala has been steadily increasing. In 1973 commercial banks distributed 9.3 per cent of credit to agriculture (9% all India) and in 1979 it increased to 15.7 per cent.³³ In 1981, of the total advances 12.26 per cent were distributed to agricultural sector in Kerala.³⁴

Another method is to measure the institutional sources lending to moneylenders. A sample study conducted among five moneylenders from each village revealed the following results : Results are given in table 5.10. Total amount invested in business amounts to Rs.21,08,550. Of this, only 25 per cent are owned funds and the remaining 75 per cent are borrowed from the organised sector. Of this, 56 per cent are from the commercial banks and 44 per cent from the co-operative societies. Advances expressed as a proportion of the total borrowings is 0.91 per cent. Thus we conclude that moneylenders in

33. State Planning Board, Development of Commercial Banking in Kerala 1969-79, Trivandrum, 1982, p.31.

34. Statistics for Economic Planning (1983), p.198.

Kuttanad conduct their business depending on the organised source. Thus, there is relending of the institutional credit. Their profit is the difference in the rate of interest they charge and what they pay. But this criterion for estimating links between organised and unorganised market is not effective. Moneylenders obtain loans from institutions either by pledging land or gold as mortgage. None of the moneylenders is using any negotiable instrument in their business. Hence there is no control over them. This type of relending occurs mainly because of the diversion of cheap credit from institutional sources.

Most of the agro-product dealers are doing business by taking loans from commercial banks by hypothecating stocks. They take stocks through bills of exchange. They are providing inputs as short term credit at varying interest rates depending on the nature of purchase and the customer. These dealers are also doing relending business. But commercial banks' control over them is very weak.³⁵

35. Discussions with Shop Dealers.

Since moneylenders never show any intention to satisfy the conditions laid down by the banks, their integration with the organised sector is not possible. Again, the activities of moneylenders would not have been controlled by passing various legislations with inadequate credit facilities.³⁶

36. D.K. Rangnekar, Poverty and Capital Development in India, Royal Institute of International Affairs, Oxford University Press, London, 1958, pp.57-58.

Table 5.1. Borrowings Classified According to Various Agencies in Selected

Villages	Villages				Total
	Kavalam	Velliyad	Kozhimukku	Thalavady	
Agencies					
Primary Agricultural Credit Societies	253450 (25)	170300 (19)	191000 (22)	206500 (26)	821250 (23)
Commercial Banks	217950 (21)	193000 (21)	145500 (17)	153400 (19)	709850 (20)
Government Agricultural Development Units	147531 (14)	154550 (17)	150250 (18)	115300 (14)	567631 (16)
Friends and Relatives	140250 (14)	28200 (4)	69500 (8)	78750 (10)	316700 (9)
Moneylenders	260284 (26)	262050 (29)	283650 (33)	249900 (31)	1161334 (32)
Total	1019465 (100)	916550 (100)	849900 (100)	803850 (100)	3589765 (100)

Figures in brackets show percentages.

Source : Sample Survey.

Table 5.2. Debt Outstanding Classified According to Financing Agencies

	(in Rs.)				
Villages	Kavalam	Veliyanad	Kozhimukku	Thalavady	Total
Agencies					
Debt outstanding to FACS	190146 (43)	134020 (34)	216510 (42)	189852 (39)	730528 (40)
Debt outstanding to Commercial banks	79596 (18)	86719 (23)	82480 (16)	73020 (15)	321815 (18)
Debt outstanding to Government (ADU)	30954 (7)	394185 (10)	25775 (5)	34076 (7)	130223 (7)
Debt outstanding to Relatives	26532 (6)	15767 (4)	20620 (4)	38944 (8)	101863 (5)
Debt outstanding to Moneylenders	114972 (26)	118253 (30)	170115 (33)	150908 (31)	554248 (30)
Total Debt outstanding in each Village	442200 (100)	394175 (100)	515500 (100)	486800 (100)	1838675 (100)

FACS - Primary Agricultural Credit Societies. ADU : Agricultural Development
 Figures in brackets show percentages. Units.
 Source : Sample Survey.

Table 5.3. Proportion of Credit Supplied by Financing Agencies in

	<u>Kuttenad Taluk</u>	(in Rs.)
Financing Agencies	Credit Supplied (in lakhs)	
Co-operative Societies	204.66	(50)
Commercial Banks	150.12	(36)
Agricultural Development Units	42.87	(10)
Moneylenders	14.40	(3.5)
Relatives	1.01	(0.5)
Total	413.06	100.00

Figures in brackets show percentage to total.

Source : Collected from Financing Institutions.

Table 5.4. Structure and Flow of Agricultural Credit from PACS of Kuttanad During

	1960-61 to 1983-84				(in lakhs)	
	1960-61	1970-71	1980-81	1983-84	Amount (Rs.)	Index
Details of Credit	Amount (Rs.)	Amount (Rs.)	Amount (Rs.)	Amount (Rs.)	Index	Index
Short term Agricultural Credit	21.47 (69.48)	64.76 (78.77)	141.62 (86.15)	174.60 (85.31)	100	813.23
Medium term Agricultural credit	9.43 (30.52)	13.12 (15.96)	14.63 (8.9)	16.63 (8.13)	100	176.35
Long term Agricultural Credit	N.A	4.33 (16.07)	8.14 (4.95)	13.43 (6.56)	N.A	310.16
Total Agricultural Credit	30.90	82.21	164.39	204.66	100	662.33
Total cropped area (in Hectares)	N.A	24700	12901	16860	N.A	68.26
Agricultural Credit per Hectare of Cropped Area	N.A	332.83	750.61	1213.88	N.A	364.71

Table 5.5. Flow of Agricultural Credit From PACS in Kuttanad in 1960-61 to

Details	1983-84				(in Rs.)
	1960-'61	1970-'71	1980-'81	1983-'84	
Number of PACS	22	28	34	35	
Number of Members	13475 (100)	24675 (183)	42165 (313)	44012 (327)	
Percentage of short term Credit to total short term credit	85.78	89.28	86.47	85.31	
Percentage of short term credit to total credit	59.29	68.41	74.00	72.00	
Percentage of Medium term credit to total credit	26.04	13.86	7.32	6.86	
Percentage of Longterm credit to total credit	N.A	4.57	4.25	5.54	
Percentage of Agricultural credit to total credit	85.33	86.84	85.57	84.39	
Total credit advanced during the year	3622150 (100)	9466850 (214)	19139080 (395)	24251475 (516)	
Total Credit outstanding	5475250 (100)	11712110 (214)	21674350 (395)	28265420 (516)	
Percentage of total credit advanced to outstanding credit	66.15	80.83	88.30	85.80	
Credit Advanced per Member	427	641	554	586	

Source: Kuttanad Circle Office of P.A.C.S. Figures in brackets show index numbers.

Table 5.6. Over Dues of P&CS in Kuttanad During 1960-61 to 1983-84

	(in Rs.)		
Details of Overdues	1960-61	1970-71	1980-81
			1983-84
Amount of overdues	842750 (100)	1475240 (175)	2348900 (279)
			4275900 (507)
Percentage of Overdues to outstanding	15.39	12.60	10.83
			15.12
Overdues less than one year	48.42	51.62	58.35
			60.40
Overdues more than one year (in lakhs)	51.58	48.38	41.65
			39.60

Figures in brackets show index numbers.

Source : Kuttanad Circle Office of P.A.C.S.

Table 5.8. Percentage Amount Distributed Against Different Securities
by PACS

Item of Securities	1960-61	1970-71	1980-81
Fixed Deposits	0.5	1.2	4.6
Government Securities	N.A	N.A	0.8
Agricultural Produce	4.1	5.4	5.5
Gold and Silver	11.8	15.6	18.9
Immovable property	58.1	46.4	41.5
Surety	N.A	N.A.	N.A
Others	16.4	17.9	18.5
Total	100.00	100.00	100.00

Source : Estimated from Kuttanad Circle Office of PACS.

Table 5.7. Distribution of Productive Inputs by PACS in Kuttanad During

	<u>1960-61 to 1983-84</u>			
	1960-61	1970-71	1980-81	1983-84
Inputs Distributed				
Seeds	N.A.	8.46	16.67	21.87
Fertilizers	N.A.	17.63	44.64	67.54
Pesticides	N.A.	7.32	16.71	25.74
Agricultural Implements	N.A.	3.10	3.56	4.12
Others	N.A.	4.12	6.42	8.16
Total	14.56	40.63	88.00	127.43
Percentage Value of inputs Distributed to total short term Agricultural Credit	47.11	62.74	62.14	72
Number of Societies engaged in the distribution of inputs	11	26	32	34

Source : Kuttanad Circle Office of PACS.

Table 5.9. Details of Commercial Banks Advances to Agriculture in Kuttanad

Details	1969-70	1971-72	1975-76	1980-81	1983-84
Number of branches	6	6	8	23	23
Number of Accounts	N.A	9.76	2314	3875	5742
Agricultural Credit outstanding	N.A	(100) 23.6	(473) 111.74	(556) 131.26	(636) 150.12
Percentage Agricultural Credit outstanding to total credit outstanding	N.A	42	78	69	77
Share of Nationalised Banks	N.A	23.6	111.74	128.95	139.29
Scheduled Banks	N.A	N.A	N.A	2.31	10.83

Source : Collected from different institutions.

Figures in brackets show index numbers.

Table 5.10. Description of Agricultural Moneylenders Operations in Kuttanad -

Description	A Case Study				Total
	Kavalam	Veliyanad	Kozhimukku	Thalavady	
Owned funds	120000 (23)	136500 (28)	142750 (26)	134000 (25)	533250 (25)
Borrowed from:					
Commercial Banks	242750 (61)	187500 (53)	231700 (56)	214700 (52)	876650 (56)
Borrowed from Cooperative Societies	152000 (39)	168750 (47)	182900 (44)	195000 (48)	698650 (44)
Total Borrowings	394750 (77)	356250 (72)	414600 (74)	409700 (75)	1575300 (75)
Total Amount involved	514750	492750	557350	543700	2108550
Advances	372500	312400	387800	367450	1440150
Advances as Percentage of Borrowings	94	88	93	90	91
Advances as Percentage of Amount involved	72	63	70	68	68

Figures in brackets show percentages.
Source: Sample Survey.

CHAPTER - VICONTRACTUAL ARRANGEMENTS AND IMPLICIT INTEREST RATES

It is held that the rates of interest on loans in the unorganised rural markets are higher than the rates prevailing in the organised capital markets. In contrast to this view, the All India Debt and Investment Survey (1961-62) suggests that the rate of interest on rural credit in Kerala is very low.¹ Interest rate is lower than one would expect, given the nature of the demand and supply of credit in rural areas. Important reason to the low rate of interest is a high proportion of loans reported to be interest-free.² Majority of the total loans are obtained from non-institutional sources. Non-institutional sources charge higher rates of interest than institutional sources. There are several types of loan transactions in which borrowers do not pay interest in any explicit or direct

1. Rural Debt and Investment Survey found the average interest is 3% for Kerala and 10% for India. Reserve Bank of India, "All India Debt and Investment Survey 1961-62", Reserve Bank of India Bulletin, September 1965 and December 1965.

2. 66% of the loans reported will ^{be} interest-free, Reserve Bank of India Bulletin, December 1965.

form, but where heavy interest is hidden under the rug.³ This chapter explains moneylending practices in rural Kerala in general, implied interest rates in agricultural credit transactions in Kuttanad and the co-existence of multiple system of loans.

6.1. Moneylending Practices in Rural Kerala

Though a large part of the agricultural credit needs is met by the co-operative sector, the nationalised commercial banks and government agencies, farmers resort to borrowing from moneylenders, traders and landlords. They advance money for production and consumption purposes. The period of loan is often short. The major characteristics of these loans are described below :

6.1.1. Mortgage

After the legislation of the Kerala Agriculturists Debt Relief Act 1970, the practice of obtaining loans from private moneylenders by mortgaging landed property is on the decline. This practice exists in certain parts of Kuttanad among small farmers. Generally loans are of short duration and are for unproductive purposes. The mortgage can be gold or land. In many cases moneylenders repledge

3. T.V. Narayana Kurup, (July 1976).

the gold to commercial banks when their funds are replenished. On the expiry of the period, the borrower either pays the loan or renews it by clearing the arrears of interest. There are many undesirable practices in these types of loans.⁴

These types of loans are known by different names like Otti, Nadappu panayam, Choondu panayam, Verum panayam, Viswasa theeru etc., in different parts of Kerala with some variations in its functioning. There are two types of practices followed when land is mortgaged for obtaining loans. In the first case, the lender advances money after executing a mortgage deed by taking actual possession of land. He has the right to cultivate the land and appropriate the entire usufructs of the crops during the period equivalent to interest for the amount advanced. In the second case, even though land is mortgaged, the borrower enjoys possession of land and gives only the agreed rate of interest in cash or in kind to the lender. In both these cases the principal will have to be repaid after the specified period. The actual rate of interest often works out to 20 per cent to 70 per cent.

4. Government of Kerala, 'Poverty, Rural Indebtedness and Moneylending Practices in Kerala', State Planning Board, p.20.

6.1.2. Promissory Notes

Money is borrowed against the promissory note in which borrower agrees to hypothecate the landed property under his possession as security for the loan. More often it is used as a cover for usurious lending. Loans advanced by landlords and professional moneylenders to small farmers by oral agreement or with promissory note are also prevalent. Loans may be for productive or unproductive purposes. Rate of interest is as high as 60 to 120 per cent. Interest rate is often paid monthly. As the rate of interest is very high, the lender is satisfied if the borrower pays the interest regularly.

6.1.3. Loans Advanced Against Crops

The practice of advancing money against crop is widely prevalent. Private traders and moneylenders are the people engaged in this business. There is considerable variation in the prevailing practices between regions and between crops. The method of operation also varies from region to region.

One form of offering security for loans prevalent is to surrender the right of collecting the usufructs of coconut palms to the lender. This is considered both as security for the loan and as a means of assuring automatic clearance of the interest on the loan amount and, in some

cases, as interest as well as the principal. The lender advances money in return for which he is given possession of a few bearing coconut trees. There are two different practices followed in this regard. One of them is to advance an amount in return for the usufructs of some coconut palms. The amount is determined on the basis of the estimated yield. The price fixed by the trader will be below the market price.⁵ The other practice referred to is to advance money against the right of enjoyment of the usufructs of a specified number or area which will set off the interest charges. In this case the right of possession is an implicit security for the loan amount and the yield therefrom is the interest for the money advanced. The possession right will be transferred back only on full payment of the loan amount. Between the two systems the first one provides for automatic liquidation of the debt. This system of crop loan manifests itself in different forms. It can be classified under 'Thengupattom', 'Melpattom', 'Undaruthi' and 'Choondipanayam', as it is known in the different regions of the state. The system of mortgaging arecanut trees is also more or less than same.

5. T.V. Narayana Kurup, (1976).

6. State Planning Board, (1975), p.23.

During cultivating season small farmers borrow money from landlords and traders with the promise to repay the principal with interest as paddy. In some cases interest portion has to be paid as paddy and the principal in cash. There is another system of lending paddy seeds to small cultivators at the time of sowing and in return for each para of paddy seed three paras of paddy have to be paid at the time of harvest.

6.1.4. Cash Advance Against Repayment in Kind

During periods of unemployment the agricultural labourer approaches their employer farmer also for small loans. These loans are later adjusted against their wages.⁷ Borrowing small amounts from petty traders before harvest and repaying the dues in kind at the time of harvest is another practice prevalent.

6.1.5. Pledging of Ration Cards

Loans taken by pledging the ration cards is very common among the poorer sections of the local community. Amounts are borrowed from better-off households on the security of the ration cards, the loan amounts varying directly with the number of units registered in the cards. The ration cards will be used by the creditors till the principal is repaid. As far as borrowers are concerned the

7. This system is not followed in Kuttanad since labour is highly unionised.

loans appear to be interest-free, but a fairly high interest rate is implicit, which is equivalent to the difference between the control price of rice and its open market price. This practice is fairly widespread among agricultural labourers and fishermen. A slight different system is also followed in the case of small loans. Small amounts will be advanced against the security of ration cards. After the expiry of the agreed period the card will be given back and no repayment of the loan is necessary. The money is given for the actual use of ration card.

6.1.6. Chit Funds

Chit funds are another source of credit in this area. Most of these chit funds are conducted by local persons. They are of an informal type. This informal type of local chit funds, with scale of operations, belongs to unorganised sector of rural credit market. The price amount received by the subscriber constitutes a loan which is advanced against the personal security or security of land.

6.1.7. Gold Loan

This is the most common form of loan availed by people in the low and middle income groups. People approach private moneylenders because of less formalities, they advance more compared to commercial banks and they

can get smaller amount of loans from private moneylenders. The rate of interest charged by the moneylenders comes to 50 per cent including the service charges, though they show it as only 12 per cent in the agreement.

6.1.8. Small traders depend mostly on indigenous banks or moneylenders for their credit needs. They borrow money at exorbitant rate of interest from the moneylender. The small trader, taking a margin of profit, sells his commodities at high prices. There are three types of loans availed by small traders.

6.1.8.1. Daily Loan

Traders often borrow money from moneylenders for one day for which they have to pay interest varying from Rs.10 to Rs.20 per day for Rs.100. Some moneylenders pay to the borrower Rs.90 in the morning and collect Rs.100 in the evening. This type of daily market loans are very popular in Kerala.

6.1.8.2. Weekly Repayment System

Moneylender advances a sum of Rs.80 for a loan of Rs.100 which will be repaid in equal instalment of a fixed amount every week. This type of transaction is carried out on the basis of mutual trust and therefore unless the moneylender knows the borrower, no loan will be given to him.

6.1.8.3. The Roll.

This kind of loan is advanced by chit funds. In this type of loan Rs.70 will be paid by the lender to be repaid at the rate of one rupee per day for 100 consecutive days. Such loans are advanced on trust. There are local variations to this system of loan.

6.2. Contractual Arrangements in Credit Market in Kuttanad

In this section we explain various types of loans practised by different lending agents in agricultural credit market in Kuttanad. Loans having similar terms have been classified under a particular system. For example, if a loan is extended in cash and also collected in cash, we call it the system of 'cash to cash loans'. Similarly, loans are classified as 'kind to kind', 'cash to kind', 'kind to cash' and so on.

6.2.1. The Professional Moneylenders

The distinctive feature of professional moneylenders is that their other professions are subsidiary to lending. Even though they do have informal control over their clients, they demand security. The motive may be to make possible the transfer of assets from the borrowers to the lenders in the most profitable manner. This they can do by undervaluing the collateral assets, charging

high interest on the loan and by extending a small proportion of the value of asset on loan.

The terms and conditions are as follows:

Borrowers are required to furnish a security. The economic worth of the security is assessed by the creditor usually at less than current market price of security. Since the creditor assess the economic worth of the security, he may undervalue the asset with monopolistic powers.⁸ The rate of interest is explicitly mentioned in the oral contract and calculated on a monthly basis and it varies depending on the nature of security. Interest rate varies about 3 to 7 per cent per month.

Since security is a must, the availability of loans is restricted to those who can afford to offer such securities. And since the rate of interest is fixed in relation to the nature of security offered, the average rate of interest paid by the farmers depends on the composition of securities. Table 6.1 shows features of loans

8. Amit Bhaduri, "On the Formation of Usurious Interest Rates in Backward Agriculture", Cambridge Journal of Economics, Vol.1, 1977. Also see The Economic Structure of Backward Agriculture, MacMillan, New Delhi, 1984. Kaushik Basu, "Implicit Interest Rates, Usuary and Isolation in Backward Agriculture", Cambridge Journal of Economics, Vol.8, No.2, 1984, pp.145-159.

outstanding to professional moneylenders in the selected villages of Kuttanad. From the table it is evident that the average rate of interest paid by small farmers is higher than that of farmers with larger holdings. If we assume that there is no interim payment, then the average lifespan of the loan depends on amount borrowed, interest rate and nature of security. Average lifespan of loans also varies directly with the size of landholdings. Given the terms and conditions of loans, the moneylender may be more interested in the default than in due repayment of the loan since his income from default is higher than that from repayment.

Borrowings from professional moneylenders are very low by the farmers. But their operations are very high among the landless agricultural labourers.

6.2.2. Agricultural Moneylenders

An agricultural moneylender is one who combines moneylending with agriculture. Hence he has two sources of income - income from agriculture and income from usuary. It is not necessary that the sources of income of these classes be restricted to any two sources, they may combine trading, lending and leasing out land, etc. Here we shall concentrate on the agricultural moneylenders

who practise the following types of loans : (1) Cash to cash, (2) Kind to kind, (3) Cash to kind, (4) Usufructuary mortgage.

6.2.2.1. Cash to Cash

This type is similar to that practised by the professional moneylenders. The only one difference is that these loans are unsecured in the sense that they are not extended against security. Other terms and conditions remain more or less the same. Given these we have calculated the average rates of interest on these loans shown in table 6.2. It should be observed from the table that the loans are unsecured and the rates of interest charged on them are lower than those extended by the professional moneylenders in Kuttanad. This shows the informal nature of agricultural credit market. If the lender has full confidence in the borrower, then he may not only do away with the need for security, but also charge lower interest than secured loan. However, the general feature of the agricultural credit market viz., the small farmers paying higher 'rate' than the large farmers is observed in this case.

6.2.2.2. Kind to Kind

In a non-monetised economy both borrowing and repayment of a loan including interest may be in kind. In

Kuttanad paddy is borrowed for seeds and for consumption during lean periods. If there is difference in the quantity borrowed and repaid, the implied rate of interest may emerge. However, introduction of money into the economy does not necessarily destroy this system of loan, but it may enhance the tendency on the part of both the borrowers and the lenders to transact loans purely in kind terms.⁹ In Kuttanad the general tendency is that the price of paddy increases from the harvest to lean season, so lenders having trading interest stipulate in the contract that the loans are to be repaid at the time of harvest and in paddy only. If the lender recovers the loan in cash at the market price (harvest price), they would be making less profit.

The terms and conditions involved in the contract are (1) both the loan and the repayment must be in paddy, (2) loans must be repaid at the time of harvest and (3) greater quantity must be repaid. Since there is difference in quantity borrowed and repaid, the implied rate of interest emerges. The money rate of interest and implied interest rate are given in table 6.3. It is found that the implied interest rate in this type is higher than the

9. Barunkumar Bhandhopadyay, Economics of Agricultural Credit, Agricole Publishing Company, New Delhi, 1985.

money rate of interest, Rudra explains high interest rate as follows : Farmers borrow in the lean periods¹⁰ when the price of paddy is very high i.e., in value terms farmers borrow pq where p and q are the price and quantity respectively. Since at the time of harvest, price p^1 is very low, quantity q^1 to be repaid must rise to maintain the equality $pq = p^1q^1$. If this equality is maintained, then no money rate of interest is involved. The surplus quantity repaid is merely the compensation for the fall in price rather than the interest.¹¹

These loans are usually contracted when farmers exhaust their stock of paddy. As a result demand for paddy in the market increases but supply remains inelastic, this pushing up the price of paddy.¹² Under these circumstances some farmers are compelled to borrow in kind. Consequently the commodity market is converted into a credit market due to the scarcity of paddy. This leads to the differential

10. Either as food or as seeds.

11. Ashok Rudra : "Loans as a Part of Agrarian Relations: Some Results of a Preliminary Survey in West Bengal", Economic and Political Weekly, Vol.X, No.28, 1975. Also see Ashok Rudra, 'Indian Agricultural Economics - Myths and Realities' 1982 and Ashok Rudra and Pranab Bardhan, 'Agrarian Relations in West Bengal', Somaiya Publications, Bombay, 1983.

12. Price of seeds increases at least by 50% in Kuttanad at the time of sowing.

rate of interest in the agricultural credit market because all the lenders cannot lend at the same rate of interest.

6.2.2.3. Cash to Kind

Agriculture moneylenders extend their loans in cash and collect them back in kind. This is the most important of all types of credit followed in the former credit market of Kuttanad. In this system lenders make a forward contract with the borrowers to the effect that the repayment will be made in terms of paddy at the time of harvest. The price at which the equivalent quantity of paddy will be collected not at the market price prevailing at the time of harvest, but at a contract price fixed by the lender and the contract price is lower than the market price.

We calculate the implied interest as follows:
 Let 'p' is the amount borrowed. Convert it into an equivalent quantity of paddy using the market price prevailing at the time of borrowing M_p . Contract price C_p is always less than the farm harvest price. The quantity of paddy to be repaid according to the contract is Q_1 . The value of this quantity at the contract price is equal to the amount borrowed. Total implied interest I on total interest paid in terms of paddy is $Q_1 - p$. Rate of interest $R = \frac{I}{p} \times 100$. To calculate money rate of

interest let us assume the market price prevailing at the time of harvest is M_1p . Total money rate of interest $I_1 = Q_1 (M_1p - Cp)$. The implied and money rates of interest are given in table 6.4. From the table it is clear that money rates of interest depend on the gap between the farm harvest price and the contract price. The implied interest depends on the gap between the price prevailing in the market at the time of borrowing and the contract price. Since the difference between price prevailing at the time of borrowing and contract price is greater than the price prevailing at the time of harvest and the contract price, the implied interest rate is higher than the market price. The implied interest rates are independent of lifespan of loans. Therefore the difference in inter-size group is mainly due to the difference between the price prevailing at the time of borrowing and the contract price. But money rates of interest are not only affected by the price difference, but also by the duration of the loan.

6.2.2.4. Usufructuary Mortgage

Mortgages are of two types - simple and usufructuary.¹³ The terms and conditions of loan are complicated as they are varied in nature and are informal.

13. See Mortgage.

The loans are given against the security of land.¹⁴ The maximum amount that can be borrowed is determined by the quality and quantity of land mortgaged. But the determination of this maximum amount may also be influenced by the bargaining powers of the two parties. Amount borrowed is inversely related with landholdings and economic status of the borrower. The terms and conditions and informal character of loans make the system liable to manipulation by the lender. Myrdal explains the unequal character of the arrangement as follows: "As the land values increase, the moneylender discovers he may have a positive interest in the default of his debtor. Previously, he might have been cautious about advancing more than the peasant could manage to repay. But when the moneylender sees that he can benefit from the default of a debtor ----. His concern is no longer limited to acquiring profits as a financial intermediary, but is directly increasingly to the acquisition and speculation of land."¹⁵

14. Apart from land other items can also be offered as securities. See Poverty, Indebtedness and Moneylending Practices in Kerala, State Planning Board, 1975.

15. Gunnar Myrdal, Asian Drama, An Enquiry into the Poverty of Nations, Vol.II, Pelican Books, 1968, p.1042.

Rate of interest is calculated as follows :

P is the amount borrowed. D is the duration of loan which is taken as one year. I is interest, which is the value of service of land. In other words, interest is equal to the rental share of land. Hence, $R = I/P \times 100$. Features of the outstanding loans on usufructuary mortgage of land are given in table 6.5. The mortgaged land may be cultivated either by the mortgagee or by the tenant. In the case of own cultivation, the contribution of land i.e., net income expressed as a percentage of the principal amount borrowed gives us the rate of interest. In the case of tenancy the interest is equal to the rental share.

6.3. Coexistence of Multiple System of Loans

The coexistence of multiple system of loans is due to the varying bargaining power of lenders and the borrowers in the agricultural credit market and also due to imperfections in other agricultural markets. Before explaining the coexistence of multiple system of loans, some observations of characteristics of other agricultural markets in Kuttanad may be made : coexistence of different modes of production in Indian agriculture, family farm, capitalist farm etc. Different modes of production necessitate different kinds of labourers. A capitalist farm is based on casual and permanent labourers. A family

farm uses its own family labour. There are semibonded labourers to meet the specific needs of their masters. The coexistence of different modes of production necessitates not only different kinds of labourers, but also different combinations of other factors of production. We find that in agricultural credit market different systems have different quantitative significance in the informal agricultural credit market of Kuttanad (Table 6.6). It can be seen from the table that cash to kind system is the most common. Next in importance is cash to cash loans. Kind to kind system of loan is the least popular. Thus all systems of loans are not of equal importance and yet they coexist because of varying bargaining power of borrowers and lenders and because of the imperfections of the other agricultural markets.

During the lean months and at the time sowing, because of supply constraints of paddy, the price of paddy increases and, therefore, lenders face excess demand for funds and charge high rates of interest. But lenders can lend only to trustworthy farmers. This leads to differential rates of interest. This is a case of interlocking of commodity and credit market. Again, the amount earned by casual labour during the peak season is not sufficient to meet consumption needs during the slack seasons and

their average income is very low, which causes a deficit in their family budget. Hence the demand for consumption loans. Labourers can offer only their services on security for loans. They make a promise to serve the moneylender or landlord during the peak season. This also results in interlocking of labour and credit market. Thus, for the coexistence of different modes of production and different exchange patterns there could be different rates of return from different modes of production and transactions.

Similarly, there could be a coexistence of different systems of loans in the credit market with differential rates of interest.

6.4. High Rate of Interest - an Explanation

One of the important characteristics of the informal credit market is the differential rate of interest charged by the same lender or agency to different categories of borrowers. Of the various factors influencing differential rates of interest the more important are nature of security offered, purpose for which loan was utilised, duration of the loan, size of the loan and sizes of the operated holdings of the borrower.

6.4.1. Nature of Securities

In any commercial system of borrowing and lending security offered plays a crucial role. The

purpose of the security is to cover the costs of risk. Therefore, risks are involved only when the lender does not ask for such prior security, nor does he have any influence upon the borrower for repayment. Most of the loans extended are unsecured. As far as the agriculturist moneylenders are concerned, security is not essential owing to the highly personalised nature of loans. Ranges of rates of interest paid by different size-groups of cultivators against secured and unsecured loans in the informal credit market of selected areas of Kuttanad are given in table 6.7. It is found that interest rates on secured loans are high compared to unsecured loans. Interest rates on both the secured and the unsecured loans diminish as the size of landholding increases. It is also pointed out that rate of interest varies with the nature of security.

6.4.2. Purpose of Borrowing

Farmers borrow for consumption and production purposes. Since the demand for production loans is derived demand, its elasticity will depend upon the elasticity of demand for those commodities or factors which are brought with the loan amount. Since the demand for some of the items in the consumption set may be more elastic than that for some of the items in the production set, the elasticity of market demand for consumption and production loans

will depend on the importance of such items in the two sets. The inelasticity of demand for loans primarily meant for family consumption is well recognised.¹⁶ Under certain circumstances demand for production loans may also be inelastic and therefore moneylenders may charge high rates on interest.

6.4.3. Duration of the Loans

Duration of the loan is not relevant for fully secured loans offered by professional moneylenders. But agricultural moneylenders specifically mention duration of loan in the contract.¹⁷ Usually they charge a higher rate of interest on short duration loans. This is because the cost of administration would be higher if the amount advanced is spread over a larger number of short-term loans than if it is extended to smaller number of long-term loans. Duration of loan may also be an important factor so far as the highly personalised nature of loan transactions done by agricultural moneylenders. But as far as backward agricultural economy of Kuttanad is concerned, demand for short-term loans are high. Most of the loans

16. F.W. Schultz. (1964).

17. Loans must be repaid at the time of harvest-- maximum four months.

are contracted for production purposes. The duration of loans in our sample villages in Kuttanad varies from 3 to 13 months.

6.4.4. Size of Holdings

The rate of interest may be expected to be inversely related with size of holdings due to the weak bargaining power of small farmers. Large holdings mean greater creditworthiness and lower rate of interest.

6.4.5. Size of Loans

Generally farmers borrow larger amounts at lower rates of interest. Loan per capita is also a reflection of the economic conditions of the borrowing families. The higher the loan borrowed per capita, the weaker may be the economic status of the borrowing family and the higher the rate of interest.

In addition to the above mentioned factors, it is possible that the rates of interest in the informal sector may be higher due to weak infrastructure development and limited alternatives for borrowing.

6.5 Decomposition of Rate of Interest

It has been accepted by the economists that the

rate of interest in backward economies are very high, but economists vary in providing major explanation of high rate of interest. Bottomley attributed the high rate of interest mainly to the risk premium and the cost of administering private loans.¹⁸ Raj believes that the high rates of return from alternative investments such as on commodity stocks can explain the reasons for high interest rate.¹⁹ Others believe that the high rate of interest should be explained mainly with reference to the high degree of monopoly power of the lender.²⁰ It is also argued that the legal regulation of the rate of interest which helps to increase rather than contain the rate because the moneylenders add to their charges an additional premium to cover the risk of government prosecution.²¹

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18. Anthony Bottomley, "Interest Rate Determination in Underdeveloped Rural Areas;" American Journal of Agricultural Economics, Vol.57, No.2, May 1975; also see Factor Pricing and Economic Growth in Underdeveloped Rural Areas, Scientific Book Agency, Calcutta, 1971, pp.90-109.
19. K.N. Raj, "Saving Capital Transfer and the Rate of Interest", Mimeo 1957.
20. Utunwai, 1957, A.G. Chandavarkar, "The Premium for Risk as Determined f Interest Rates in Underdeveloped Rural Areas : Comment, quarterly Journal of Economics, vol.79, No.2, May 1965, Charles Nisbet, "Interest Rates and Imperfect Competition in the Informal Credit Market of Rural Chile", Economic Development and Cultural Change, Vol.16, No.1, October, 1967.
21. Rudolf. C. Blitz and Millard F. Long, "The Economics of Usuary Regulation", The Journal of Political Economy, Vol.73, No.6, December 1965.

There is also the hypothesis that low degree of monetisation is responsible for the high rate of interest.²² In the light of arguments we analyse our empirical data.

6.5.1. Risk Premium

The risk premium can be calculated from the rate of default by the borrowers over a period of time. The rate of default should be defined as the percentage of amount defaulted to total amount of advance to all borrowers in a given period of time. The rate of default are given in table 6.8. The information has been collected from five agricultural moneylenders from each of the four sample villages of Kuttanad. It is clear from table 6.8 that rate of default is low in the sample villages of Kuttanad. Many other studies have also found that the rate of default to moneylenders is not very significant. The All India Rural Credit Survey reported that only 10 per cent or less of the total amount involved was doubtful.²³ All India debt and Investment Survey 1971-72 shows that 77 per cent of cash dues outstanding to cultivators are repaid within 2 years.

6.5.2. Cost of Administering Loan

Regarding the cost of administering private loans Bottomley considers the following factors : (1) the number of individual loans which the moneylenders makes, (2) the size of each one of his loans, (3) duration of the loan and (4) the administrative cost of providing the moneylenders with whatever additional reserves he may feel he needs.²⁴ In our case study of moneylenders we found that none of them had paid staff. Lender himself does all jobs. If the salary of the lender is imputed on the basis of the salary that he has to pay to a clerk, then the administrative cost expressed as a percentage of total loans advanced comes to less than 4 per cent.

6.5.3. Alternative Rates of Return

If the rates of return realisable on alternative investment are high, the rates of interest charged by the rural moneylenders also will be high. Land is an important asset in most of the backward agrarian communities and since many of the lenders are landowners too,

24. Anthony Bottomley, "The Cost of Administering Private Loans in Underdeveloped Rural Areas", Oxford Economic Papers, Vol.15, No.2, July 1965.

they may compare the rate of return from land with the rate of interest. If the rate of return from land is very high, there will be a strong preference for holding land. "A strong preference for land means that owners of wealth (potential lenders) can earn high rates of return by lending money for the purchases of land (buying mortgages). The combination of small and inelastic supply of funds with a relatively high demand for their use serves to establish unusually high rates of interest."²⁵

If a lender uses monopoly power to control the several markets, his clients must have to pay high rate of interest.²⁶ Because of the interlinkages in the factoral market, lender gains control over these markets. When a moneylender links credit market with labour and commodity markets he controls all these markets and this increases the opportunity cost of the loanable funds to the lenders. Thus the relationship between lender and borrower is a source of high monopoly profit. Even when the lender does not have any informal control over his borrower, it is

25. Nathan Rosenberg, "Capital Formation in Underdeveloped Countries", American Economic Review, Vol.50, No.4, September 1960.

26. "Monopolist" or "Imperfect Competitor"; also see Anthony Bottomley, Factor pricing and Economic Growth in Underdeveloped Rural Areas, Scientific Book Agency, Calcutta, 1971. Also see F.N 1 page 88. See Ch.1.

possible for him to impose a monopolistic rate upon the borrower because of the latter's weak bargaining power. This poor bargaining power is due to his inelastic demand for loan. Moreover he cannot give adequate securities. The moneylenders are well informed about the economic conditions of their borrowers and this enables them to impose monopolistic rates under certain conditions.

Table 6.1. Some Features of Loans from Professional Moneylenders
in the Selected Villages of Kuttanad

Size	No. of loans	Average size	Interest (annually)	Lifespan (Months)
Upto 2.50	6	350	85	6
2.51 - 5.00	12	1000	72	8.5
5.01 - 7.50	14	1400	44	10.2
7.51 - 10.00	10	630	36	13.0
10.01 - 15.00	x	x	x	x
10.01 and above	x	x	x	x
All Class	42	1023.80	59.25	9.4

Source : Sample Survey.

Table 6.2. Some Features of Loans from Agricultural Moneylenders

<u>in the Selected Villages of Kuttanad</u>				
Size	No. of loans	Average size	Interest (annual)	Lifespan (Months)
upto 2.50	26	1026	64	6.5
2.51 - 5.00	29	1300	54	6.0
5.01 - 7.50	8	1450	42	7.4
7.51 - 10.00	7	2100	37	6.0
10.01 - 15.00	4	2850	37	5.2
15.01 and above	3	4250	35	6.0
All Class	77	2193	45	6.2

Source : Sample Survey.

Table 6.3. Some Features of Kind to Kind Loans from Agricultural

Size of Holdings	<u>Moneylenders</u>			(in Rs.)	
	No. of loans	Average Amount	Implied rate of interest	Money Rate	Interest
upto 2.50	42	570	85	4	
2.51 - 5.00	34	950	74	3.5	
5.01 - 7.50	21	1140	62	2.5	
7.51 - 10.00	9	1520	60	3.0	
10.01 - 15.00	4	1850	60	3.0	
All class	110	1206	68	3.2	

Table 6.4 Some Features of Cash to Kind Loans from Agricultural

Size of Holdings	<u>Moneylenders</u>			(in Rs.)
	No. of Loans	Average Amount	Implied Rate of Interest	
Up to 2.50	42	1200	72	60
2.51 - 5.00	39	1350	68	58
5.01 - 7.50	27	1550	70	61
7.51 - 10.00	20	1850	62	53
10.01 - 15.00	19	1700	60	50
15.01 and above	8	1650	60	50
All Class	155	1550	65	55

Source : Sample Survey.

Table 6.5 Features of the Outstanding Loans on Usufructuary Mortgage

Size of Holdings in Acres	No. of loans	Average Area	Average size of loan (in Rs.)	of Land		Average Rate of interest per annum	Purpose	Nature of Contract	
				Average principal amount as % of value of land Mortgage	Pro-Consumption				
Upto 2.50	33	1.50	7500	40	71	12	11	27	5
2.51-5.00	24	1.75	11000	50	67	10	14	20	4
5.01-7.50	5	2.50	14000	47	62	3	2	3	2
7.51-10.00	5	2.85	18000	49	54	2	3	4	1
10.01-15.00	5	3.00	24000	62	52	1	4	4	1
15.01 and above	3	5.25	44000	64	50	1	2	3	4
All Class	75	2.85	19750	54	59	29	36	61	14

Source : Sample Survey.

Table 6.6. Systemwise Percentage Shares of Borrowing Households, Number of

Systems	Loans and Amount Borrowed in Kuttanad (in Rs.)					
	Borrowing Households	No. of Loans	Average Amount Borrowed	Percentage Amount Borrowed	Percentage Amount Borrowed excluding usufructuary Mortgage	
Cash to Kind	110	155	1550	12	42	
Cash to Cash	85	120	1340	8	28	
Kind to Kind	63	110	1206	6	23	
Usufructuary Mortgage	51	75	19750	72	x	
Kind to Cash	21	40	900	2	6	
Cash to Labour Service	7	12	400	--	--	

Usufructuary Mortgage loans include cash to cash and cash to kind.

Source : Sample Survey.

Table 6.7. Ranges of Rates of Interest Paid by Cultivation
in Kuttanad

Size of Holdings (in Acres)	Rates of interest on secured loans	Rates of Interest on Unsecured Loans
Upto 2.50	85	74
2.51 - 5.00	72	64
5.01 - 7.50	44	37
7.51 - 10.00	36	34
10.01 - 15.00	36	32
15.01 and above	36	30
All Class	52	45

Source : Sample Survey.

Table 6.8. The Rate of Default Relating to Agricultural Moneylenders 1979-80 to 1983-84

Size	(in Rs.)									
	1979-80	1980-81	1981-82	1982-83	1983-84	1979-80	1980-81	1981-82	1982-83	1983-84
	No.	Average Amount								
Upto 2.50	6	750	7	300	5	650	3	400	7	500
2.51 - 5.00	4	400	3	500	3	800	6	750	4	800
5.01 - 7.50	5	600	3	700	4	700	8	600	3	500
7.51 - 10.00	3	1000	2	500	5	800	3	500	3	700
10.01 - 15.00	2	800	1	1000	1	500	2	400	2	1000
15.01 and above	2	1200	2	2000	1	800	1	600	1	2000
<u>All Class</u>	<u>22</u>	<u>768</u>	<u>18</u>	<u>650</u>	<u>19</u>	<u>724</u>	<u>23</u>	<u>582</u>	<u>20</u>	<u>715</u>

Source : Sample Survey.

CHAPTER - VIITHE IMPACT OF AGRICULTURAL CREDIT ON THE AGRICULTURAL
DEVELOPMENT

The basic objective of agricultural credit is to help farmers to earn higher incomes by larger output brought either by an increase in area or by improvement in yield rates or both. The credit schemes are also aimed to bring in changes in scales and pattern of farm operations as well as in attitudes towards saving and investment. The purpose of the chapter is to examine the impact of agricultural credit on the major determinants of agricultural development. It also includes conclusions and recommendations.

For measuring the benefit all farmers are required to furnish informations on their farm practices relating to two periods such as 1973-74 and 1983-84. A word of caution has to be made at this point. It is difficult to isolate the impact of agricultural credit on agricultural development. Because agricultural development is the combined effect of all inputs. Moreover, the steep rise in prices does not permit attribution of entire benefit to

credit alone. But this does not restrain the comparison as long as our objective is to analyse the trend and not absolute gains.

7.1. Impact Analysis

7.1.1. Land Utilisation

Credit can be identified as one of the most effective means of introducing technological progress in a backward agricultural economy. In kuttanad single crop was practiced before 1973-74. Construction of permanent bunds with rubble and increased supply of credit has increased gross area under paddy cultivation. (Table 7.1). The gross cropped area increased from 30822 hectares in 1973-74 to 35313 hectares in 1983-84. The index during the period increased from 100 to 115. The index diminished from 104 in 1973 to 93 in 1979 and for the next two years the index remained at 96. A comparison between the gross area under cultivation and area cultivated during summer (usually called "punja", the principal crop) reveals that the increase in the gross area is due to the introduction of second crop, even though area cultivated twice is low due to many reasons. Construction of permanent bunds was envisaged to be completed to six years ending 1981. The main benefit to be derived from the project is the raising of an additional rice crop in an area of 52000 hectares in the Project area.¹ Because of the slow implementation

1. Kuttanad Development Project (1974), p.44.

of the scheme it is yet to enter its last stage. Hence additional area brought under cultivation increased very slowly.

Finance for the scheme is raised by loans from institutions on behalf of cultivators by the project authority. The loans with interest will have to be repaid by the cultivators. Hence the area benefited out of this scheme has close relation with credit.

Pattern of land utilisation in the sample villages are given in table 7.2. There is increase in both the gross cropped area and the net cropped area. In the case of non-food crops area under cultivation increased. Table 7.2 revealed that there are changes in the land utilisation pattern in all the sample villages, but the change found in Kavalam is only very low.

7.1.2. Cropping Pattern

With the given credit facilities changes in cropping pattern come either by an increase in the number of crops cultivated or by changes in proportional allocation of area under different crops. The proportional allocation of a borrower farmer is expected to be governed by commercial outlook and hence more and more

crops are to be allocated for superior crops. Hence one can presume that under conditions of subsistence farming the major share of total cropped area would go for food crops. Here cropping pattern is analysed with the changes that have occurred during 1973-74 and 1983-84 (Table 7.3). Among the sample cultivators paddy is the most important item of cultivation. Changes in the cropping pattern is due to increased land utilisation under various crops. Even though the absolute area increased in 1983-84, percentage area to total area has diminished for all crops. Many of the sample farmers have received credit for different crops under various schemes, but only a few farmers have utilised it for specified purposes. A major share is diverted to paddy cultivation. Thus, agricultural credit could not make any impact on the cropping pattern.

7.1.3. Cropping Intensity

Intensity of cropping is one of the major factors indicating agricultural development. Even though double cropping is practised in Kuttanad most of the paddy fields are not cultivated twice due to various reasons such as uncertain weather, delay for the punja crop etc. In 1973-74 cropping intensity was 130.79 for sample villages, but it diminished to 119.48 in 1983-84. A

disaggregation of sample reveals that cropping intensity was highest in Thalavady (159 in 1973-74). It came down to 119.59 in 1983-84. Hence we can conclude that even with double cropping and influx of credit by various schemes cropping intensity of sample villages diminished.

7.1.4. Structural Changes

One question to be answered here is which class of farmers has derived the extension benefits? We could not find farmers who have used institutional credit to purchase land and shift to higher size of holdings. Many small farmers have used informal credit to purchase land. They purchased land on the belief that they can get credit from institutional sources to meet operational costs.

We could find farmers who have sold their cultivable land to repay the amount borrowed. As a result they became small holders. Many are leasing out or are interested in leasing out land due to the indebtedness to financing agency. Thus agricultural credit could not help in structural changes. Changes in the landholding is due to sales, fragmentation and land reforms.

7.1.5. Irrigation

Paddy fields in Kuttanad are generally below the natural level. During the crop season the excess water in the paddy fields is pumped out and cultivation done. As the water level outside the rice fields remain at a higher level than inside, periodical irrigation in the rice field is carried out by tilling in water through sluice located in outer bunds. It is said that in view of the construction of permanent bunds, Kuttanad is denied the benefit of any minor irrigation work being taken up during the last few years.² Infrastructural development programmes in Kuttanad such as Thottappally spillway which controls floods, Thanneermukkom bund which blocks the entry of salinity during summer and diversion of water from Muvattupuzha are some of the major developments in irrigation.

7.1.6. Adoption of High Yielding Varieties

The new seed varieties had an early start in Kuttanad compared to other rice growing areas of Kerala. The rate of spread was also faster. Of the first four years since the introduction of high yielding varieties,

2. Report of the Comprehensive Development of Kuttanad (1980), p.27.

about 51 per cent of the sample cultivators had adopted it.³ The factors which influence adoption rates are size of holdings, assets, access to information, new inputs and credit, tenurial status, irrigation facility and level of literacy.⁴ There are some who question any association between the above variables and rates of adoption.⁵ In Kuttanad early adopters of high-yielding varieties had large holdings, command more resources and access to inputs and credit.⁶ With the help of various schemes of government almost all the farmers are using high yielding varieties. Thus the adoption rate is very high.

7.1.7. Output Pattern

The above analysis revealed that over the period of time cropping pattern has not changed significantly. The only difference that took place is that now farmers

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3. P.G.K. Panikar, "High Yielding Varieties of Rice - A Study of Selected Areas in Kerala," Working Paper No.140, Centre for Development Studies, Trivandrum, 1980.
 4. Ingrid Palmer, "The New Rice in Asia, Conclusions from Four Country Studies", United Nations Research Institute For Social Development, Geneva, 1976, p.62.
 5. G. Muthaih, "The Green Revolution - Participation by Small Vs. Large Farmers", Indian Journal of Agricultural Economics, Vol.XXVI, No.1, 1971 and also see G. Parthasarathy and Prasad, "Season-wise Progress of High Yielding Varieties in Andhra Pradesh - Role of Economic Variables", Economic and Political Weekly, Vol.VI, No.39, September 1971.
 6. P.G.K. Panikar (1980).

adopt high-yielding varieties. In Kuttanad taluk index of rice production increased from 100 to 167 during 1973-74 to 1983-84 (Table 7.4). In the case of sample farmers output per acre has increased by 3.23 per cent during the period (Table 7.5). In the case of small farmers percentage increase is by 12.14 per cent, medium farmers 3.69 per cent and big farmers 0.29 per cent. Thus, even after increased supply of agricultural credit and intensive cultivation farmers could not bring sufficient changes in the output pattern.

Now the question is to what extent adoption of high yielding varieties has altered the output pattern. This is important because the farmers are supposed to increase output income. For analysing the percentage share of high-yielding varieties to total output, taluk-wise figures are not available, hence figures for Alleppey district are used. The district figures show that high-yielding varieties are highly used and contribute a good portion to total output. (Table 7.6). In Kuttanad taluk, in 1981-82, nearly 86 per cent of gross area was under high-yielding varieties and their share to total output is 87 per cent.⁷ Thus the contribution of high yielding varieties to total output is high.

7. Statistics For Economic Planning (1983), p.156.

7.1.8. Adoption of New Technology

Inadequate credit facilities have been argued as the major factor responsible for the low benefits due from modern technology. New technology includes the use of improved seeds, chemical fertilizers, insecticides and pesticides etc. A judicious use of this is proved to yield favourable results. The introduction of banks to agricultural sector is, in fact, a part of this programme. The banks coupled with co-operatives are expected to create the most ideal environment for the adoption of the modern farm technology.

The Indian farmers, because of their attachment to traditional practice and risk aversion, are expected to take some time to shift over to the new methods. The shift becomes a gradual process. So, to account the benefits derived by the farmers through these practices one has to examine the nature and rate of expansion of the adoption of new methods. In 1973-74 only 45 per cent of the farmers had adopted new techniques of production (Table 7.7). In 1983-84, 76 per cent are using new techniques. Thus there is 67 per cent increase in the rate of adoption. But the increase in the rate of adoption is inversely related to the size of holding.

In the case of big farmers it increased only by 14 per cent. The study also revealed that many farmers are not using the new techniques in an optimal way. Consumption of fertilizers and pesticides in Kuttanad taluk is given in table 7.8 and 7.9. Index of fertilizer consumption increased from 100 in 1973-74 to 150 in 1983-84. In the case of pesticides, liquid pesticides consumption increased by 133 per cent, while solid pesticides consumption increased by 356 per cent during the same period. This also reflects the adoption of new techniques of production in agriculture.

7.1.9. Income Effect

The ultimate objective of all credit schemes is to help the farmers to move to higher income levels. Income refers to gross income from all sources. The income of all families depend on their farming features. The net income is estimated by reducing costs of production from gross income. Table 7.10 reveals that gross income increased by 19 per cent and net income by 26 per cent among sample farmers. This means that income from farm operations has increased slightly.

7.1.10. Savings

Extension of loans to farmers not only enables them to augment higher incomes, but also helps to increase their savings. It is likely that the additional income realised by them may be spent on improving their standard of living. But at least a part can be presumed to have been saved or invested in intensifying or diversifying agricultural operations. Diversification would be in terms of purchasing allied activities like dairy farming and poultry keeping. The credit facilities provided by the banks should induce the borrower farmers to keep a part of their savings in bank deposits. Unlike private agencies who finance the agriculturist mainly to make a living out of it, commercial banks have a social responsibility to promote thrift and inculcate the habit of self-reliance among the borrowers. The issue, therefore, is to examine the extent to which the financing institutions have succeeded in achieving these objectives. For analysing the improvements in the saving pattern, only savings from farm income are considered. It is observed from table 7.11 that only 43 per cent of the farmers have saved a part of their income. The table also gives the amount of savings. The size groupwise analysis of the sample farmers indicates a clear positive

relationship between the size and quantum of savings. This clearly shows the need for additional efforts by banks to stimulate saving habit among sample farmers.

7.1.11. Employment Effect

Different cost studies have shown that labour absorption is very high in the farm operations of Kuttanad. Still there is widespread unemployment and underemployment. Increased supply of agricultural credit and infrastructural development programmes have an employment effect. Construction of permanent bunds envisages high labour potential. Since the construction work is highly labour-intensive, the project report estimated that about 9000 workers will be engaged daily for about 300 days a year. About 40 per cent of the total cost required for planting coconut trees on bunds will also have to be spent on labour.⁸ The proposed infrastructural works of the project will generate employment in substantial measure. By converting the paddy fields into double cropping areas the expected additional employment has increased by 100 days a year.⁹

8. Kuttanad Development Project, (1974).

9. Kuttanad Development Project, (1974).

The scheme will also increase the employment opportunities of educated people. Table 7.12 shows the employment of agricultural labour in 1973-74 and 1983-84. Labour absorption increased by 117 per cent for the sample farmers. Further, employment opportunities of female workers have increased by 117 per cent and male workers by 115 per cent. Even though there is increase in employment of sample farmers (male and female), absorption of female workers for farm operations is relatively high in Kuttanad. This is because of wage differentials. Thus, agricultural credit and double cropping facility provided by the government have increased employment for farm workers.

Increased supply of credit by government to relieve farmer from the clutches of moneylenders did not help small and marginal farmers. The farmers in Kuttanad who were once indebted to indigenous bankers have now become indebted to the government. Moreover, institutional credit could not control the operation of informal money market. Though the credit schemes provided by the government do have an employment effect, it did not succeed in bringing agricultural development.

7.2. Conclusions

7.2.1. Capital Formation

7.2.1.1. The study finds that the farm asset structure in Kuttanad is directly related to size of holdings. The per acre fixed stock of capital increases upto 7.50 acres and then diminishes as size increases. Investment on land is the highest. Classification of capital formation revealed that a major share of investment is for yield increasing items. Borrowing is the major source of investment.

7.2.1.2. Major determinants of investment are high net returns of farm investment, existence of share cropping, savings, population, government investment, size of holding and religious and social factors.

7.2.1.3. Capital requirement depends on the rate of increase in agricultural production, rate of outflow of labour, structural changes and technological improvements.

7.2.2.1. The most significant trend in paddy cultivation

in Kuttanad is that tenancy is reappearing in a concealed form. This may be seen as a reversal to an earlier institutional arrangement of farming. This has occurred in the context of incomplete implementation of land reform measures, which did not bring about considerable change in the land ownership pattern of agricultural labours. The major beneficiaries of land reforms were intermediary tenants who have been cultivating the land with hired labour. The existing situation of unemployment and land hunger of the landless agricultural labourers provide a fertile growth for the emergence informal tenancy.

7.2.2.2. The interlinkages in the factoral market showed that agricultural moneylenders are the major suppliers of credit to tenants.

7.2.2.3. Landlords have no control over the credit market. Hence their exploitation based on usury and tenancy is negligible.

7.2.2.4. Since the agricultural moneylenders are leasing out land and are also engaging in trading, there are

interlinkage in the factoral markets and high level of exploitation.

7.2.2.5. Agricultural moneylenders have control over both the credit and commodity markets. Hence it is not those who are not entering the land lease market, but those who borrow from moneylenders who are subject to exploitation. Neither agrarian reforms, nor increased credit supplied could make any effect on those informal operations.

7.2.3. Borrowings

7.2.3.1. Big farmers borrowed a good portion of the total borrowings. Borrowing per acre diminished as size of holdings increased. Of the total borrowings crop loan's share is the highest. Big farmers borrowed a major portion from institutional sources.

7.2.3.2. Estimated credit requirements revealed that the credit requirements of the medium farmers are the minimum.

7.2.4. Indebtedness

7.2.4.1. Majority of the sample households are indebted to different agencies. Cheap credit facilities did not help them to reduce debt.

7.2.4.2. There is inverse relation between proportion of indebted households and size of holdings. Average debt per family and indebted family are directly related to size of holdings. Debt per acre diminished as size of holdings increased.

7.2.4.3 Debt asset ratio increases as size of holdings increases. Ratio of debt to gross produce and sale proceeds diminished as size of holdings increased.

7.2.5. Supply of Credit

7.2.5.1. Proportion of borrowings and proportion of debt outstanding to organised sectors are high.

7.2.5.2. Co-operative societies are the most important financing agency in Kuttanad. Fifty per cent of credit is supplied by co-operative societies.

7.2.5.3. Increase in the supply of crop loans is very high compared to medium and long term credit.

7.2.6. Interlinkages

The interlinkages between organised and unorganised sector are very weak.

7.2.7. Implied Interest Rates

In the informal credit market there are different types of credit transactions. There is considerable difference between the actual and the implied interest rates. The implied interest rate is very high. For each credit transaction interest rate varies.

7.2.8. Land

Because of the various infrastructural developments made by the government and the various credit programmes organised by the institutional sources gross area under cultivation increased. Increased land utilisation could not bring changes in the cropping pattern. Increased credit operations and land utilisation could not make structural changes. The structural changes are due to land reforms and redistribution of land. Credit helped small peasants who benefited from these agrarian reforms. One of the reasons for the informal leasing by landlords is the accumulated debt. Many have even sold land to escape from the debt trap.

7.2.9. Output Pattern

The rate of growth of output is very low. The percentage increase in the size of output is inversely related to size of holdings.

7.2.10. New Techniques of Production

With the liberalisation of credit almost all the farmers use high yielding varieties and most of them use new techniques of production.

7.2.11. Income

The ultimate aim of all the credit schemes is to increase farmer's income. Net income generated from paddy cultivation is very low.

7.2.12. Employment

The infrastructural developments and double cropping increased the employment opportunities for the agricultural labourers. Thus the agricultural credit schemes have an employment effect.

7.2.13. Savings

Since the net income from farm operation is very low, savings is also low. Even if something is left, farmers are not prepared to reinvest in farm operations.

There is positive relation between savings and size of holdings.

7.2.14. Credit and Capital Formation

Even though farmers avail medium and long term loans which are intended for other purposes, they use them for farm operations. Hence capital formation through credit is very low.

7.3. Recommendations

7.3.1 Besides providing credit at a cheaper cost, banks should try, by all possible means, for the inculcation of saving habits among the borrower-farmers, for it contributes to the farmer's long run economic prosperity. The very provision of credit at lower interest rates could invariably result in some surplus to the borrower, if the amount borrowed is utilised for productive purposes. Additional incomes would always have the tendency to tempt the farmer to use it for consumption or for unproductive social expenditure. In such a case a borrower is likely to become a permanent debtor.

7.3.2. The extension of the credit facility to the same set of farmers year after year would not facilitate the extension of services to a larger number of deserving

farmers. To overcome this, the banks should try to develop self-reliance among farmers. Schemes embodied with some built-in-saving mechanism may work out as a more effective tool.

7.3.3. The need for the provision of consumption credit to small farmers has been well recognised by the public sector banks. Gold loan transactions suggest that majority of the farmers borrow these loans before harvest and redeem the pledged ornaments after the harvest. But their interest rates are high compared to farm loans. Because of their very nature gold loans can be utilised for consumption purposes. Then why not the gold loans be treated as production-cum-consumption credit and accordingly their interest charges be reduced ?

7.3.4. One of the reasons for the diversion of crop loans to unspecified purposes is that they are sanctioned and made available at inappropriate time. The farmers are tempted to use the amount for unproductive purposes. As far as possible, loans should be made available at the required time.

7.3.5. The problem of multiple financing^{*} can be solved to a great extent by resorting to any one of the following means :

* A farmer borrowing from different financial institutions for same purpose.

7.3.5.1. Each financing unit should be assigned a certain group of villages according to the convenience and the respective financing unit may be called the principal agency. It should be given the primary responsibility of all priority credit needs of the specified area. If any one desires to go to some other institution for any reason, he may be required to confine his liabilities in one institution only and the fact may be recorded with the principal agency. This information must be made available to the neighbouring institutions whenever required.

7.3.5.2. The identity cards given to the cultivators should contain all landholding details of the cultivators, his credit transaction details and its production should be insisted at the time of the sanction of every loan. Whenever a financial institution makes advances it should mark the details of the advances. Moreover, the cards should be cancelled when the loans are repaid. Of these two suggestions, the second one can be of more utility for farmers and banks.

7.3.6. Many small peasants are ignorant about the various credit schemes, interest charges and other conditions. Financing agencies should take more initiative to organise farmers and impart details regarding credit schemes.

7.3.9.3. Village committees should be formed for supervision and recovery of loans.

7.3.10. Institutional agencies should change their orientation and instead of trying to achieve targets their aim should be to help farmers. They should give emphasis to both quantitative and qualitative aspects of institutional credit.

In spite of planning and economic development the basic problems in the agrarian economy of Kuttanad persists. In a backward agricultural economy mere provision of credit unsupported by other measures will have limited results. To be effective, credit provision should form part of an overall development programme. Very little borrowed money was spent on improvement of the productive resources of the agriculturists. It follows that agriculture has not reached the stage where farmers can make a productive use of credit, and thereby increase agricultural production. As agriculture is subsistence-oriented, the productive interest in the agricultural credit is weak and it is difficult to distinguish credit for productive purposes from that for consumption purposes. It is only at later stages of agricultural development that productive element in the agricultural

7.3.7. The problem of overdues is to be dealt with seriously. There are two categories of defaulties, viz., wilful and non-wilful. In the case of wilful defaulters more stringent action is to be taken with the support of the government. Collection of dues from the other group should be made in convenient instalments and fresh finance should be given to them.

7.3.8. In case of crop failure government should declare failure of crops in genuine cases for rescheduling repayment period and the co-operative societies should utilise conversion facilities granted by the Reserve Bank of India.

7.3.9. One of the contributory factors for overdues is the diversion of credit. Emphasis should be given to better utilisation of credit. In view of this following measures may be taken :

7.3.9.1. Production credit advanced to small and marginal farmers should be linked to some amount of consumption credit in order to separate them from non-institutional agencies.

7.3.9.2. Non-agricultural schemes should be implemented to supplement farmer's income.

credit increases. However, efforts should be made to bring about change in the character and demand for credit. In bringing about such change it is necessary to impart education to the farmer to change his living conditions. Emphasis must be given on agricultural extension and its linking with credit.

Despite the introduction of multi-agency approach, supply of agricultural credit continues to be inadequate, both in coverage and in amount. Though the direction of institutional credit has changed towards the small and marginal farmers, its impact is insignificant. This shows the importance of the proper utilisation of credit. For recycling of funds in greater volume recovery of institutional dues is to be emphasised. There must be proper integration between quantitative and qualitative aspects of agricultural credit. The study shows that mere multiplication of the institutional agencies along cannot solve the problem of inadequate institutional credit supply; but emphasis should also be given to the qualitative aspects.

Table 7.1. Land Utilisation in Kuttanad 1973-74 to 1983-84 (in Hectares)

Year	Autumn	Winter	Summer	Gross Area	Index
1973-74	6162	x	24700	30822	100
1974-75	8632	x	24947	33579	109
1975-76	8632	x	24947	33579	109
1976-77	6272	18354	5920	30546	99
1977-78	9620	10609	11844	32073	104
1978-79	10678	1380	16755	28813	93
1979-80	11094	761	17422	29594	96
1980-81	10829	5916	12901	29646	96
1981-82	10909	5928	16860	33697	109
1982-83	11074	6120	17210	34404	112
1983-84	11213	6230	17870	35313	115

Sources : Statistics for Economic Planning 1977, 1980 and 1983 and District Statistical Office, Alleppey.

Table 7.2. Land Utilisation Pattern in the Selected Villages of Kuttanad (in hectares)

Land Utilisation	1973-74		1983-84		Intensity Ratio			
	Kavalam	Veliyanad	Kozhimukku	Thalavady				
Area under cultivation	5502.62	1942.14	2712.61	1576.47	(12.93) (36) (47) (40)	3974.26	2216.82	
Gross cropped Area	4768.24	1774.60	2478.64	1271.25	(6.42) (20.3) (28.48)	3184.51	1494.40	
Net cropped Area	3827.60	1268.89	1974.25	799.05	(10.8) (43.16) (23.7)	2587.38	1304.50	
Area Under Nos. Food Crops	645.62	235.26	214.74	262.39	(11) (33) (35) (34)	290.71	350.75	
Intensity Ratio	1.2457	1.3985	1.2555	1.5900		1.1751	1.2308	1.1456

Sources : Village Offices of Selected Village.
 Figures in brackets showing percentage changes.

Table 7.3. Cropping Pattern in Kuttanad (in acres)

Crops	1973-74				1983-84				Total	
	Kava-lam	Veliya-nad	Kozhi-mukku	Thala-vady	Total	Kava-lam	Veliya-nad	Kozhi-mukku		Thala-vady
Paddy	514.74	414.64	470.14	475.21 (88.49)	1874.73	674.97	539.05	463.00	469.80	2146.62 (82.20)
Coconut	54.21	47.61	53.26	58.41 (10.08)	213.49	59.86	57.61	56.71	64.61	238.54 (9.13)
Arecanut	5.64	7.41	12.14	9.41 (1.63)	34.60	6.11	8.21	13.11	10.14	37.57 (1.43)
Banana	9.41	10.11	18.74	20.71 (2.78)	58.97	11.61	12.41	12.41	26.71	74.14 (2.83)
Coco	--	--	--	--	--	21.41	25.71	30.74	36.74	114.60 (4.39)
Total	584.00	479.77	554.28	563.74	2118.34	773.96	642.99	586.97	608.00	2611.47 242

Figures in brackets show percentage to total.
Source : Sample Survey.

Table 7.4. Rice Production in Kuttanad During 1973-74 to 1983-84

Year	Autumn	Winter	Summer	Total	Index
1973-74	11692	x	43523	55215	100
1974-75	9227	x	57284	66511	120
1975-76	18987	x	49974	68961	125
1976-77	14155	45606	11847	71608	130
1977-78	21047	27002	28403	76452	138
1978-79	14985	3170	43482	61637	112
1979-80	27974	1753	50449	80176	145
1980-81	29874	12819	27699	70392	127
1981-82	25392	17076	44862	87330	158
1982-83	24431	18640	46742	89813	163
1983-84	26324	18211	47812	92347	167

Source : Economic Review 1977, 1980, 1983 and District Statistical Office, Alleppey.

Table 7.6. Area and Production of High Yielding Varieties in Alleppey District

Year	Area (Hectares)			Production		
	Total Area	High Yielding Varieties	Percentage of High Yielding Varieties to Total	Total Production	High Yielding Varieties	Percentage of High Yielding Varieties to Total
1973-74	92039	54280	58.90	133156	89277	67.10
1974-75	96459	26242	27.20	157231	48730	30.99
1975-76	96705	50736	52.60	163229	104417	63.97
1976-77	88591	61240	69.13	162025	134293	82.88
1977-78	90907	44701	48.62	160018	102610	64.12
1978-79	75501	41515	54.99	135561	93836	69.22
1979-80	80059	41743	52.14	151277	88067	58.22
1980-81	82466	37514	45.49	144858	90531	62.49
1981-82	88606	37514	42.34	173162	90531	52.28
1982-83	83862	30356	24.27	85846	39452	45.96
1983-84	79050	43029	54.44	152797	98995	64.79

Source : Statistics for Economic Planning 1977, 1980 and 1983 and District Statistical Office, Alleppey.

Table 7.6. Area and Production of High Yielding Varieties in Alleppey District

Year	Area (Hectares)			Production		
	Total Area	High Yielding Varieties	Percentage of High Yielding Varieties to Total	Total Production	High Yielding Varieties	Percentage of High Yielding Varieties to Total
1973-74	92039	54280	58.90	133156	89277	67.10
1974-75	96459	26242	27.20	157231	48730	30.99
1975-76	96705	50735	52.60	163229	104417	63.97
1976-77	98591	61240	69.13	162025	134293	82.88
1977-78	90907	44201	48.62	160018	102610	64.12
1978-79	75501	41515	54.99	135561	93836	69.22
1979-80	80059	41743	52.14	151277	88067	58.22
1980-81	82466	37514	45.49	144858	90531	62.49
1981-82	88606	37514	42.34	173162	90531	52.28
1982-83	83862	30356	24.27	85846	39452	45.96
1983-84	79050	43029	54.44	152797	98995	64.79

Source : Statistics for Economic Planning 1977, 1980 and 1983 and District Statistical Office, Alleppey.

Table 7.7. Adoption of New Techniques of Production in Kuttanad

Farmers	1973-74				1983-84					
	KVLM	VLD	KMK	THDY	Total	KVLM	VLD	KMK	THDY	Total
Small Farmers	12	15	20	28	75	38	44	34	52	168
Medium Farmers	9	11	15	17	52	17	16	19	17	69
Big Farmers	16	10	18	10	54	21	14	20	11	66
Total	37	36	53	55	(45) 181	76	74	73	80	(76) 303

KVLM - Kavalam, VLD - Veliyanad, KMK - Kozhimukku, THDY - Thalavady

Figures in brackets show percentage to total sample farmers.

Source : Sample Survey.

Table 7.8. Consumption of Fertilizers in Kuttanad (in Qtls.)

Year	N	P	K	Total	Index
1973-74	1962	1341	1364	4667	100
1974-75	2574	1796	1516	5931	127
1975-76	2364	1392	1516	5272	113
1976-77	2440	1670	1610	5720	123
1977-78	2840	2117	1942	6899	148
1978-79	2818	2016	1982	6816	146
1979-80	2924	1512	2230	6666	143
1980-81	2814	1572	2417	6803	146
1981-82	2217	1360	2034	5611	120
1982-83	2824	1695	2264	6783	145
1983-84	2916	1762	2342	7020	150

Source : Joint Director of Agriculture, Alleppey.

Table 7.9. Consumption Pesticides in Kuttanad

Year	Liquid Pesticides (litters)	Solid Pesticides (Qtls.)
1973-74	7842	48.6
1974-75	8242	42.8
1975-76	11172	112.7
1976-77	12842	140.8
1977-78	10172	170.6
1978-79	11236	182.7
1979-80	13724	194.6
1980-81	14820	192.8
1981-82	16192	210.6
1982-83	18247	221.8

Source : Joint Director of Agriculture, Alleppey.

Table 7.10. Gross and Net Income of Small Farmers in Kuttanad
(in Rs.)

Farmers	Gross Income		Net Income	
	1973-74	1983-84	1973-74	1983-84
Small Farmers	8748	10426	5423	6732
Medium Farmers	12350	14724	7840	9745
Big Farmers	26540	31438	10420	13100
All	15879	18863	7849	9859

Source : Sample Survey.

Table 7.11. Saving Pattern of Sample Farmers in Kuttanad (in Rs.)

Farmers	Kavalam	Veliyanad	Kozhimukku	Thalavady	Total
Small Farmers	4600 (5.1)	6480 (7.3)	7400 (6.9)	5250 (5.8)	23700 (6.32)
Medium Farmers	21400 (23.73)	23400 (26.45)	24500 (22.96)	26040 (28.94)	95340 (25.40)
Big Farmers	64200 (71.18)	58600 (66.23)	74800 (70.1)	58700 (65.23)	256300 (68.28)
All	90200 (100.00)	88480 (100.00)	106700 (100.00)	89990 (100.00)	375370 (100.00)

Figures in brackets show percentages.

Source : Sample Survey.

APPENDIX - 1

THE AGRARIAN ECONOMY OF KUTTANAD

Geographically Kuttanad is considered as the man-made granary of Kerala. It is the best example of land reclamations from water through the ages. By and large, the whole of Kuttanad is a homogenous area. The region possesses common physical characteristics : it has common problems. "In its physical aspects as well as in the conditions that govern the agricultural life of the people, Kuttanad is markedly distinct from the rest of the country".¹

In ancient days the term Kuttanad referred to much larger area than what it connotes at present. There are references of Kuttanad in Tamil literature.² Apart from these historical records there are also certain legends connected with Kuttanad.³

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1. T.K. Velupillai, Travancore State Manual, Government of Travancore, 1940, Vol.IV, p.699.
 2. Government of Kerala, Report of the Kuttanad Enquiry Commission, Government Press, Trivandrum, 1972.
 3. John Abraham, Kuttanad, Kerala Sasthra Sahyathiya Parishad, Trivandrum, 1980.

(ii)

Kuttanad region in Kerala, as is fairly understood and recognised, is a low-lying deltaic region dominated by wet lands. It is the lowest portion of landmass sloping from mountainous highlands and merging with low land deltaic formation of the four river system viz., Meenachil, Manimalayar, Pampa and Achancoil. Most of the region is lying below sea level and waterlogged almost throughout the year; subjected to continued floods during the monsoons and advance of salinity during summer months.

It is difficult to determine the cut-off point to demarcate the region since the landmass in Kuttanad is not independent parcel, but a hydrological continuance cutting across administrative boundaries and interlinked by an intervening water course system of rivers, water ways, lakes and backwaters. Earlier studies on Kuttanad have defined Kuttanad differently.⁴ The High Level Committee⁵ attempted to identify the core of Kuttanad region by delineating the most homogenous area around the river systems. The demarcation region includes all the revenue

4. Government of Kerala, Report of the Kuttanad Enquiry Commission 1971, Government Press, Trivandrum, 1972, also see P.H. Vaidyanathan, Kuttanad Development Scheme (1954), Kuttanad Development Project (1974), Report on Comprehensive Development of Kuttanad (1980). Map of Kuttanad is also appended.

5. Report on the Comprehensive Development of Kuttanad (1980).

(iii)

villages falling within the area encircled by the communication system. Conserting of the road linking Thanneermukkom - Alleppey - Haripad - Mavelikara and the railway line from Mavelikara - Kottayam - Kaduthuruthy and again the road from there to Vaikom. Essentially the punja land subjected to the hazards of floods and salinity and mutually interlinked by the hydrological system from the base for delineating the region.⁶

Although delineating the Kuttanad region substantial homogenicy in physical features has been accomplished, it has to be recognised that considerable heterogeneity exists within the region with respect to agro-ecological conditions which is reflected in the potential constraints and possibilities for the resource use. Incidence of flood submergence, vulnerability to saline intrusion and acidity of the soil are reflected on the land use.

Seven agro-ecological zones have been identified in Kuttanad region and delineated taking padashekarams as the unit. They are (1) Upper Kuttanad (2) Lower Kuttanad (3) Kayal lands (4) North Kuttanad (5) Coastal Kuttanad (6) Purakkad Kari and (7) Vaikom Kari.

6. For more details of villages refer appendix - 2
Report on Comprehensive Development of Kuttanad (1980).

The area and population characteristics are given in table 1. The region is densely populated with 904 persons per sq.km. against the state average of 549.⁷ The scheduled castes constitute 7 per cent of the total population. The proportion of literate persons is relatively high with a little over 77 per cent of the population against state average of 60 per cent. The family size is also comparatively large with 6.2 persons for family. Similarly the dependent ratio is high with one working person supporting 3.45 persons. Among the workers agricultural labour is the largest single group constituting nearly 38 per cent of the total workforce which is nearly the same as the state average. However, cultivators constitute relatively a smaller proportion with a little over 9.4 per cent of the workforce.

Resource and Development

Land, water and human labour are the basic resources of Kuttanad region. Optimisation of the use of these basic resources is influenced by the various configurations of agro-ecological and social factors.

7. 1971 Census.

Climate

Kuttanad region experiences fairly uniform temperature throughout the year which ranges between 21°C and 36°C. Humidity in general is very high throughout the year. The annual average rainfall received is around 325cm of which 83 per cent is received during the monsoon months.

Topography

The geological evolution of Kuttanad basin and the consequent setting up of the area by the alluvial deposits brought down by the river systems have given rise to a continuum of three identifiable topographical features on the Kuttanad landmass viz., the drylands, the wetlands and the water spreads. Depending upon the elevation, the wetlands are broadly distinguished into virippu and punja lands. Although the distribution of the geographical area between drylands, wetlands and water spreads varies from one agro-ecological zone to the other, all the three types are found all over the regions.

Human Resources

As already indicated the density of population in the region is over 1½ times the state average. Qualitatively it is superior in that the literacy rate is much higher

than the state average (72 against 60 per cent). The worker participation rate of around 0.41 is almost the same as the state average. Agriculture provides the largest opportunity for employment. Cultivators and agricultural labourers together amount to 47 per cent of the total workforce as against 48 per cent of the state average. The ratio of agricultural labour to cultivator in Kuttanad area is 4 while it is only 1.8 for the state as a whole. The proportion is as high as 6.85, 6.43 and 5.66 in the Purakkad kari, Kayal land and lower Kuttanad zones respectively. For the Upper Kuttanad, North Kuttanad and Vaikom kari the proportion is 3.85, 3.65 and 2.14 respectively.

Another significant feature of the cultivator - agricultural labour correlation in this region is the wide difference that persists in the ownership pattern of land as reflected by the per capita land available per cultivator and agricultural labour. Cultivable land available per cultivator in this region is 3.4 hectares, while for agricultural labour it is 0.85 hectares on which he has to seek employment. There is considerable variation within the region in the per capita cultivable land available for agriculture which is as high as 6.17 hectares in Kayal land zone and as low as 2.18 in Vaikom kari. More or less the same pattern is observed for drylands

and wetlands. Per capita dryland available for the cultivator is around 1.1 hectares for the region, while it varies from 0.64 in upper Kuttanad and 3.11 in the coastal Kuttanad. Similarly for the region the per capita wetland available per cultivator is 2.3 hectares, ranging from 1.05 hectares in Vaikom kari zone to 5.32 hectares in kayal land.

On the other hand cultivable land available per agricultural labour for the region is 0.85 and the range is only from 0.63 hectares in Upper Kuttanad to 1.16 hectares in coastal Kuttanad. Although the dryland available per worker shows considerable variation between the zones, the variation for wetland is not very sharp. The per capita dryland available for agricultural labour for the region is 0.27 hectares and the range is from 0.13 hectares in kayal land to 0.65 hectares in coastal Kuttanad. For the region the per capita availability of wetland for agricultural labour is 0.57 hectares, while the range is only 4.6 in upper Kuttanad and 0.82 in kayal land zone.

Punja Cultivation

The method of rice cultivation in Kuttanad for the present single crop is known as punja crop. The

special features of punja cultivation are bunding and bailing out water before the fields are prepared for cultivation. The main hazards peculiar to cultivation in this area are the acidity of the soil, ingress of salinity, high incidence of pests and diseases and the menace of various types of weeds.

The present single crop cultivation of rice in Kuttanad is staggered. In the areas nearer to the Vembanad lake the cropping season is from October to February, before the intrusion of salinity. In areas comprising the deltaic region of the rivers, the crop is raised from November onwards.

Immediately after harvesting the operations for the next year's crop start with a minimum of two rounds of ploughing, one length-wise and the other cross-wise, along with the application of powdered burnt lime to neutralise the acidity of the soil. Fields are then flooded by letting in water through sluices in the bunds and the water remains in the fields throughout the southwest monsoon period. In August-September, when water goes down to manageable levels, the outer bunds encircling the fields which may have been damaged by floods are repaired. The second round of ploughing starts when the flood waters of southwest monsoon subside. This helps to stir up the soil and allow fresh water to percolate into the soil.

(ix)

Dewatering the fields commences soon after the wet ploughing and the completion of repairs to the outer bunds. When dewatering is completed, the smaller ~~inner~~ bunds demarking individual plots within each padashekaram are repaired. Sowing is done by broadcasting in most parts of the area. Transplantation is also adopted in some places. With the introduction of high yielding varieties, large amount of fertilizers and pesticides are used. Harvesting is done by cutting the ear heads below the flag leaf which is known as 'thalakoithu'.

Kuttanad Development Scheme

Over the past one and half centuries there has been considerable efforts for utilizing the resource endowments of Kuttanad. Partly these efforts were sporadic at the initiative of the local community, while some others were organised and state-sponsored. The important schemes are:

1. Thottappally spilling.
2. Alleppey - Changanacherry Road cum Canal.
3. R Block Reclamation.
4. Salt Water Barrier at Thannermukkom.
5. Improvements to Padashekaram for the KLDC Schemes.

1. Thottappally Spillway

Thottappally spillway was intended to lead directly to the sea upto 64000 cusecs of floodwaters and thereby to reduce the flood levels in Kuttanad region and avoid the consequent damage to life and property in the area. Even though the spillway proper has been completed, the discharge so far obtained has never exceeded 20/25000 cusecs. Therefore, the flood hazards in the region, particularly in the area south of Alleppey - Changnacherry road still persist. The fault is not that of the spillway scheme, but that of the failure to complete it in all aspects originally designed and planned for. More particularly it is the nonimplementation of improvements to leading channel included as part of the scheme that has actually caused certain problems in the vicinity of this spillway. When the spillway is opened, the flood water in the canals develop very high velocities. And this erodes the bunds of the adjoining padasekharam causing collapse of the bunds and extensive damage to the fields. It is not as if Government has not recognised the importance of completing this part of the spillway scheme. But for some inexplicable reasons, the recognition of the importance does not appear to be matched by adequate follow-up in terms of its practical implementation. The improvement to leading channel

and the protection of the side bunds have been included as one of the infrastructural works to be done under the KLDC scheme.

2. Alleppey - Changanacherry Road-Cum-Canal

This part of the Kuttanad Development Scheme is intended to provide better communication facilities in Kuttanad area. While meeting this important need of the area, it would appear that sufficient attention has not been bestowed on the effects such a road formation cutting across the waterflow would have in increasing the flood hazards in the region south of the road. A canal alongside the road was also planned to be executed simultaneously in the road, presumably with a view to carrying the floodwaters blocked or trapped by the road along into the sea. This part of the programme remains a half done job. The flood hazards in the area have aggravated on account of another development, namely the setting up of cross canal by private encroachments. Restoration of these canals to their full use should be undertaken.

3. Construction of Permanent Bunds 'R' Block Reclamation

References has been made to the system of paddy cultivation in lands lying below the sea level by temporarily

reclaiming⁸ them from waters by putting up bunds and thereafter bailing of water from the fields for preparing the land for cultivation and later by letting in water in requisite doses and appropriate timings. These bunds were built by private landowners owning these lands. The bunds so constructed would get submerged during floods. This helps in bringing considerable quantities of silt to fertilise the soil. Immediately prior to taking up of cultivation the top crest of the bunds are to be renewed and necessary repairs executed in the entire bunds. The disadvantage in this practice is that the bunds would be subjected to severe strain especially during the spring tides in November, causing breaches resulting in loss of crops. Taking inspiration from the experience of Holland and patterned accordingly, an experimental effort was made to build nonsubmergible permanent bunds at 180 cm above MSL with a top width of 3 meters and facilities to keep the land dry through a system of drainage and continuous pumping out of water through pumps set up at strategic points. This project is generally known as 'R' Block Scheme, the name being derived from the padashekham where it was executed. The intention of the project was to raise additional crop of paddy in these lands. The project was a failure in achieving

8. V.R. Pillai and P.G.K. Panikar (1965).

this objective. Some enterprising agriculturists have taken up cultivation of dry land crops in this area.

4. Salt Water Barrier at Thanneer Mukkom

Thanneermukkom barrier has effectively prevented intrusion of saline water into the Kuttanad region. It is argued that the absence of saline water in the region will cause undesirable changes in the ecology of Kuttanad.⁹ In earlier years the entry of saline water has effectively destroyed the African payal growing in Kuttanad waters. The Thanneermukkom barrier, by preventing this salt water, has contributed to luxuriant and unchecked growth of this weed. The lack of abundant flow prevents flushing out of polluting material wastes discharged into the water-spread area which causes health problems. The absence of saline water has affected the fish population particularly the growth of prawns.

The advantages of the project are :

1. the stabilisation of paddy cultivation in an area of over 50000 hectares;
2. enabling crops other than coconut to be taken up extensively in dry land;

9. For more details see K.P. Kannan, "Socio Economic And Ecological Consequences of Water Control Projects" : The Case of Kuttanad in Kerala (India, Centre for Development Studies, Trivandrum, 1979.

3. the possibility in the long run of a second crop of paddy being raised, if not in the entire paddy area of over 50000 hectares, at least in substantial parts thereof.

Kerala Land Development Corporation (KLDC) Scheme

The KLDC scheme consists of infrastructural works to be done at Government expense and the improvements to padasekharam bunds to be executed by financing the same initially with funds obtained from financial institutions and subsequently recovering the money from the beneficiary landowners in instalments. The project area consists of rice fields grouped in blocks, spread over 79 villages, each village having one or more blocks. It is proposed to take up construction of bunds and ancillary works in the first instance in 1129 padasekharam grouped in 438 blocks in 50 villages. Out of 438 blocks, in 133 blocks covering an area of 22534 hectares, the cost of bund construction per hectare of land benefited is estimated to be Rs.2500 in 129 blocks with an area of 16548 hectares, the cost is likely to be between Rs.2500 and Rs.3750 per hectare, in 79 blocks with an area of 6845 hectares, the cost may range between Rs.3750 and Rs.5000 per hectare and in the remaining 97 blocks with an

area of 5810 hectares, the cost may exceed Rs.5000 per hectare. The plan was to complete the construction of permanent bunds during the period of six years.

The outlay of the project, exclusive of overheads investment is estimated at Rs.243 million. The planting of coconut seedlings on the permanent bunds envisaged in the project is estimated to cost Rs.1.6 million. This has not been included in the cost of the project or the expenses for this work will be met by the owners of the bunds. On an average 160 coconut seedlings will be planted on one kilometre of bund at an estimated cost of Rs.800 per kilometre. The total outlay of the project inclusive of Thanneermukkom barrier is estimated at Rs.289.6 million.

The main benefit to be derived from the project is the raising of an additional rice crop in an area of 52000 hectares in the project area. The additional annual production on completion of the project is estimated to be not less than 100000 tonnes of rice valued at over Rs.150 million at the average market price. On an average, the incremental income from the second crop is estimated at over Rs.1000 per hectare. The incremental income will be more than sufficient to meet the annual debt service charges.

An additional benefit from the project is the income from coconut. The total yield of coconut from 300000 trees planted on the bunds is estimated at about 15 million nuts per annum valued at about Rs.12 million when the trees reach the full bearing capacity. Coconut husk is the raw material for the coir industry, which earns foreign exchange. Toddy is another valuable product of the coconut tree. Thus the coconut trees to be planted on the bunds in the project area would contribute substantially to the economy of the area.

Table 1. Area and Population Characteristics of Sample Villages and

Kuttanad Taluk

Indicators	Unit	Kavalam	Veliyanad	Kozhimukku	Thalavady	Kuttanad
Area	Acres	8053.26	4797.08	6700.17	3893.87	65712.6
Population	No	24901	12254	22467	21290	187698
SC	"	1485	907	15744	1278	13685
ST	"	--	--	--	--	19
Literate	"	140838	9326	1630	16241	140838
Total Workers	"	51025	3088	16572	6180	61025
Cultivators	"	5921	239	6728	738	5921
Agricultural Labourers	"	36588	1715	691	3177	36588
Non workers	"	126773	6212	2236	13310	126673

APPENDIX - 2

QUESTIONNAIRE - 1

DEPARTMENT OF APPLIED ECONOMICS

UNIVERSITY OF COCHIN

COCHIN - 682 022

I. GENERAL INFORMATIONS

1. District :
2. Taluk :
3. NES Block :
4. Village :
5. Place :
6. Date :

II. PERSONAL DATA

1. Name of the Head
of the Household :
2. Religion :
3. Caste :
4. Address :

III. FAMILY PARTICULARS

Sl. No.	Name	Relation to the Head of the Household	Sex	Age	Marital Status	Education
1	2	3	4	5	6	7

Occupation	No. of Holdings	Size of Holdings	Remarks
8	9	10	11

IV. DETAILS OF LAND UNDER FAMILY ACCOUNT

Sl.No.	Particulars	Acre	Value	Year	Remarks
1	2	3	4	5	6

1. Ancestral
2. Purchased
3. Land Received under Land Dist. of Government
4. Land Received under Land Reforms Act

1	2	3	4	5	6
5.	Land Taken on Mortgage				
6.	Land Resumed from Tenant				
7.	Land Leased in				
8.	Land Sold				
9.	Land Lost under Land Reforms Act				
10.	Land given on Mortgage				
11.	Land Leased out				
12.	Size of operational Holdings (1 to 7) - 8 to 11)				
13.	Total holdings (1 to 7)				
14.	Land under Paddy Cultivation				
15.	Orchards				
16.	Area under coconut cultivation				
	1. No. of coconut trees				
	2. No. of Fruit Bearing Trees				
17.	Homestead				
18.	Others				
19.	Gross cropped Area				
20.	Net cropped area				

VI. WAGE RATE AND WAGE PAYMENTS

Sl. No.	Operation	Wage Rate		Man- days	Cash	Kind	Value	Total
		M	F					
A.1.	Construction of Bunds							
2.	Maintenance of Bunds							
3.	Spading							
4.	Ploughing							
5.	Sowing							
6.	Weeding							
7.	Manuring							
8.	Watering and Dewatering							
9.	Replantation							
10.	Harvesting							
11.	Drying and Storing							
B.	Coconut							
1.	Spading							
2.	Manuring							
3.	Plucking							
C.	Others Specify							

VII. COST OF CULTIVATION

Sl. No.	Operation	Punja		Second Crop	
		Cost/Acre	Total	Cost/Acre	Total
1	2	3	4	5	6
1.	Construction of Bunds				
2.	Repairs of Bunds				
3.	Pumping				
4.	Ploughing				
5.	Weeding				
6.	Levelling				
7.	Seeds (Units)				
	1. Home produced				
	2. Purchased				
8.	Sowing				
9.	Transplanting				
10.	Supervision				
11.	Permanent Farm Servants				
12.	Manuring				
	1. Home produced				
	2. Purchased				
13.	Liming				
14.	Pesticides				
15.	Harvesting				
16.	Transporting				
17.	Drying and Stocking				
18.	Rent of Land leased in				
19.	Interest				
20.	Taxes				
21.	Others				

VII. INCOME - SOURCEWISE

Sl.No.	Item	Unit/Qty.	Amount	Remarks
1	2	3	4	5
1.	Paddy			
	1. Punja			
	2. Second Crop			
2.	Coconut			
3.	Other Crops			
	Total from Cultivation			
4.	Livestock			
5.	Household Industry			
6.	Wages Received as Agricultural Labour			
7.	Other wages/salaries			
8.	Hire charges for			
	1. Animal			
	2. Equipments			
9.	Rent			
	1. Land			
	2. Building			
10	Interest			
11.	Pension Remittance etc.			
	Total			

IX. FARM ASSETS STRUCTURE

Sl. No.	Items	Present		Acquisition			Disposal			Reasons
		Qty.	Value	Qty.	Value	Source	Qty.	Value	Use of Money	
1	2	3	4	5	6	7	8	9	10	11

A. Land

1. Land
2. Bunding
3. Levelling
4. Reclamation
5. Fencing

B. Orchards

C. Building

1. Farm shed
2. Cattle shed
3. Godown

D. Irrigation

1. Channels
2. Pumpsets
3. Others

E. Machinery

- Driller
- Grinder
- Others

F. Implements

G. Cattle

- Bullocks
- Cows
- Buffaloes

H. Others

Total

X. SAVING PATTERN

Investment	Year	Amount	Source	With- drawn	Year	Reason	Use	Remarks
Shares in Coops								
Deposits in Coops								
Postal Savings								
Insurance								
Commercial Banks								
Private Banks								
Individuals								
Others								

XII. DISPOSAL OF PRODUCE

Sl.No.	Items	Total Production	Home Consumption	Kept for seed	Paid to Labour
1	2	3	4	5	6

Feed to Animals	Sold			Other Uses	Surplus	Remarks
	Q	R	V			
7	8	9	10	11	12	13

XIII. HOUSEHOLD EXPENDITURE

Sl.No.	Items	Purchased from Market			Total consumed		Remarks
		Qty.	Rate	Value	Qty.	Value	
1	2	3	4	5	6	7	8

1. Food grains
2. Pulses
3. Vegetables
4. Fish & Meat
5. House Rent/Repair
6. Education

- 7. Ceremonies .
 - 8. Litigation
 - 9. Entertainment
 - 10. Transport
 - 11. Fuel
 - 12. Clothing
 - 13. Miscellaneous
- Total

XIV. GRAIN LOANS BORROWED

Sl.No.	Commodity	Agency	Purpose	Quantity	Value	Interest	Security	Quantity Repaid	Quantity Repaid Value	Remarks
1	2	3	4	5	6	7	8	9	10	11

XV. OUTSTANDING DUES

- 1. Is any amount due to you from others
 - 2. If so what is the amount due to you
 - 3. Details of Dues
- Notes :

XVI. INDEBTEDNESS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Sl.No.	Agency	Purpose	Amount	Month & Year	Interest	Nature	Security	Mode of Payment	Amount Repaid	Overdues	Period of Overdues	Reasons for overdues	Sources of Repayment	Month & Year	Remarks

XVII. UTILISATION OF INPUTS

1. Which type of seeds are you using -
Traditional or Modern ?
2. If Traditional seeds are used,
Give Reasons.
3. If modern seeds are used, for how many years are
you using it ?
4. Adoption of improved seeds during the last
four years

Year	Variety	Qty. Purchased		Area Covered		Output per Acre		Remarks
		Punja	Second	Punja	Second	Punja	Second	
1	2	3	4	5	6	7	8	9

1981

1982

1983

1984

Traditional Variety

Year	Variety	Qty. Purchased		Area covered		Output/acre		Remarks
		Punja	Second	Punja	Second	Punja	Second	

6. Year of first use

7. Whether Discontinued since First use ?

8. From which source do you obtain seeds - specify the agency.

9. Are you purchasing seeds on credit - YES/NO

10. Of the total seeds purchased how much is
- a) Credit portion
 - b) Purchased
 - c) Home produced HYV Traditional

Notes :-

11. What are the plant diseases and pests that affect your crops ?
12. If you want to eliminate them, what methods do you usually adopt ?
13. If plant protection chemicals are used, give details.

Year	Variety	Qty. Purchased		Area Covered		Re- marks
		Punja	Second	Punja	Second	
1	2	3	4	5	6	7

14. From which agency do you purchase these items ?
15. Do you purchase it on credit ? YES/NO
16. Agencies which give credit ?
17. Of the total what is the credit portion ?
18. For which crop do you use more plant protection chemicals ?

Notes :-

19. Fertilizer consumption

Year	Variety	Qty. Purchased		Fertilizers used / acre		Area covered		Value	Remarks
		Pun- ja	Sec- ond	Pun- ja	Second	Pun- ja	Second		
1	2	3	4	5	6	7	8	9	10

1981

1982

1983

1984

Notes :-

20. From which sources do you purchase them ?

21. Do you purchase it on credit ?

22. Agency which gives credit

23. How much is the credit portion ?

24. Do you use natural fertilizers YES/NO

1. Purpose

2. Area

3. Quantity

4. Value

Notes :-

XVII. KLDC SCHEME IN KUTTANAD

1. Area covered : Not covered :
2. Outer area : Inner area :
3. How many acres of it are under
double cropping in the last four years ?

Season	1981	1982	1983	1984	Total	
	Area	Out-	Area	Out-	Area	Out-
		put		put		put

Punja
Second
Total

4. How many coconut trees are planted in these areas ?

No. of Fruit-bearing trees :

5. Total credit received for this scheme ?

6. Amount repaid.

Notes :-

QUESTIONNAIRE - 2

DEPARTMENT OF APPLIED ECONOMICS
UNIVERSITY OF COCHIN
COCHIN - 682 022

SCHEDULE TO ASSESS THE SUPPLY OF AGRICULTURAL CREDIT FROM

COMMERCIAL BANKS

1. District :
2. Taluk :
3. Village :
4. Date :
5. Name of the Commercial Bank :
6. Status :
7. Is it an Agricultural Development Bank :
8. Area of Operation :
9. Date of Opening the Branch :
10. Date and year in which the Branch started financing agriculture :
11. What type of security you generally prefer ? :
12. During which season or month the demand for loans is very high :
13. During which month is the repayment of loans utilised for agricultural purpose is the highest ? :
14. What are the problems that you face in financing agriculture at branch level :

SCHEDULE TO ASSESS THE SUPPLY OF AGRICULTURAL CREDIT FROM
1965 to 1984 OCTOBER

1	2	3	4	5	Agricultural Finance			Agricultural Credit out-standing			12	13
					6	7	8	9	10	11		
Year	No. of applications received	No. of loans Sanctioned	Financing Limit	Total Advances	Short Term	Medium Term	Long Term	Short Term	M.Term	L.Term	Overdues	Cases referred for Litigation

SUPPLY OF AGRICULTURAL CREDIT

14	15	16	17	18	19	20	Rate of interest for Agrl. loans			24	
							21	22	23		
No. of cases in which recovery procedure has been taken	Gold	Land	Security	Agri. Products	No. of loans fully recovered	Amount recovered	Total advances to rural sector	ST	MT	LT	Remarks

QUESTIONNAIRE - 3

CASE STUDY OF MONEYLENDERS

1. District :
2. Taluk :
3. Village :
4. Date :
5. Name :
6. Major Occupation :
- 6.(a). Income : Rs. _____
7. Landholdings in acres :
8. Operated Holdings :
9. Leased out :
10. Leased in :
11. Amount Borrowed Source-wise.

Source	Amount	Purpose	Date	Security	Interest	Mode of Repayment
1	2	3	4	5	6	7

12. Details of Money Lending

Purpose	No. of borrowing	Amount Rs.	Date	Security	Interest	Mode of Repayment
1	2	3	4	5	6	7

Credit Outstand- ing	Overdues Amount (in Rs.)	No. of Defaulters
8	9	10

13. Preference for Security :

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