

**SUPPLY UTILIZATION AND REPAYMENT  
PERFORMANCE OF CROP LOANS  
OF COMMERCIAL BANKS IN  
ALAPPUZHA DISTRICT**

By

**LEKSHMI, S.**

**THESIS**

Submitted in partial fulfilment of  
the requirement for the degree

**Master of Science in Agricultural Economics**

Faculty of Agriculture  
Kerala Agricultural University

Department of Agricultural Economics  
**COLLEGE OF HORTICULTURE**  
Vellanikkara, Thrissur

**1993**

## DECLARATION

I hereby declare that this thesis entitled "Supply, Utilization and Repayment Performance of Crop Loans of Commercial Banks in Alappuzha District" is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title, of any other University or Society.

Vellanikkara,

21.8.1993.



Lekshmi's  
LEKSHMI, S.

CERTIFICATE

Certified that this thesis entitled "Supply, Utilization and Repayment Performance of Crop Loans of Commercial Banks in Alappuzha District" is a record of research work done independently by Miss Lekshmi, S., under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

Vellanikkara,

21 .8.1993.



Smt. JESY THOMAS  
Chairperson  
Advisory Committee  
Assistant Professor  
Dept. of Agricultural Economics

**CERTIFICATE**

Certified that this thesis entitled "Supply, Utilization and Repayment Performance of Crop Loans of Commercial Banks in Alappuzha District" is a record of research work done independently by Miss Lekshmi, S., under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

Vellanikkara,

21 .8.1993.



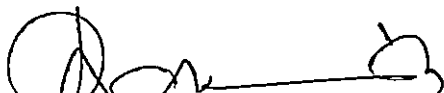
**Smt. JESY THOMAS**  
Chairperson  
Advisory Committee  
Assistant Professor  
Dept. of Agricultural Economics

## CERTIFICATE

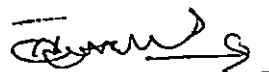
We, the undersigned member of the advisory committee of Miss Lekshmi, S., a candidate for the degree of Master of Science in Agricultural Economics, agree that the thesis entitled "Supply, Utilization and Repayment Performance of Crop Loans of Commercial Banks in Alappuzha District" may be submitted by Miss Lekshmi, S. in partial fulfilment of the requirement for the degree.



**Smt. Jesy Thomas**  
Assistant Professor  
Chairperson



**Dr. V. Radhakrishnan**  
Professor and Head  
Member



**Dr. E.K. Thomas**  
Associate Professor  
Member

*S. Krishnan*  
**Sri. S. Krishnan**  
Assistant Professor  
Member

*R. J. ...*  
**R. J. ...**  
External Examiner 5710194

*To my grandmother*

## ACKNOWLEDGEMENT

As the author of the work, it gives me immense pleasure to express my esteemed sense of gratitude and sincere thanks to Smt. Jesy Thomas, Chairperson of my Advisory Committee for her valuable suggestions and never ending encouragement during the entire course of research work.

I am fortunate in having Dr. V. Radhakrishnan, Professor and Head of Agricultural Economics as member of my Advisory Committee. I have deep appreciation for all his perpetual support and candid suggestions throughout the investigation and preparation of the manuscript.

I extend my sincere thanks and indebtedness to Mr. E.K. Thomas for his valuable guidance, unfailing help and constructive disposition for the early and successful completion of this research report.

Let me place on record my thanks for the help I received from Sri. S. Krishnan, Assistant Professor of Agricultural Statistics and Smt. P. Indira Devi in completing this venture successfully.

It is with great pleasure I express my heartfelt thanks to Dr. K. Jayaraman and Smt. P. Rugmini (KFRI) for their immense help in providing necessary computer facility for statistical analysis.

I am thankful to Sri. Jose George, Agricultural Officer, Edathua Krishi Bhavan for providing me the necessary help for the successful completion of the survey.

My greatfulness and personal obligation go without any reservation to each and every members of Department of Agricultural Economics for extending all possible help throughout the course of this study.

I take this opportunity to thank Miss Chandrika, C. and Smt. Geetha Bai, S. for their help in completion of the manuscript. Thanks are also due to Sri. O.K. Ravindran, C/o Peagles, Mannuthy for the neat typing of the manuscript.

Forgetting to thank my friends for their timely help and encouragement throughtout for they are all my friends.

LEKSHMI, S.



## CONTENTS

Chapter	Title	Page No.
1.	INTRODUCTION	1
2.	REVIEW OF LITERATURE	7
3.	AREA OF STUDY	34
4.	METHODOLOGY	58
5.	RESULTS AND DISCUSSION	68
6.	SUMMARY	144
	REFERENCES	i-xiii
	APPENDIX	
	ABSTRACT	

## LIST OF TABLES

---

Table No.	Title	Page No.
3.1	Normal and average monthly rainfall in Alappuzha district 1990-91 (in mm)	36
3.2	Net area irrigated (source-wise) in Alappuzha district 1990-91 (in ha)	40
3.3	Crop-wise irrigated area in Alappuzha district 1990-91 (in ha)	41
3.4	Land utilization pattern in Alappuzha district 1990-91 (area in ha)	43
3.5	Cropping pattern in Alappuzha district 1990-91	44
3.6	Occupational pattern of working population in Alappuzha district (1991 census)	46
3.7	Animal husbandry details of Alappuzha district (1987 livestock census)	47
3.8	Production of important crops in Alappuzha district 1990-91 (in tonnes)	49
3.9	Season-wise area, average yield and production of paddy in Alappuzha district 1990-91	50
3.10	Details of land holdings in Alappuzha district (1981 agricultural census) (area in ha)	52
3.11	Banking profile of Alappuzha district (31st March 1992)	53
3.12	Deposits and advances outstanding (Rs. in lakhs)	53

---

Table No.	Title	Page No.
3.13	District credit plan for Alappuzha district 1991-92 (Amount in Rs.)	55
5.1	Distribution of respondents on the basis of family size	70
5.2	Classification of respondents on the basis of age	71
5.3	Classification of respondents on the basis of educational level	73
5.4	Classification of borrowers according to main occupation	75
5.5	Classification of respondents on the basis of size of holding	76
5.6	Area-wise average operating area of different categories of farmers	78
5.7	Source-wise income of the respondents	79
5.8	Cost of cultivation of paddy ( <i>punja</i> ) at the pooled level for the year 1991-92 (Rs./ha)	83
5.9	Cost of cultivation of paddy ( <i>punja</i> ) in Edathua for the year 1991-92 (Rs./ha)	84
5.10	Cost of cultivation of paddy ( <i>punja</i> ) in Kainakary for the year 1991-92	85
5.11	Return over cost of paddy cultivation ( <i>punja</i> ) 1991-92 (Rs./ha)	89
5.12	Credit requirement, availability and its gap in paddy cultivation (based on 100 per cent paid out cost of cultivation) (Amount in Rs.)	91
5.13	Credit requirement, availability and its gap in paddy cultivation (based on 75 per cent paid out cost of cultivation)	92

---

Table No.	Title	Page No.
5.14	Scale of finance for short-term agricultural loan 1991-92	94
5.15	Utilization of crop loan for paddy cultivation by the borrowers	101
5.16	Time of disbursement of the loan in the study area	104
5.17	Relationship between delay in receipt of loan and its use for purpose other than stipulated	106
5.18	Comparison of components of cost of cultivation with components of crop loan (Amount in Rs.)	108
5.19	Classification of the borrowers on the basis of repayment of the loan	110
5.20	Repayment position of the farmers in the study area	112
5.21	Reasons attributed to non-repayment by the farmers in the study area	115
5.22	Educational level of non-defaulters and defaulters	117
5.23	Classification of non-defaulters and defaulters on the basis of size of holding	119
5.24	Occupation-wise classification of non-defaulters and defaulters	120
5.25	Classification of non-defaulters and defaulters on the basis of variety used	125
5.26	Classification of non-defaulters and defaulters based on fertilizer consumption	124

---

---

Table No.	Title	Page No.
5.27	Classification of non-defaulters and defaulters on the basis of time of sowing	125
5.28	Classification of non-defaulters and defaulters on the basis of incidence of pest/disease	127
5.29	Classification of non-defaulters and defaulters on the basis of occurrence of natural calamities	128
5.30	Classification of non-defaulters and defaulters based on time of loan disbursement	130
5.31	Classification of non-defaulters and defaulters on the basis of input-output ratio	131
5.32	Classification of non-defaulters and defaulters on the basis of marketed surplus	133
5.33	Classification of non-defaulters and defaulters on the basis of mean values	135
5.34	Group mean with regard to selected variables of the non-defaulters and defaulters	137
5.35	Relative importance of the significant variables for non-defaulters and defaulters	141
5.36	Percentage contribution of significant variables to the total distance	143

---

## LIST OF FIGURES

Figure No.	Title	Page No.
1.	Map of Alappuzha district	57
2.	Credit requirement, availability and its gap in paddy cultivation - pooled over area (based on 100 per cent paid out cost of cultivation)	98
3.	Credit requirement, availability and its gap in paddy cultivation - pooled over area (based on 75 per cent of paid out cost of cultivation)	99

## ABBREVIATIONS USED

CCB	-	Central Co-operative Bank
CD ratio	-	Credit Deposit ratio
COIRFED	-	Kerala Co-operative Coir Marketing Federation
DRDA	-	District Rural Development Agency
KAU	-	Kerala Agricultural University
MATSYAFED	-	Kerala State Co-operative Federation for Fisheries Development
MPEDA	-	Marine Products Export Development Agency
NABARD	-	National Bank for Agriculture and Rural Development
PACS	-	Primary Agricultural Credit Society
PCARDB	-	Primary Co-operative Agricultural and Rural Development Bank
RBI	-	Reserve Bank of India
SCARDB	-	The State Co-operative Agriculture and Rural Development Bank
SBT	-	State Bank of Travancore

# *Introduction*

---



## INTRODUCTION

In traditional farming communities purchased inputs and cash expenses are insignificant. Almost all inputs are farm produced and cash expenses are confined, if at all, to the payment of land revenue and purchase of essential non-farm consumption goods. Yet, in view of the seasonal nature of activities, and comparatively large gestation periods in agricultural production, financial resources generated within, particularly for the weaker sections of the farming community, were inadequate resulting in demand for credit. However, credit requirements of traditional agriculture are not very significant. With modernization of agriculture, there has been a substantial change in the complexion of paid out costs and consequently, need for cash. Cash expenditure is involved in respect of most of the inputs such as improved seeds, fertilizers, pesticides etc. By and large wages are also mostly paid in cash. In spite of better productivity and income in modern agriculture, the higher cash outlays have also substantially increased demand for credit. Whereas practitioners of traditional agriculture, particularly the small holders, could even manage without resorting to borrowing, it is hardly the case with practitioners of modern agriculture. Credit has become an indispensable 'input'. In

fact, in all modern economic activities, credit plays an important role and agriculture cannot be an exception. This development is not something to be lamented about, for good credit, if well utilized, could play a vital role in the growth of firms.

Credit institutions inclusive of commercial banks were reluctant to finance agriculture, being more risk-oriented especially due to the seasonal nature of production. The task of financing agriculture sector had for long been left the exclusive concern of co-operatives. The inadequacy of the cooperatives in credit coverage and their inability to mobilize and deploy resources to match the increased demand for credit resulted in a void-the 'credit gap' in technical jargon.

Commercial banks were drawn into the arena of direct agricultural finance through social control on banks and subsequent nationalisation of the leading commercial banks. The induction of commercial banks into the sphere of agricultural financing was not with a view to generate more competitive atmosphere in rural financing. It was essentially visualised that the role of commercial banks could be complementary to that of co-operatives.

3

Commercial banks provide working capital loans (crop loan) for seasonal agricultural operations as well as medium term loans for improvement of land, provision of irrigation facilities, mechanisation of farming etc. They have adopted recently an 'area approach' under which the aim is to provide intergrated credit facilities to all the eligible farmers of the selected area.

Crop loans are production-oriented short-term credit, provided by institutional sources of finance, for meeting the working capital expenses of various crop enterprises. The viability of the intended programme rather than credit worthiness of the person is the basic criterion of finance under the crop loan scheme. The benefits under crop loan scheme will accrue to all classes of agriculturists as the eligibility for loan is determined on the basis of the area cultivated and the crop grown by them. The loan disbursed under crop loan is broken into two components viz., cash and kind. The former is known as 'A' component and the latter as 'B' component. Since the exact requirement of each farmer is difficult to assess, the Reserve Bank of India recommended the 'per acre scale of finance' for each crop. In cases where cultivation expenses do not exceed 1/3rd of the average value of output per acre, component 'A' is fixed at 1/3rd of the gross produce plus additional labour charges incurred in

production by the farmer. The other portion is paid in kind. It is intended to cover chemical fertilizer and other inputs recommended for each crop.

Inspite of the increased credit availability as a result of the multi-agency approach, the agricultural productivity in Kerala has not been showing any commendable growth. The rationale is that if the aim of the crop loan is to increase agricultural production and productivity of crops, then it is only logical that its disbursement should coincide with the beginning of crop season when farmers need cash, and recover when he possess money when his produce is harvested. Untimely disbursement resulted in chances of misutilization or diversion of the loan taken. The credit supplied is capable of generating the desired result only if it satisfies the credit requirement of the farmer. The credit requirements of the agricultural sector has been steadily increasing with the adoption of new farm technology.

There is little doubt about the fact that unless credit is available to the farmers, almost at their doorsteps, at a reasonable cost and at suitable terms and conditions, the tempo of agricultural revolution cannot be stepped up. As such, availability and utilisation of agricultural credit in time and in adequate quantity tends to become a pre-requisite for a sustained agricultural growth.

Prompt repayment of the loan is of crucial importance for the recycling of the loan as well as to build up confidence amongst the depositors. Mounting overdues affect both financing institutions and farmers alike. They erode the financial strength of the institution and often lead to the collapse of institution. Thus, recovery performance is a measure of operational efficiency and managerial competence of financial institutions. Hence, it is essential to understand the factors responsible for the default so that necessary measures can be taken to lessen this burden.

In this backdrop, the present study on - supply, utilization and repayment performance of crop loans of commercial bank in Alappuzha district was undertaken during 1991-92, with the following main objectives:

1. To study the credit requirement, availability and its gap in paddy cultivation.
2. To analyse the extent of utilization of the loan.
3. To analyse the extent of repayment of loan.
4. To identify the factors discriminating the borrowers into non-defaulters and defaulters.

The thesis is divided into six chapters including the present one. A review of the relevant literature is given in chapter two. A brief discription of the area of study, i.e., Alappuzha district is given in the third chapter. The

methodology adopted for collection, analysis and interpretation of data is described in detail in fourth chapter. The results of the study are presented and discussed in detail in the fifth chapter. A summary of the major findings of the investigation is presented in the sixth and the final chapter.

# *Review of Literature*

---

## REVIEW OF LITERATURE

Research work in the field of bank finance for agriculture is scanty since the entry of commercial banks into the field of direct agricultural finance is rather recent. The increasing importance of agricultural credit has prompted many studies on various aspects, such as its demand, supply, utilization and repayment of loans. To justify the present study, a critical review of related literature will be of great use. The literature is reviewed in three sections, such as studies pertaining to (i) credit requirement, availability and its gap (ii) utilization of credit and (iii) repayment of credit.

### 2.1 Requirement, availability and credit gap

Desai and Desai (1969) in their study, on the use and demand for additional farm production credit by the farmers in relation to the institutional credit sources available to them in Gujarat, pointed out that per farm as well as per acre credit use increased continuously as changes were made in agriculture. Their findings also contradicted the common notion that short-term credit was not adequate and it was observed that profitability increased with the use of additional credit.



8

Bhanja (1971) in his study, conducted in the Birbhum district of West Bengal to assess the requirement of credit for the cultivation of high yielding varieties of paddy, pointed out that under the prevailing situations, an additional cash expenditure of Rs.339 per acre was required on an average in the process of switch over from local to high yielding variety (HYV). The cash expenditure for HYV paddy was higher in the large farms compared to the small farms. But the large farmers, being financially stronger required small amount of loans.

Gard and Shrivastava (1971) attempted to find out the short term credit requirement of traditional farms for crop production with the adoption of modern technology in Kanpur. The study revealed that traditional farms could not follow modern technology due to lack of additional cash inputs required for adopting high yielding crops. Credit needs per hectare of the traditional farms showed an increasing tendency with the increase in the size of the farms.

Gill *et al.* (1971) in their study on assessment of short term production credit needs of small farmers in Amritsar district, Punjab, observed that capital and credit requirement per acre on the basis of agro-climatic conditions shall be the criterion for determining different scales of

funds. The provision of short term credit may be linked with the available cash which will check the misuse of funds.

Singh and Jha (1971) conducted a study to estimate the short term production credit requirements and its impact on farm income in three selected villages in the Union Territory of Delhi. The analysis revealed that the existing capital requirements were comparatively higher on the high income farms, but the requirements of the low income farmers were generally much higher.

Subramanian and Ramamoorthy (1971) in their study to assess the requirement, supply and shortfall of farm credit revealed that credit is a must for farming and 78.89 per cent of the sample farmers required credit. The total requirements of credit increases with an increase in the size of farms. The requirement and supply are the largest in the small group of farms with the highest credit gap and for medium and large farms the credit gap was small.

Ramamoorthy (1972) in his study conducted in two firkas of Madurai district of Tamil Nadu observed that 40 per cent of the farm expenses were met by borrowings. Requirement and supply were found to be highest for small farms and a greater share was met by the money lenders.

Bihari *et al.* (1975) in their study in Faizabad district of Uttar Pradesh, to find out the credit requirement of small farmers under the existing technology and optimum level of resource use, observed that the per hectare credit taken was positively correlated with size of holding.

Galgalikar *et al.* (1975) in their study on small farmers and institutional credit in Akola district, Maharashtra, pointed out that in the case of short term loan advanced to small farmers (with holding upto 7.5 acre) by different institutions, the credit gap was to the extent of 66.73 per cent.

Subramanyan (1975) assessed the quantum of credit requirement that would enable the small farmers to adopt the high yielding technology of paddy cultivation in Tamil Nadu. It was observed that the provision of additional capital resulted in 12 per cent of the total cropped area being brought under high yielding variety of paddy.

Murthy *et al.* (1977) had conducted a study in Bangalore district of Karnataka to assess the crop loan requirements of farmers for paddy under the technologies followed by the farmers, in contrast to those under the recommended practices to examine the utilization of crop loan. The analysis revealed that cost of cultivation under existing

technology was less than the cost of cultivation under recommended technology. Also bank finance was found to be less than cash expenditure in both the cases.

Prasad and Sapate (1977) observed that the District Co-operative Banks of Wardha and Bhandra districts could advance only 23.70 per cent of the actual requirements of the farmer which revealed the existence of a wide gap between the requirements and supply of credit.

Chatterjee and Banarjee (1978) in their study conducted in the Nadia district, West Bengal observed that resource deficiency and credit gap of the paddy farmers are highlighted by the low level of operating expenses in general and by extremely low levels of fertilizer use in particular. The credit gap has been found to be the largest for farms having less than 2.5 acres of land.

Ghosh (1978) while attempting to estimate the demand for agricultural credit in West Bengal found that the general tendency which emerges from the nature of the distribution of loans by both the commercial banks and primary credit societies was an unequal availability of credit and other facilities related to production in favour of farmers with larger size of holdings.

Mohanan (1978) in his study on crop loan system in Cannanore district of Kerala found that technological variations in crop production were not given significant attention while fixing the scale of finance. The element of risk involved and its utility in terms of incremental income derived makes subsistence farmer reluctant to receive the kind component, which explained the phenomenon of credit gap in the study region.

Suryawanshi *et al.* (1978) while examining the availability and requirement of credit to assess the gap existing in the agricultural finance in the Girna Command Area of Maharashtra found that big farmers received a larger share of the loans advanced. Co-operative banks advanced a larger share of loans to the small farmers while the nationalised banks advanced loans more to the large cultivators.

Waghmare *et al.* (1978) in their study on demand for crop loan in Parbhani district of Maharashtra pointed out that the loans advanced for agricultural purposes decreased at a linear rate of 3.42 per cent and there existed a large gap between loans supplied by the financing agency and the estimated requirements of the cultivator.

Jain (1980) examined the functioning of Regional Rural Bank, in Hoshingabad district of Madhya Pradesh and observed

that the per farm crop loans are more for the small farmers as compared to the marginal farmers. The amount required per acre was almost the same for both the categories of farmers with not much variation. The demand for & supply of loans showed that there existed a credit gap of 90.16 per cent in the case of marginal farmers and 84.78 per cent in the case of small farmers.

Gautem *et al.* (1985) while studying the short term production credit requirements in Hissar district of Haryana pointed out that credit requirements for all crops in the district showed an increase of 9.99 per cent over the previous year. The credit disbursed was found to be only half of the total credit required indicating a very large credit gap.

Sisodia and Singh (1987) in their study conducted to assess the adequacy of production credit by estimating the requirement, availability and the credit gap in Aligarh district of Uttar Pradesh found that production credit gap was the highest on small farms and the lowest among large farms which showed the inadequacy of credit availability in all size of farms. The reason for inadequacy of production credit was the inadequate scale of finance fixed by the banks.

Suryawanshi (1988) conducted a study in the Bhima Command area of Western Maharashtra to find the credit requirement and its gap on the farms. He examined the requirement, availability and credit gap in irrigated agriculture and found that there existed a substantial gap in meeting the credit requirements. The study emphasised that the cost of cultivation of crops must be taken into consideration in deciding the loaning policy.

Ramesha (1990) studied the extent of short-term credit gap in different size groups of paddy growers in Puzhakkal block of Thrissur district in Kerala. Based on 100 per cent paid out cost of cultivation the credit gap estimated was the highest in the case of large farms, the lowest in small farms and it was of the order of 77 per cent, 62 per cent and 49 per cent for large, small and marginal farms respectively. Marginal farmers could get about 62 per cent of their requirements from various sources whereas small and large farmers could manage to get only about 55 per cent and 43 per cent of their requirements.

## 2.2 Utilization of credit

Lavania *et al.* (1968) while examining utilization of co-operative credit by the members in Varanasi district of Uttar Pradesh found diversion to the extent of 33 per cent of

which 20 per cent was used for consumption purpose, 5 per cent to meet the capital expenditure, 6 per cent to meet the social obligation and the remaining 2 per cent to meet the non-farm capital expenditure, and the remaining 67 per cent was utilized for the stipulated purpose.

Sharma (1968) in his study on utilization of agricultural credit in Udaipur district in Rajasthan found that out of the total credit borrowed for agricultural production purposes from different agencies, 62 per cent was utilized for the purpose for which it was actually borrowed, 9 per cent for other productive purpose 6 per cent was utilized for repayment of old debt and the remaining of 23 per cent was utilized completely for unproductive purposes. The study further revealed that the proportion of productive utilization increased with the increase in size of holding.

Bhatia *et al.* (1971) in their study in Basti district of Uttar Pradesh observed that the average borrowed input used per hectare was valued at Rs.123/- and it accounted for 15 per cent of the total inputs used per hectare. Out of the total borrowed inputs, 56 per cent accounted for fertilizers and 27 per cent for seeds. The small farmers borrowed relatively higher proportion of the total credit for purchasing seed than large farmers.



Singh (1971) in his study on credit requirements and advances to farmers conducted in the Patiala district of Punjab reported that out of the total production loan advanced, 65.58 per cent was utilized for the purchase of chemical fertilizers. The share of labour, high yielding variety seeds and insecticides/pesticides was found to be 17.94 per cent, 13.28 per cent, 3.2 per cent respectively. The study also revealed that the credit requirement increased with the increase in the size of holding.

Patel and Singh (1975) in their study to find the extent of crop loan utilization in Sabarkantha district of Gujarat observed that large farmers got larger share in total crop loan advanced compared to small farmers. In the case of utilization of loans, a small portion was diverted for other purposes by small farmers while they were utilized properly by medium and large farmers.

Chahal and Chawla (1976) made an attempt to study the loan utilization pattern of farmers using different levels of technology in Punjab. The analysis revealed that among the purpose wise supply of credit, fertilizer accounted for maximum credit availed of by non-mechanised and partially mechanised farms. The utilization pattern of credit showed diversion of productive loans for unproductive purposes.

A study conducted by Galgalikar and Gadre (1978) to assess the misutilization of loan with respect to primary co-operative society in Akola district of Maharashtra revealed that the percentage of misappropriation to the borrowed amount showed a decreasing tendency with the increase in size of holdings. This was found to be maximum in the case of marginal farmers.

Gupta (1978) in his study on loan utilization pattern of farmers in Rajasthan pointed out that out of the total loan received only 1/3rd was mobilized for productive purposes. Those who received large amounts of loan used it for productive purposes and those who availed of small amounts spent it for unproductive purposes.

Singh and Dhawan (1978) in their study on source, utilization and productivity of agricultural credit in Ludhiana district of Punjab found that there was great diversion of short term credit to consumption and the proportion of credit diverted was inversely related to size of holding. About 43 per cent of the short term borrowings were diverted for unspecified purpose by small farmers.

Talukdar *et al.* (1978), while examining the availability and extent of utilization of rural credit in East Jorhat development block of Assam observed that large amount

of diversion of crop loan was found among marginal and large farmers. They also reported that the kind portion of the loan was diverted mostly by marginal farmers while medium farmers utilized the whole of kind portion of loan for productive purposes.

Anandan (1979) in his study at Alandurai, an adopted village in Coimbatore district on the pattern of agricultural financing observed that the crop loans and all other loans disbursed by the State Bank of India were fully utilized for the purposes for which they were taken.

Rajput *et al.* (1980) while examining the purpose and utilization of credit in different farm size groups in a community development block of Bichpuri, Agra found that 70 per cent of the credit was used for productive purposes and the rest was diverted for unproductive purposes. Marginal farmers and small farmers diverted more credit for unproductive purposes.

Venkateshwarlu and Rao (1980) in their study on the pattern of utilization of credit in Guntur district observed that the diversion in the case of short term and medium term loans were less than that of long term loans. The diverted funds were mostly directed towards consumption purposes by small and medium farmers.

Khattry and Chemola (1982) studied the utilization pattern of loan advanced by the Hissar Central Co-operative Bank in Haryana to large farmers, small farmers and non-agriculturists. The analysis revealed that small farmers utilized 60.49 per cent, large farmers 70.2 per cent and non-agriculturists 88.28 per cent respectively of the loan for productive purposes.

Suryanarayana and Chiranjeeoulu (1985) in their study on utilization of farm credit in Srikakulam district of Andhra Pradesh found that of the total credit, 40.91 per cent was utilized for productive purposes and the diversion was mainly to clear old debts and purchase of land. Repayment performance was positively related to productive utilization of credit and because of proper utilization by small and medium size groups, the number of defaulters among them was less as compared to large size groups.

Banakar and Suryaprakash (1987) in their study to identify the extent of loans sanctioned to various size groups of farmers and their utilization in irrigated and unirrigated area of Harapanahalli taluk in Karnataka state found that small and medium farmers received a lower proportion of the loans compared to large farmers. The utilization pattern of loans for various purposes indicated that irrigated farms spent a fairly higher share on seeds and fertilizers while

unirrigated farms on fertilizers. Loan misuse was more in the case of small farmers than large farmers.

Patel *et al.* (1987) studied the utilization of farm credit of marginal, small, medium and large farms in Gujarat and concluded that 17 per cent of the farmers availed of loan from non-institutional sources, but a much higher proportion with the exception of marginal farmers still heavily depended on such sources. Seventy per cent of the total loan amount was effectively used in agricultural production.

Radhakrishnan and Mukundan (1988) in their study in supply and utilization of short term co-operative agricultural credit in Palghat district of Kerala observed that around 50 per cent of the holdings of borrowers as well as non-borrowers belonged to the size group of one hectare or less. An inverse relationship was found between the amount of loan per hectare and size of holdings.

Saikia (1988) in his study conducted in Jorhat district of Assam found that the extent of diversion of crop loan for unproductive purposes was 42.96 per cent in the case of both cash and kind loans.

Palanisamy (1989) in his study of the Konganapuram Agricultural Service Co-operative Society in Tamil Nadu made an investigation on the utilization of crop loan, and brought

out the fact that nearly 50 per cent of the beneficiary members fully utilized the loan. There existed a positive relation between the extent of utilization and size group.

Pathania and Varma (1991) while examining the extent of utilization of credit on the basis of size of loan pointed out that the small farmers more significantly utilized the credit than those farmers who borrowed large amounts. Misutilization was found significantly more among the farmers who borrowed low amount of credit.

Shaheena and Rajitha (1991) conducted a study in Meenangadi Service Co-operative bank in Kerala to evaluate the utilization and repayment pattern of loans extended for crop production. Although the repayment of loan was regarded as satisfactory, it was found that large farmers diverted loans to a great extent.

Vaikunthe (1991) conducted a study in Dharwad, Karnataka to analyse the utilization and repayment performance of agricultural credit. The study revealed that 50 per cent of credit in irrigated area and 60 per cent in the non-irrigated area was spent on fertilizers. Misutilization was found to be more in non-irrigated area as compared to the irrigated area. Repayment was more in the case of farmers in the non-irrigated area as compared to the irrigated area.

### 2.3 Repayment of credit

Patil (1967) in his study on repayment of crop loans and causes for their non-repayment in Maharashtra found that defaulters constituted only 27 per cent in large holdings as against 63 per cent in small holdings. The study revealed that small holding size, adverse crop season, total income earned per family, low income earned from agriculture, high domestic expenditure and big family size were the main causes for the non-repayment of loans.

Muthiah (1970) in his study conducted to enquire into the causes for heavy overdues in Raipur district of Madhya Pradesh revealed that the percentage of defaulting members was higher among tenants and small farmers as compared to the overall average. Successive crop failure, social ceremonies and family consumption were the reasons attributed for the default. The study further revealed that the intention of most of the farmers were either not to borrow or to borrow only towards the cost of fertilizers.

Patel and Thakur (1973) in their study to examine the extent of repayment of crop loan in Gujarat pointed out that the number of farmers with overdues were comparatively more in medium farms when compared to small farms. The amount of overdue as well as money borrowed per farmer increased with

increase in the size of holding. The overdue per acre was found to be higher in the case of small and medium farmers as compared to large farmers.

Guruswami and Baluswami (1975) in their study on various factors affecting repayment of loan conducted in Coimbatore district of Tamil Nadu found that 45 per cent of the crop loan was completely diverted from the borrowed purposes to purposes other than agriculture such as repayment of debts (17.14 per cent) and for meeting domestic expenditure (28.1 per cent). It was found that 40.66 per cent of the borrowers diverted the loan due to urgency of other needs and 18.68 per cent because of the non-availability of funds for consumption purpose. The study also revealed that only 39.70 per cent repaid the loan out of their income while 60.30 per cent repaid from borrowings.

Reddy (1976) conducted a study in Visakhapatnam district of Andhra Pradesh for identifying the important characteristics that discriminated the borrowers into non-defaulters and defaulters taking more productive and less productive region. The study revealed that defaulting borrowers were more likely to be literate in the productive region and illiterate in the case of less productive region.



Pandey and Muraleedharan (1977) in their study conducted in Bandra, Uttar Pradesh, on application of discriminant function in agricultural finance had identified the factors such as percentage of income from sources other than crop production to total income, amount of loan utilized for production purpose, per capita consumption expenditure and percentage of cash expenses to total expenses which discriminating the borrowers into two groups as non-defaulters and defaulters. 95

Venkataram *et al.* (1979) in their study to discriminate the loan applicants into defaulters and non-defaulters, found that discriminant function on the basis of selected characteristics will be useful for classifying the loan applicants into defaulters and non-defaulters to reduce the risks of default.

Rao and Rao (1979) clearly brought out that deliberate provision of credit for consumption purpose to small and marginal farmers would obviate the necessity of diversion of funds for unproductive purpose and helps to improve the repayment performance. The small farmers are delinquent but not chronic defaulters and delinquency may be due to inadequate incomes caused by low levels of capital investment and inadequate institutional finance.

Singh (1979) in a study in Sangrus district of Punjab concluded that the most important factors affecting overdues position were the size of operational holdings, farm investments, fixed assets, expenditure in socio-religious ceremonies. Low crop returns, lack of infrastructural facilities and natural hazards also affect overdues position.

Pradhan and Sharma (1981) in their study on factors discriminating the borrowers in crop loan repayment of Allahabad bank, Orissa identified the factors such as size of holding, percentage of loan utilized for crop production, percentage of cash expenditure to total expenditure and efficiency of loaning to classify the farmers into defaulters and non-defaulters.

Singh *et al.* (1982) in a study on financing rural development project in Karnal, Haryana concluded that the magnitude of overdues was lowest in the case of landless labourers (14.27 per cent) followed by lower medium farmers (19.70 per cent), whereas, small farmers registered the highest percentage of overdues followed by large and upper medium farmers in that order (31.0 and 26.4 per cent). The poor recovery and high overdues in case of small and marginal farmers could be ascribed to the diversion of funds for consumption purpose since their crop was damaged due to

adverse climatic conditions and they could not get sufficient income from the crop to repay the loan.

Mohan *et al.* (1984) in their study to classify the defaulters into wilful and non-wilful defaulters and to analyse the socio-economic characteristics associated with, in two selected blocks in Tamil Nadu using Bayers theorem, observed that high probability of non-wilful default is associated essentially with small size holding having low educational and caste status.

Chand and Sindhu (1985) studied the characteristics of defaulters and non-defaulters of agricultural credit in Punjab using discriminant function analysis. The study revealed that application of discriminant function is quite efficient in classifying the borrowers into defaulters and non-defaulters. The higher the values of the ratio of dependents in the family, capital expenditure and total borrowing placed the borrowers into defaulters group and vice-versa, whereas higher level of education contributed towards non-default.

Singh *et al.* (1985) conducted a study in Ludhiana district of Punjab and observed that the extent of relative loan default was higher in case of large farmers as compared to other categories of borrowers. It was inferred that in

Punjab by and large, wilful default is a problem in general and particularly in case of medium and large farmers.

Naidu *et al.* (1986) in their study on defaulter characteristic by using Bayers theorem observed that credit users belonging to higher caste, having large holdings, with higher percentage of educated family members, with larger borrowed amounts of loan and with higher farm and non-farm income had greater possibility to become defaulters.

Mahlan *et al.* (1986) while studying the socio-economic characteristics affecting repayment of loans in Ludhiana district in Punjab pointed out that discriminant analysis was an efficient estimate to identify the borrowers into defaulters and non-defaulters.

Balishter and Singh (1987) in their study in Bichpuri block of Agra with a view to estimate the extent of wilful default in different farm size groups and to examine the reasons of non-repayment by wilful defaulters pointed out that none of the marginal farmers, seven per cent of small farmers, 80 per cent of medium farmers and all the large farmers were wilful defaulters. Forty three per cent of total defaulters were wilful defaulters and they were mainly confined to medium and large farmers, the former to the extent of over 80 per cent and latter to the extent of cent per cent.

Goyal and Panday (1987) in their study on factors affecting overdues in Hissar district of Haryana used regression analysis to investigate the socio-economic characteristics of defaulters and non-defaulters. The analysis revealed that delays in loan repayment were influenced mainly by the amount of loan outstanding, the relative importance of consumption expenditure in total household expenditure and the number of income earners in relation to household size.

Kalyankar and Rajmane (1987) in their study conducted in Parbhani district of Maharashtra used discriminant function to distinguish between non-wilful crop loan defaulters and wilful defaulters. The characteristics identified for the discrimination were size of holding, proportion of area under cash crops, family consumption expenditure, total agricultural income and initial amount of loan.

Mehta and Prasher (1987) in their study on credit in agriculture conducted in Bilaspur district in Himachal Pradesh with a view to find out the factors responsible for overdue position of farmers using discriminant function analysis concluded that size of holdings, operational size, percentage of area under HYVs to the total operated area, per hectare fertilizer used in rupees and working capital in

rupees per hectare were the major characteristics which classified the borrowers into defaulters and non-defaulters.

Sai *et al.* (1987) conducted a study in West Godavari to examine the overdue pattern and to isolate the reasons for irregular repayment and/or non-repayment of loans, found that 59 per cent of the sample farmers were defaulters. Out of them 38.75 per cent were medium farmers followed by marginal and small farmers. The main reason for the default in all the size groups was late accrual of income from the sale of the produce, crop failure, etc.

Borthakur (1988) in his study on the impact of short-term loans in Jorhat district of Assam concluded that the marginal farmers required the lowest amount of short term loan during both kharif and rabi seasons in comparison to their large counterparts. The ratio of net return to short term loan in respect of marginal, small and medium farmers were estimated to be 1.28, 1.27, 1.1 respectively, and thus, indicated a higher productivity of short term loan in marginal farms than small and medium farms.

Bhosale and Danget (1988) in their study on the overdue of co-operative loans in Kolhapur district in Maharashtra pointed out that the per farm short term borrowings increased with the increase in the size of

holdings. Main reasons attributed to the non-repayment were low income, non-remunerative prices for the produce and crop failure due to natural calamities.

Dhyani and Tewari (1988) in their study to identify the discriminating variables of defaulters and non-defaulters of crop loan in Ranpur district, Uttar Pradesh, found that the variables considered are turned out to be significant discriminators based on stepwise regression, discriminant and modified discriminant analysis are, behaviour characteristics, irregularity of borrower, farming efficiency, outstanding debt, per acre value of farm asset and social status.

Gupta (1988) while examining the problems of loan recoveries in Jabalpur district in Madhya Pradesh pointed out that 41.69 per cent of the loan was repaid by the sample farmers and the overdue accounted for 58.31 per cent of the total loan advanced. The recovery performance of crop loans was found comparatively less than term loans. The recovery of overdues was associated with the size of holding, percentage of irrigated area, cropping intensity and per capita income.

Singh *et al.* (1988) in their study of overdues of loans in agriculture in Agra district of Uttar Pradesh with a view to assess the extent of overdues among defaulters in different size groups found that large farmers accounted for

27 per cent of default and 42 per cent of total overdues. Medium farmers accounted for about 42 per cent of total default and 27 per cent of total overdues. Large farmers were responsible for large proportion of overdues.

Patel (1989) studied the recovery performance of direct agricultural advances of scheduled commercial banks in Patiala district in Punjab. From the sample farmers 62 per cent considered good yield as major factor followed by the remunerative prices of products for better recovery. The proportion of defaulters is reported to be large in case of farmers with unirrigated farms and those using hired private irrigation facilities.

Palanisamy (1989) conducted a study in Salem district of Tamil Nadu to find out the extent of crop loan repayment and to analyse the problems associated with it. It was observed that a relatively large overdues on the part of small farmers and a relatively small overdues on the part of both medium and big farmers. The common problems associated with repayment of loan were crop failure due to drought, low production and increasing family expenditure.

Chengappa (1990) used discriminant function analysis as a tool to classify the borrowers of Coimbatore taluk into potential defaulters and non-defaulters based on the



characteristics selected. The discriminant function which considered simultaneously all the characteristics was effective in classifying the individuals into their respective groups.

Arunachalam and Palanisamy (1991) examined the magnitude of diversion of crop loan and the reasons for non-repayment in Salem district of Tamil Nadu. Crop failure due to drought which account for 52 per cent of non-repayment, low production to the extent of 34 per cent and increasing family expenditure are the difficulties which obstructs repayment. There is positive association between size group and the extent of repayment of crop loan.

Lokanadhan and Varadharajan (1991) studied the diversion, scale of finance and repayment of crop loan in primary co-operative bank of North Arcot district. The scale of finance is not enough to cover the cost of cultivation of all the crops and the gap is about 50 per cent in sugarcane, paddy (HYV) and groundnut crops. Diversion of crop loan was to the extent of 14 per cent and 18 per cent repaid the loan within the due date. Reasons identified for the non-repayment are size of income and its variation, time of sale of the produce, educational status etc.

Rambabu *et al.* (1991) examined the repayment behaviour of farmers in Guntur district of Andhra Pradesh which may have

contributed to the high rate of default of farm credit. Eighty six per cent of the borrowers repaid the borrowed amount in time, 12 per cent repaid partly, and 2 per cent did not repay. Desire for getting future loan, wish to be honest and prompt and good market price for the produce were some important reasons for regular repayment.

Thomas *et al.* (1992) studied the viability of co-operative credit by analysing crop loans for paddy in Thrissur district of Kerala with respect to the repayment position. The study revealed that 48 per cent of the respondents had not repaid the amount fully in time. Diversion of farm credit, lack of alternative sources of income, and excessive spending for social consumption purposes were the reasons for poor repayment.

Sharma (1992) conducted a study to assess the role of commercial banks in financing crop loans in Kasimkota block of Visakhapatnam in Andhra Pradesh. The recovery performance of crop loan for sugar cane indicated that 50 per cent of the respondents could not repay the due amount owing to the low yield. For the 35 per cent increasing family consumption was the significant factor and the remaining 15 per cent complained that they did not receive the loan amount at the hour of the need.

*Area of Study*

---

## AREA OF STUDY

Alappuzha district situated in the south western part of Kerala is bounded by Pathanamthitta and Kottayam districts in the east, Ernakulam district in the north, Quilon district in the South and Arabian sea in the west. The district which came into existence in 1957 underwent reduction in the geographical area when certain portion was ceded for the formation of a new district of Pathanamthitta in 1982. It is the second smallest district in the state with an area of 1256 sq.km. Administratively, the district is divided into twelve community development blocks and five municipal towns. The district comprises of 65 panchayats spread over 787 wards.

### 3.1 Physiographical features

The district has three distinct regions. The eastern region comprises of blocks of Bharanikavu and Chengannur. The topographical peculiarity of this region is the existence of highlands and scattered hillocks. The central region spreads over blocks of Mavelikkara, Veliyanad and Champakulam. Kuttanad, the rice bowl of the state is located in this region. A part of Champakulam and Veliyanad blocks lie two metres below mean sea level. This is the most industrially backward region in the district. The western region

encompasses blocks of Thycattussery, Pattanakad, Kanzhikuzhy, Aryad, Ambalapuzha, Haripad and Muthukulom and is densely populated.

### 3.2 Climatic condition

The district has a warm and humid climate, the coastal regions being warmer than the interior regions. The temperature ranges from 20°C to 35°C. The four main seasons are:

Dry weather (December to February)

Hot weather (March to May)

South-west monsoon (June to September)

North-east monsoon (October to November)

### 3.3 Precipitation

The district's normal rainfall is 2964 mm, mostly from the south-west monsoon. Average rainfall is 2679 mm. The north east monsoon also brings some rain. Most of the rainfall occurs in a few months, resulting in floods and huge waste of water. It is also observed that variation of rainfall from year to year is negligible. Table 3.1 shows monthly rainfall in Alappuzha district. Velocity of wind recorded at Alappuzha is highest in Kerala, i.e., 11.7 km/hr compared to state average of 7.9 km/hr.

Table 3.1 Normal and average monthly rainfall in Alappuzha district 1990-91 (in mm)

Normal	Normal	Average
January	25	02
February	27	00
March	56	42
April	129	113
May	323	164
June	637	1087
July	547	495
August	327	445
September	271	28
October	333	236
November	228	63
December	61	04
	2964	2679

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

### 3.4 Soil types

Four types of soils are mainly found in the district and the types vary from region to region. Sandy, peaty, alluvial and laterite are the types of soil found. While sandy predominates in the western portion of the western region, peaty or *kari* soil occurs in a small belt on the eastern portion of Shertallai and Ambalapuzha taluks and western portion of Kuttanadu taluk. Alluvial soil occurs in the remaining portion of Kuttanadu taluk, north-eastern portion of Karthikappally taluk, western portion of Chengannur taluk and north-eastern side of Mavelikara taluk. The remaining portion of Chengannur and Mavelikkara taluks is of laterite soil.

### 3.5 Agro-climatic zones

Agro-climatically the district is divided into two broad divisions, i.e., lowlands and midlands. Actually the entire district can be categorised into four agro-climatic regions viz., Onattukara region, Costal sand area, southern midland and Kuttanad region. Onattukara region covers Kayamkulam, Mavelikkara, Muthukulam *kayal* lands and Haripad. Costal belt consists of Ambalapuzha, Alappuzha, *kari* land region, Kanzikuzhy *kari* land, Sherthalai, Pattanakad *kari* land area and Thycattussery. Southernmidland covers Bharanikavu

and Chengannur alluvial tract and Kuttanad region covers Chempakulam.

### 3.6 Water resources

Pampa, Manimala, Meenachil and Achencoil rivers are the main water resources of the district. Besides, Vembanad lake and Kayamkulam backwaters are seen in this area. All the rivers flowing here drain a total catchment area of about 6258 sq.km discharging about 561000 mcft of water annually. Vembanad lake is prone to salinity during summer due to intrusion of sea water but the same is controlled by the Thanneermukkom regulator across the narrowest portion of the lake between Thanneermukkom and Vechoor. This is the largest mud regulators of its kind in India which prevents tidal action and intrusion of saline water into Kuttanad region. Backwaters cover an area of 264.20 sq.km. The low lying regions of Vembanad lake along its southern borders have been reclaimed by constructing bunds and dewatering the area within the bunds. Thottappally spill way, 368 m long was designed to discharge about 64000 cusecs of water during monsoon to avoid flood in Kuttanad. But the spill way could only discharge about 20000 cusecs of water. To prevent the intrusion of sea water during summer months, a barrier was constructed 1402 m long at Thanneermukkom.



### 3.7 Irrigation

The district is rich in water resources. The main irrigation projects are Pamba and Muvattupuzha. Net area irrigated is 26515 ha. The different sources of irrigation are canals, tanks, and wells in addition to minor and lift irrigation. The net area irrigated source-wise is shown in Table 3.2. Paddy and coconut are the main crops irrigated as revealed by Table 3.3.

### 3.8 Demographic features

As per 1991 census the district has a population of 19.90 lakhs with a density of 1408/sq.km which is twice that of the state and six times that of the country. The total number of households were 311802. Literacy rate in the district is 83.61 per cent which is higher than the state level. Number of female population is higher than that of males and the sex ratio is 1061 females for 1000 males. Literacy rate among men is 85.62 per cent whereas it is 81.72 per cent among females. Total number of SC and ST families were 28715 and 523 respectively and the SC/ST population were 155111 as per 1981 census.

Table 3.2 Net area irrigated (source-wise) in Alappuzha district 1990-91 (in ha)

Source	Area	Percentage
Government canal	1888	7.12
Private canal	8	0.03
Government tanks	54	0.20
Private tanks	17049	64.30
Government wells	16	0.06
Private wells	1395	5.26
Minor and lift irrigation	2572	9.70
Others	3533	13.33
<b>Total</b>	<b>26515</b>	<b>100.00</b>

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

Table 3.3 Crop-wise irrigated area in Alappuzha district  
1990-91 (in ha)

Crop	Area	Percentage
Paddy	5675	18.09
Tubers	596	1.90
Vegetables	497	1.59
Coconut	21171	67.50
Arecanut	195	0.62
Clove and Nutmeg	82	0.26
Other spices/condiments	324	1.03
Banana	82	0.26
Betalvine	62	0.20
Sugarcane	45	0.14
Others	2638	8.41
Total	31367	100.00

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

### 3.9 Land utilization pattern

The total geographical area of the district is 136058 ha, out of which 173768 ha was under cultivation at the end of 1991. Higher land utilization has been attributed to favourable conditions prevailing in the district for agricultural operations. It is also partly on account of the fact that there is no forest land in the district. Land utilization pattern is depicted in Table 3.4.

### 3.10 Cropping pattern

Paddy, coconut and tapioca are the major crops in the district. Banana, sugarcane, vegetables, pulses, pepper and sesamum are also cultivated. Paddy is grown in three crop seasons, viz., *virippu* (kharif), *mundakan* (rabi) and *punja* (summer). The cropping pattern is given in Table 3.5. While comparing the area under paddy in 1989-90 with that of the previous year, the increase in area was found to be marginal at 0.2 per cent.

Major share of paddy acreage in Alappuzha district is concentrated in Kuttanad area region. *Punja* is the main season for cultivation of paddy in Kuttanad. Usually it starts after the cessation of north east monsoon and before the intrusion of salt water during summer months. Sowing starts from September-October and peak period of harvest is January. One

Table 3.4 Land utilization pattern in Alappuzha district  
1990-91 (area in ha)

Category	Area	Kerala
Total geographical area	136058	3885497
Forest	--	1081509
Land put to non-agricultural uses	23546	297381
Barren and uncultivable land	271	58308
Permanent pastures and other grazing land	5	1912
Land under tree crops not included in net area	191	34375
Cultivable waste	2049	94608
Fallow other than current fallow	1612	26466
Current fallow	2706	44164
Net area sown	105678	2246774
Area sown more than once	68090	796270
Total cropped area	173768	3043044

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

Table 3.5 Cropping pattern in Alappuzha district 1990-91

Crop	Area (in ha)	Percentage to total cropped area
Paddy	60675	34.92
Pulses	338	0.19
Sugarcane/Palmyrah	584	0.34
Spices and condiments	4570	2.63
Fruits	18235	10.49
Vegetables	14384	8.28
Coconut	66664	38.36
Sesamum	2885	1.66
Other oil seeds	148	0.09
Drugs and Narcotics	54	0.03
Coffee	23	0.01
Rubber	2901	1.67
Cocoa	848	0.49
Fodder crops	158	0.09
Green manure crops	145	0.08
Other non-food crops	1156	0.67
Total cropped area	173768	100.00

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

additional crop of paddy is also grown during *virippu* season (April-May to August-September). The paddy lands in Kuttanad are classified under three categories namely *karappadam*, *kayal* and *kari* lands with reference to elevation, geographic formation and soil characteristics. *Karappadam* lands are generally situated along with waterways and constitute lower reaches of east and south periphery of Kuttanad. *Kayal* lands are the recently reclaimed lands from Vembanad lake. *Kari* lands are situated in Ambalapuzha and Vaikom taluks and is peaty and marshy in nature. The special features of *Punja* cultivation is construction of outer ring bunds and pumping out of water before the fields are prepared. Dewatering was done by *chakram* and *petti* and *para* system.

### 3.11 Occupational pattern

The occupational pattern of the working population in the district is depicted in the Table 3.6. It may be seen from the table that farmers and agricultural labourers together constitute about 32.5 per cent of the total work force highlighting the fact that the economy is essentially farm based.

### 3.12 Animal Husbandry

The economy affords scope for promotion of animal husbandry activities, especially dairy development. Table 3.7

3.6 Occupational pattern of working population of Alappuzha district (1991 census)

Particulars	Number	Percentage
Cultivators	48001	8.15
Agricultural labourers	143707	24.39
Household industry workers	70364	11.94
Other workers	327068	55.52
Total main workers	589140	100.00

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala



Table 3.7 Animal husbandry details of Alappuzha district  
(1987 livestock census)

Particulars	Number
Plough animals	3641
Dairy animals	
Cattles	132880
Buffaloes	5347
Sheeps	2746
Goats	86373
Pigs	387
Poultry	1290625

Source: Potential Linked Plan for 1993-94, Alappuzha district,  
NABARD

reveals livestock census. The central hatchery at Chengannur is the main source of supply for broiler and layer birds in the development of poultry. Certain pockets in the district have scope for duck rearing.

### 3.13 Fisheries

With a coastal line of about 80 km, fisheries is a major economic activity in the district. The coastal belt is rich with marine resources. There are about 30 marine coastal fishing villages. The Kerala State Co-operative Federation For Fisheries Development (MATSYAFED) implements welfare schemes for fishermen. The Marine Products Export Development Authority (MPEDA) is working to popularise brackish water prawn farming.

### 3.14 Production of crops

Production of important crops in Alappuzha district is shown in Table 3.8. Total production of rice in the year 1990-91 was found to be 131663 tonnes. Coconut, which is the second major crop in the district has an annual production of 245 million nuts. Productivity of coconut has declined over the years. There is a vast scope for vegetable cultivation in the district and commercial vegetable cultivation is slowly catching up.

Table 3.8 Production of important crops in Alappuzha district 1990-91 (in tonnes)

Crop	Production
Rice	131663
Pulses	294
Sugarcane	2989
Black pepper	274
Dry ginger	182
Betel nut (million nut)	165
Tamarind	1147
Mango	11004
Jack ('000 nos)	6551
Banana	6214
Tapioca	121342
Papaya	4514
Sesamum	450
Coconut (million nuts)	245
Rubber	4370
Cocoa	688
Cashewnut (raw)	2263
Nutmeg	26

Source: Farm Guide, 1993, Farm Information Bureau,  
Government of Kerala

Table 3.9 Season-wise area, average yield and production of paddy in Alappuzha district 1990-91

Variety	Season	Area under paddy (in ha)	Average dryyield (in kg/ha)	Production (in tonnes)
Local variety	<i>Virippu</i>	5925	1558	6063
	<i>Mundakan</i>	9982	2699	17701
	<i>Punja</i>	2942	3641	7047
High yielding variety	<i>Virippu</i>	12179	1874	156662
	<i>Mundakan</i>	13059	4683	40178
	<i>Punja</i>	11245	3986	29448

Source: Farm Guide, 1992, Farm Information Bureau,  
Government of Kerala

Season-wise area, production and productivity of paddy is given in Table 3.9. Maximum productivity was recorded during *punja* season followed by *virippu* and *mundakan* both in the case of local and high yielding varieties of paddy.

### 3.15 Agricultural land holdings

The agricultural census 1981 brings out the fact that the land holdings in the district are very much fragmented and of uneconomic size posing serious viability problems. Details are shown in Table 3.10. It may be seen that nearly 93.3 per cent of land holdings are less than one hectare, the corresponding figures for the state is 91.4 per cent. The above phenomenon is indicative of the fact that marginal farmers are predominant in the district.

### 3.16 Banking network

At the end of 1991, there were 201 branches of 25 commercial banks operating in the district. The total deposits and advances outstanding of all commercial banks stood at Rs.55,651.40 lakhs and Rs.25,900.84 lakhs respectively with CD ratio at 43.9 per cent, and those of Central Co-operative Bank were Rs.4610.14 lakhs and 3244.02 respectively with CD ratio at 70.4 per cent. All the blocks and municipal areas are served by a fairly well spread banking network. Banking profile is given in Tables 3.11 and 3.12.

Table 3.10 Details of land holdings in Alappuzha district  
(1981 Agricultural Census) (area in ha)

Size of holding	Number of holdings	Percentage
Upto 0.99	361463	93.33
1 to 1.99	18963	4.91
2 to 3.99	5556	1.43
4 to 9.99	1211	0.31
10 and above	88	0.02
Total	387281	100.00

Source: Potential Linked Rural Credit Plan, Alappuzha District, (1989-90 to 1994-95), NABARD

Table 3.11 Banking profile of Alappuzha district (31st March 1992)

Institution	Number of branches	CD ratio
Commercial banks	201	43.9
PCARDBs	4	
CCBs	28	70.4
PACSS	192	

Source: Potential Linked Plan for 1993-94, Alappuzha District, NABARD

Table 3.12 Deposits and advances outstanding (Rs. in lakhs)

Institution	1989-90		1990-91	
	Deposits	Advances	Deposits	Advances
Commercial banks	47318.58	24044.67	55651.40	25900.84
CCBs	4165.22	3339.23	4610.14	3244.02

Source: Potential Linked Plan for 1993-94, Alappuzha District, NABARD

### 3.17 Co-operative institutions

The Alappuzha District Co-operative Bank Ltd. functioning with its headquarters at Alappuzha has got a network of 201 branches. The State Co-operative Agricultural and Rural Development Bank (SCARDB) has its regional office at Alappuzha and there are four Primary Co-operative Agricultural Rural Development Banks (PCARDBs) operating in the district. There are 28 branches of Central Co-operative Bank (CCB). The grass root level organisations are fairly strong and there are 192 Primary Agricultural Credit Societies (PACs), out of which only 135 are functioning. Coir production is a predominant industrial activity and the headquarters of the apex federation, Kerala Co-operative Coir Marketing Federation (COIRFED) is situated here.

### 3.18 Lead Bank Scheme

The Lead Bank Scheme was launched in this district in 1969 and State Bank of Travancore was entrusted with the responsibilities of the Lead Bank. Progress in the implementation of the credit plan prepared by the bank is shown in Table 3.13. It shows over achievement of targets, eventhough there was shortfall in respect of agriculture.



Table 3.13 District credit plan for Alappuzha district  
1991-92 (Amount in Rs.)

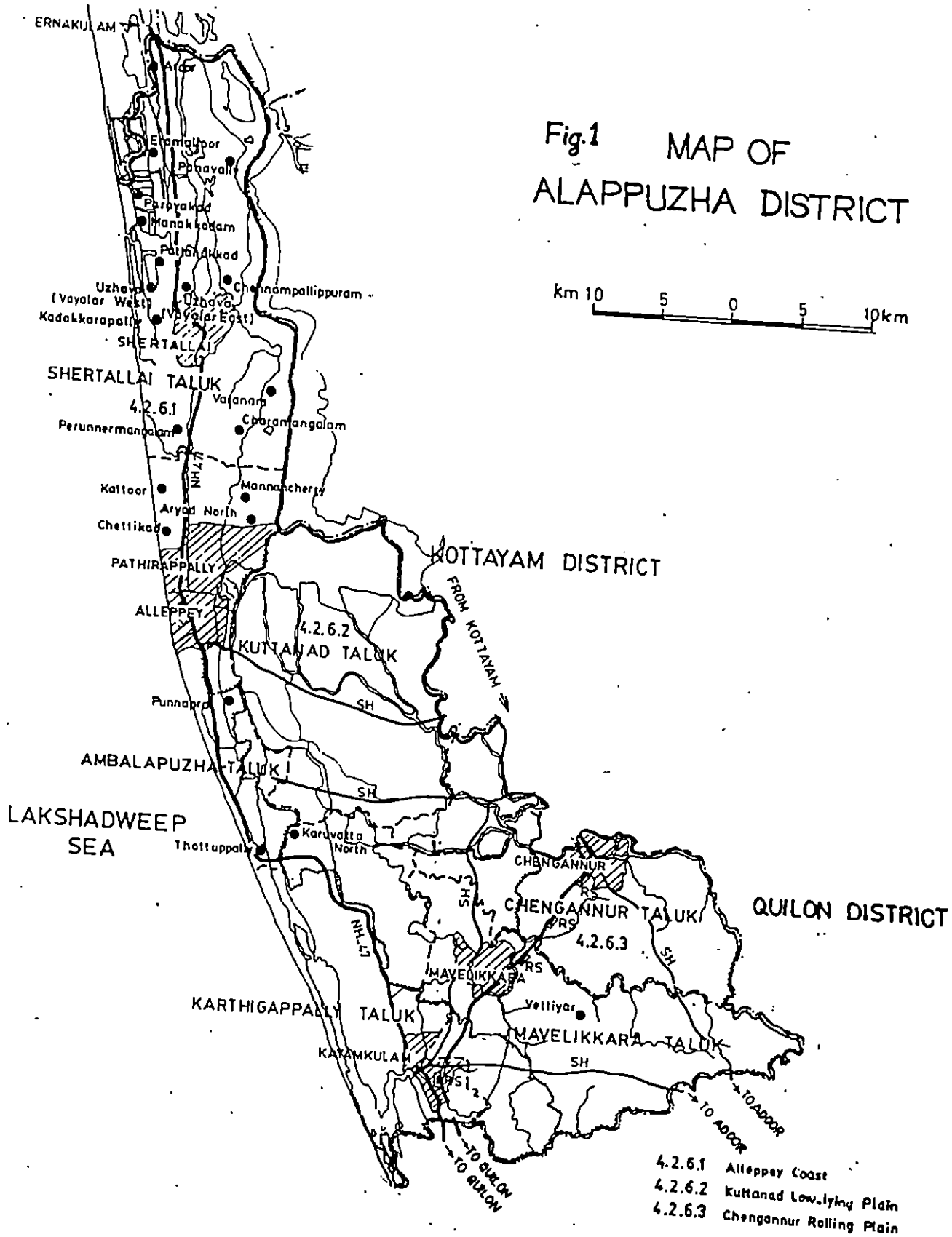
Schemes	Number	Target	Achievement
Agriculture			
Crop loan	66220	192167	170985
Term loan	2116	112176	61759
Rural artisans, cottage and SSI	6322	90021	119216
Trade and services	30574	146237	115533
Total priority sectors	124285	540601	467493
Non-priority sectors	150455	425874	379028
Grand total	274740	966475	846521

Source: Annual Credit Plan 1991-92, Alappuzha District, SBT

### 3.19 Service area concept

The service area approach was adopted for rural economic development. Commercial bank branches have been allocated service areas comprising of a few panchayat wards and they are to confine their lending to the assigned service area. There are 151 service areas in the district. The service area approach started operating from 1st April 1989.

Fig.1 MAP OF ALAPPUZHA DISTRICT



- 4.2.6.1 Alleppey Coast
- 4.2.6.2 Kuttanad Low-lying Plain
- 4.2.6.3 Chengannur Rolling Plain

## *Results and Discussion*

---

## *Methodology*

---

## METHODOLOGY

As mentioned earlier, the present study attempts to analyse the supply, utilization and repayment performance of crop loans of commercial banks in Alappuzha district with special reference to paddy. Out of total crop loans disbursed in Alappuzha district, a major share is distributed for paddy cultivation. Data needed for the study have been generated through a sample survey of borrowers.

### 4.1 Sampling procedure and collection of data

The study is based on primary data. Two stage random sampling method has been adopted for the selection of sample. The first stage sample involves branches of the lead bank and the second stage the borrowing farmers. State Bank of Travancore (SBT) is the lead bank of the district. There are 53 branches of SBT in Alappuzha district. From the list of branches with more than 60 crop loan accounts for paddy for *punja* season (October-January) 1991-92, two branches were selected at random. The two selected branches Edathua and Kainakary, come under Champakulam block of Kuttanad. The service area of Edathua branch comprises of second, third, fourth and eighth wards of Edathua panchayat and the first

ward of Thakazhy panchayat. The service area of Kainakary branch consists of first, second, third, fourth and eighth wards of Kainakary panchayat.

A sample size of 120 borrowers for paddy cultivation were selected from the list of borrowers of each branch 60 numbers were selected at random. The borrowers were grouped into two, viz., non-defaulters and defaulters. The non-defaulters are those who repaid the loan within the due date and defaulters are those who did not repay the loan within the due date. The due date fixed for *punja* by the scale of finance fixing committee is the last Friday of May. Out of the sample of 120 borrowers, 55 were defaulters and the remaining 65 were non-defaulters. Among the total sample selected 32 non-defaulters and 28 defaulters were from Edathua branch and the rest 33 non-defaulters and 27 defaulters from Kainakary branch.

Data for the study were collected from these sample through personal interview using a well structured and pre-tested interview schedule. The information on the costs and returns of paddy cultivation, credit requirement and utilization and repayment of the loan were collected. The study period was 1991-'92 and the data was collected during 1992-'93. Post-stratification of the sample based on the size of holding was done and analysis was carried out separately

for different strata and also at the pooled level. The size classification adopted is given below:

Class	Area (ha)
Marginal farmers	0-1
Small farmers	1-2
Large farmers	Above 2

## 4.2 Analytical procedure

### 4.2.1 Credit requirement

Paid out cost of cultivation was taken as the base for estimating the short term production credit (crop loan) requirement for paddy cultivation. Cost of cultivation consists of labour cost and material cost for cultivating one hectare of paddy. Labour cost includes cost of human labour, animal labour, machine/tractor labour. Expenses on activities such as bunding, sowing, transporting and miscellaneous operations, if any, are treated as the items in the labour cost. The components of material cost are cost of seed, fertilizer, plant protection chemicals, irrigation, interest on borrowing and miscellaneous inputs. The following criteria were adopted for the estimation of credit requirement (Ramesha, 1990). The first are, i.e., 100 per cent paid out



cost of cultivation which is based on the consideration that short term production credit is self-liquidating type which is recovered from gross returns from the crop. The second criterion used for estimating the credit requirement is the normally adopted present practice of keeping 25 per cent cost of cultivation as margin. Here 75 per cent of cost of cultivation is considered as the credit requirement.

#### 4.2.2 Credit availability

Credit availability is the amount of credit disbursed by the bank based on the scale of finance fixed for the crop during that season in the locality.

#### 4.2.3 Credit gap

This term refers to that part of credit requirement of the farmer based on the criteria of full paid out cost of cultivation and 75 per cent of paid out cost of cultivation which is not met by the bank. In other words it means the difference between credit requirement and credit availability per borrower and is calculated by using the following formula:

$$\text{where, } C_g = C_r - C_a$$

$$C_g = \text{Credit gap}$$

$$C_r = \text{Credit requirement}$$

$$C_a = \text{Credit available}$$

#### 4.2.4 Utilization of loan

Frequency distribution was used for the study of utilization of loan. To find out the extent to which the loan was utilized for the purpose for which it was taken, a farm level comparison was made. The comparison was made between cash component of the loan and that of labour cost, and kind component with the material cost. Timing of loan was also used as another measure of proper utilization of the loan.

#### 4.2.5 Repayment of loan

The repayment performance of the sample farmers were worked out with the help of percentage analysis. Frequency distribution was used as a tool to arrive at various reasons for non-repayment of loan. To identify the factors which discriminate among the borrowers between non-defaulters and defaulters, linear discriminant function analysis and tabular analysis were carried out.

#### 4.2.6 Factors discriminating defaulters and non-defaulters

##### 4.2.6.1 Tabular analysis

Based on the review of literature the following variables are selected:

- educational level
- type of farmer

- main occupation
- variety
- operating area
- percentage of crop production income to total agricultural income
- percentage of crop production income to total income of the farmer
- consumption expenditure
- fertilizer consumption
- time of sowing
- incidence of pest/disease
- natural calamities
- disbursement of loan
- input-output ratio
- marketed surplus
- credit gap

The percentage contribution of all the selected variables which discriminate between non-defaulters and defaulters were worked out. Contribution of individual variables for both the areas and at the pooled level was calculated for both non-defaulter group and defaulter group.

#### 4.2.6.2 Linear discriminant function analysis

Linear discriminant function analysis (Tintner, 1952) was also adopted to identify the variables that are important

for discriminating non-defaulters and defaulters and to classify borrowers into non-defaulters and defaulters on the basis of the difference in the selected characteristics (Pandey and Muraleedharan, 1977).

Discriminant function used for the analysis is given by

$$Z = \sum_{i=1}^{16} I_i X_i$$

where,

Z = Total discriminant score for defaulters and non-defaulters

X<sub>1</sub> = Educational level. Scoring pattern upto SSLC = 0, Above SSLC = 1

X<sub>2</sub> = Type of farmer. Upto one hectare = 0, Above one hectare = 1

X<sub>3</sub> = Main occupation of borrower. Non-agriculture = 0, Agriculture = 1

X<sub>4</sub> = Variety used. Non-HYV = 0, HYV = 1

X<sub>5</sub> = Operating area

X<sub>6</sub> = Percentage of crop production income to total agricultural income

X<sub>7</sub> = Percentage of crop production income to total income of the farmer

- $X_8$  = Consumption expenditure
- $X_9$  = Fertilizer consumption. Below recommended level = 0, Above recommended level = 1
- $X_{10}$  = Time of sowing. Late sowing = 0, Early sowing = 1
- $X_{11}$  = Incidence of pests/diseases. Severe attack = 0, Normal attack = 1
- $X_{12}$  = Natural calamities. Occurrence = 0, Normal condition = 1
- $X_{13}$  = Disbursement of loan. Untimely = 0, Timely = 1
- $X_{14}$  = Input-output ratio. Upto one = 0, Above one = 1
- $X_{15}$  = Marketed surplus. Absent = 0, Present = 1
- $X_{16}$  = Credit gap

$I_i$ 's are the coefficients of the variables estimated from the data.

Using the mean values and mean differences of the variables between the two groups of borrowers, coefficients were determined. The discriminant function was tested for the significance to know whether these variables taken together were sufficiently discriminating the two groups. The Mahalanobis  $D^2$  statistic was used to measure the

discriminating distance between the two groups. The non-significant variables were dropped by step wise selection of variable. After transformation, the  $D^2$  statistic becomes an F statistic which is then used to see whether the two groups differ from each other. According to Mahalonobis  $D^2$  statistic the distance between two groups 'a' and 'b' is given by

$$D_{ab}^2 = (n-g) \sum_{i=1}^P \sum_{j=1}^P W_{ij}^* (\bar{X}_{ia} - \bar{X}_{ib}) (\bar{X}_{ja} - \bar{X}_{jb})$$

Where  $n$  is the total number of cases,  $g$  is the number of groups,  $P$  is the number of variables,  $\bar{X}_{ia}$  is the mean of the  $i^{\text{th}}$  variable in group 'a' and  $W_{ij}^*$  is an element from the inverse of the within-groups covariance matrix. Group 'a' denotes non-defaulter and group 'b' denotes defaulter.

The significance of  $D^2$  was tested with the help of the following transformed statistic.

$$F = \frac{(n-1-p) n_1 n_2}{P(n-2) (n_1+n_2)} D_{ab}^2$$

where  $n_1$  and  $n_2$  are the number of non-defaulters and defaulters.

The discriminant function was re-run only with the significant variables to get the desired equation.

To predict whether any borrower is likely to be a defaulter or non-defaulter on the basis of the significant variables, the mean value of Z score was worked out for defaulter and non-defaulter group as follows:

Mean value of discriminant score for non-defaulters

$$Z_1 = \sum I_{1i} X_{1i}$$

Where  $I_{1i}$  = Coefficient of discriminant function for the significant characteristics

$X_{1i}$  = Mean value of significant characteristics for non-defaulters group

Similarly mean score ( $Z_2$ ) was worked out for defaluters group and the critical mean discriminant score was calculated as  $Z = Z_1 + Z_2 / 2$ .

## RESULTS AND DISCUSSION

This chapter deals with the results of the study and the discussion thereon. The chapter is divided into five sections. The first section deals with the general socio-economic characteristics of the sample households. Credit requirement for paddy cultivation in *punja* season (October-January), availability of credit to farmers from the bank and the credit gap among different types of farmers are dealt with in the second section. The third section deals with utilization of the loan by different types of farmers. The fourth section covers the extent of repayment of the loan. The fifth and final section deals with factors discriminating the non-defaulters and defaulters among the borrowers.

### 5.1 General socio-economic characteristics of the sample

Some important general socio-economic characteristics of the sample borrowers viz., family size, age, educational status, occupation, holding size, family income etc. have been examined here. An idea about these characteristics, it is hoped, will serve as a useful background information for the present study.



### 5.1.1 Family size

Family size considerably influences indebtedness. Therefore, the distribution of family size among various holding size groups need to be examined. Respondents in the study area from where the samples were drawn viz., Edathua and Kainakary were classified based on family size as shown in Table 5.1. It can be seen that 43.33 per cent of the total families in Edathua and 33.33 per cent of Kainakary had more than eight members. In Edathua 33.33 per cent of the families had 4-8 members and the remaining 23.33 per cent had only 1-4 members. While in Kainakary 46.67 per cent had 4-8 members and the remaining 20 per cent had only 1-4 members. The average size of the family at the pooled level was 6.77 as against 6.91 in Edathua and 6.63 in Kainakary. The average size of families in the study area as indicated above, is on the higher side as compared to the state average of 4.62.

### 5.1.2 Age

The respondents have been classified on the basis of age as shown in Table 5.2. It shows that a relatively small proportion of the borrowers in both the areas, Edathua (13.33 per cent) as well as Kainakary (10 per cent) was below 35 years and thus, can be considered young. In Edathua 48.33 per cent and in Kainakary 46.67 per cent of the respondents

Table 5.1 Distribution of respondents on the basis of family size

Size of family range	Edathua (No.)	Kainakary (No.)	Pooled (No.)
1-4	14 (23.33)	12 (20.00)	26 (21.67)
4-8	20 (33.33)	28 (46.67)	48 (40.00)
Above 8	26 (43.33)	20 (33.33)	46 (38.33)
Total	60 (100.00)	60 (100.00)	120 (100.00)
Average size of the family	6.91	6.63	6.77

Figures in parentheses indicate percentages to totals

Table 5.2 Classification of the respondents on the basis of age

Age group	Edathua	Kainakary	Pooled
Below 35 years	8 (13.33)	6 (10.00)	14 (11.67)
35 to 55 years	29 (48.33)	28 (46.67)	57 (47.50)
55 years and above	23 (38.33)	26 (43.33)	49 (40.83)
Total	60 (100.00)	60 (100.00)	120 (100.00)
Average age	50.23	50.25	50.29

Figures in parentheses indicate percentages to totals

belonged to the age group of 35 to 55 years. A comparatively large share of respondents in both the areas belonged to this age group. Analysis also showed that 38.33 per cent in Edathua and 43.33 per cent in Kainakary were above the age of 55 years. Overall, this group constituted 40 per cent of the sample. The average age of the borrowers at the pooled level was 50.29 years.

### 5.1.3 Education

Education is considered to be an important determinant of the progressiveness of a farmer. All the respondents in both the areas viz., Edathua and Kainakary had schooling and hence none of them was illiterate. Classification of the respondents on the basis of the educational status is shown in Table 5.3. Thirty per cent of the sample borrowers in Edathua were graduates, while 35 per cent had education below matriculation, 23.33 per cent had completed matriculation and the remaining 11.67 had completed pre-degree. In the Kainakary area 38.33 per cent had education below matriculation, 26.67 per cent were graduates, 25 per cent had completed matriculation and remaining 10 per cent had educated upto pre-degree. At the pooled level nearly two-third of the respondents had education of matriculation or above.

Table 5.3 Classification of the respondents on the basis of educational level

Level of education	Edathua	Kainakary	Pooled
Below SSLC	21 (35.00)	23 (38.33)	44 (36.67)
SSLC	14 (23.33)	15 (25.00)	29 (24.17)
Pre-degree	7 (11.67)	6 (10.00)	13 (10.83)
Graduation	18 (30.00)	16 (26.67)	34 (28.33)
Total	60 (100.00)	60 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

#### 5.1.4 Occupation

Classification of the respondents according to the main occupation is shown in Table 5.4. It can be seen that in Edathua for 65 per cent of the borrowers agriculture was the sole occupation, that is, they were engaged in agriculture alone while 35 per cent had government/private jobs or they were engaged in business along with agriculture. In the Kainakary area 60 per cent of the borrowers were depending on agriculture and allied activities as their sole source of income. For the remaining 40 per cent of the borrowers, agriculture was only a subsidiary occupation. At the pooled level 62.5 per cent of the respondents reported agriculture as the main source of income.

#### 5.1.5 Size of holding

On the basis of the size of holding the respondents were classified into marginal farmers (0-1 hectares), small farmers (1-2 hectares) and large farmers (above 2 hectares) and the results are presented in Table 5.5. It can be seen that at the pooled level a higher percentage of the respondents were small farmers (55.84) followed by marginal farmers (27.50 per cent) and then large farmers (21.66 per cent). Considering the fact that in the district 93 per cent of land holdings are marginal, it would appear that marginal

Table 5.4 Classification of borrowers according to main occupation

Occupation	Edathua	Kainakary	Pooled
Agriculture	39 (65.00)	36 (60.00)	75 (62.50)
Non-Agriculture (Job/business)	21 (35.00)	24 (40.00)	45 (37.50)
Total	60 (100.00)	60 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

Table 5.5 Classification of the respondents on the basis of size of holding

Category	Edathua	Kainakary	Pooled
Marginal farmers (0-1 ha)	15 (25.00)	12 (20.00)	27 (22.50)
Small farmers (1-2 ha)	30 (50.00)	37 (61.66)	67 (55.84)
Large farmers (above 2 ha)	15 (25.00)	11 (18.34)	26 (21.66)
Total	60 (100.00)	60 (100.00)	120 (100.00)
Average size of holding	1.45	1.44	1.44

Figures in parentheses indicate percentages to totals



farmers who form one of the weakest sections of the farming community, are not benefited by commercial bank operations to the extent desired. In Kainakary the total sample was constituted by 61.66 per cent small farmers, 20 per cent marginal farmers and 18.34 per cent large farmers. In Edathua there were 50 per cent small farmers, and 25 per cent each of large and marginal farmers. The average size of holding was 1.45 hectares in Edathua and 1.44 hectares in Kainakary.

#### 5.1.6 Operating area

Paddy cultivating area of the farmer is taken as the operating area. Table 5.6 shows the average size of operating area of different types of farmers. At the pooled level average operating area of large farmers was two hectare, small farmers 1.34 hectare and marginal farmers 0.56 hectare respectively. Area-wise analysis showed that in Edathua marginal farmers had an operating area of 0.62 hectare, small farmers had 1.46 hectare and large farmers had two hectares. While in Kainakary average operating area was found to be 0.50 hectare among marginal farmers, 1.21 hectare among small farmers and two hectare among large farmers.

#### 5.1.7 Family income

Total family income per annum is the sum of total income from farm sources as well as non-farm sources. Income

Table 5.6 Area-wise average operating area of different categories of farmers (Area in ha)

Category	(Area in ha)		
	Edathua	Kainakary	Pooled
Marginal farmers	0.62	0.50	0.56
Small farmers	1.46	1.21	1.34
Large farmers	2.00	2.00	2.00

Table 5.7 Source-wise income of the respondents (continued)

(Amount in Rs.)			
Source of income	Kainakary	Edathua	Pooled
Farm income	27899.65 (59.33)	34068.26 (58.56)	30983.96 (58.91)
Non-farm income	19120.10 (40.67)	24105.64 (41.44)	21612.87 (41.09)
Total family	47019.75 (100.00)	58173.90 (100.00)	52596.83 (100.00)

Figures in parentheses indicate percentages to totals

from crop production and allied farm activities were added together to get the total farm income. Income from salary/wages, small business like small retail shops, contract etc. were contributed towards non-farm income. The share of farm and non-farm income in the total family income of the borrowers are shown in Table 5.7. It can be seen that at the pooled level out of the total family income of the sample farmers 58.91 per cent was farm income and 41.09 per cent non-farm income. In Kainakary the average family income of the borrower was Rs.47,019.75 of which 59.33 per cent was farm income and 40.67 per cent was non-farm income. In Edathua the average family income of the borrower was Rs.58,173.90 of which 58.55 per cent was accounted for by farm income and 41.55 per cent by non-farm income. The share of farm income was found to be fairly high in both the regions.

## 5.2 Credit requirement, availability and its gap

In this section an attempt is made to estimate credit requirement for paddy cultivation, availability of credit and the credit gap. As credit requirement is estimated on the basis of cost of cultivation, the section begins with a discussion on cost of cultivation.

### 5.2.1 Cost of cultivation

Cost of cultivation refers to the total labour cost

and material cost incurred in cultivating one hectare of paddy (*punja*) for the year 1991-92. Only the paid out expenditures are taken into consideration while calculating the cost of cultivation. Labour cost includes cost of human labour, animal labour and machine/tractor labour. Expenses on activities such as land preparation, bunding, sowing, weed control, water management, fertilizing, spraying, harvesting, winnowing, drying, transporting are included in labour cost. Labour cost incurred for spraying take into account the application charges for both weedicides and plant protection chemicals. Expenses connected with threshing yard preparation, watch and ward and supervision etc. are brought under miscellaneous expenditure. Components of material cost are cost of seeds, fertilizers, chemicals, miscellaneous inputs and interest on borrowings. Cost of chemicals considers both plant protection chemicals and weedicides. Miscellaneous inputs are connected mainly with material cost incurred for preparing rat trap.

Since paddy cultivation is predominantly rainfed in the study area, irrigation expenditure incurred was found to be nil. Most of the farmers are not using organic manures. One reason is that labour cost involved in headloading and application was very high. Another reason was that organic status of soils in the area was quite good because in

harvesting the crop, only the earheads are cut leaving a good deal of straw in the field, which gets decomposed. Human labour cost is grouped into hired labour cost and family labour cost employed in different operations connected with paddy cultivation. Family labour contribution is not imputed since only the paid out expenditure is taken into consideration. The cost of hired labour for all operations were inputed on the basis of the wages actually paid by the farmers. The wages for harvesting is paid in kind as a percentage of the total grain yield and the value of the kind component was inputed at the prevailing market rate.

The cost of cultivation estimates for paddy in the study area are presented in Table 5.8. The table shows that there exist an inverse relationship (though mild) between the cost of cultivation and size of holding in Edathua, Kaninakary and also at the pooled level. The variation in cost of cultivation estimates of the two areas viz., Edathua and Kainakary was due to difference in the type of *padam* (paddy land). In Edathua most of the paddy lands are constituted by *karappadam* while in Kainakary both *karappadam* and *kayal* lands are seen. The *kayal* are situated along the water ways and constitute the lower reaches of east and south periphery of Kuttanad area. The *kayal* lands are the recently reclaimed lands from Vembanad lake. There is some variation in the

Table 5.8 Cost of cultivation of paddy (*punja*) at the pooled level for the year 1991-92 (Rs./ha)

Sl. No.	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
<b>A. Labour cost</b>					
		10090.49 (79.16)	9980.62 (78.55)	9833.13 (77.72)	9963.08 (78.42)
1.	Land preparation	1392.92	1351.64	1282.82	1342.46
2.	Bunding	897.71	993.30	967.67	952.90
3.	Sowing	68.02	64.63	68.30	66.98
4.	Weed control	1739.38	1589.48	1400.53	1576.46
5.	Fertilising	272.71	282.84	298.23	284.60
6.	Spraying	231.04	223.34	226.65	227.00
7.	Dewatering & water management	566.98	552.43	540.23	553.21
8.	Harvesting	3621.52	3577.49	3747.16	3648.72
9.	Winnowing	351.67	359.16	344.21	351.68
10.	Transporting	221.27	248.89	244.28	238.14
11.	Drying	171.46	162.63	160.07	164.63
12.	Miscellaneous expenditure	555.83	559.82	553.03	556.23
<b>B. Material cost</b>					
		2656.30 (20.84)	2725.03 (21.45)	2818.60 (22.28)	2741.65 (21.58)
1.	Seed	788.55	742.55	769.73	766.94
2.	Fertilizer	1309.36	1409.41	1411.17	1376.65
3.	Chemical	372.00	399.86	442.06	18.59
4.	Miscellaneous input	11.05	17.37	26.89	18.59
5.	Interest on borrowing	150.00	155.84	168.75	158.20
<b>Total cost of cultivation (A+B)</b>					
		12746.79 (100.00)	12705.65 (100.00)	12651.73 (100.00)	12704.73 (100.00)

Figures in parentheses indicate percentages to totals

Table 5.9 Cost of cultivation of paddy (*punja*) in Edathua for the year 1991-92 (Rs./ha)

Sl. No.	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
<b>A. Labour cost</b>					
		10306.82 (79.45)	10181.33 (79.00)	10087.46 (78.61)	10191.87 (79.02)
1.	Land preparation	1510.83	1519.16	1517.50	1515.83
2.	Bunding	897.50	873.75	826.25	865.83
3.	Sowing	69.16	60.33	65.00	64.83
4.	Weed control	1751.67	1686.67	1328.32	1588.89
5.	Fertilising	272.50	292.17	296.68	287.12
6.	Spraying	187.50	175.33	168.75	177.19
7.	Dewatering & water management	580.00	552.08	550.00	560.69
8.	Harvesting	3789.50	3716.00	3997.50	3834.33
9.	Winnowing	353.33	357.50	385.00	365.28
10.	Transporting	216.50	257.50	255.82	243.27
11.	Drying	170.00	169.17	163.32	167.33
12.	Miscellaneous expenditure	508.33	521.67	533.32	521.11
<b>B. Material cost</b>					
		2665.15 (20.55)	2707.05 (21.00)	2744.36 (21.39)	2705.52 (20.98)
1.	Seed	816.67	714.83	740.82	757.44
2.	Fertilizer	1316.33	1452.25	1452.80	1407.13
3.	Chemical	375.48	368.62	361.17	368.52
4.	Miscellaneous input	6.67	17.50	20.82	15.00
5.	Interest on borrowing	150.00	153.55	168.75	157.43
<b>Total cost of cultivation (A+B)</b>					
		12971.97 (100.00)	12888.38 (100.00)	12831.82 (100.00)	12897.39 (100.00)

Figures in parentheses indicate percentages to totals



Table 5.10 Cost of cultivation of paddy ( *punja* ) in Kainakary for the year 1991-92  
(Rs./ha)

Sl. No.	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
<b>A.</b>	<b>Labour cost</b>	9874.15 (78.26)	9779.91 (78.28)	9578.80 (76.80)	9734.29 (77.80)
1.	Land preparation	1275.00	1184.12	1048.13	1169.08
2.	Bunding	897.92	1112.84	1109.09	1039.96
3.	Sowing	66.87	68.92	71.59	69.13
4.	Weed control	1727.08	1492.29	1472.73	1564.03
5.	Fertilising	272.92	273.51	299.77	282.07
6.	Spraying	274.58	271.35	284.54	276.82
7.	Dewatering & water management	553.96	552.77	530.45	545.73
8.	Harvesting	3453.54	3438.98	3496.82	3463.11
9.	Winnowing	350.00	360.81	303.41	338.07
10.	Transporting	226.04	240.27	232.73	233.01
11.	Drying	172.91	156.08	156.81	161.93
12.	Miscellaneous expenditure	603.33	597.97	572.73	591.34
<b>B.</b>	<b>Material cost</b>	2647.45 (21.14)	2743.00 (21.90)	2892.93 (23.20)	2777.77 (22.20)
1.	Seed	760.42	770.27	798.64	776.44
2.	Fertilizer	1302.39	1366.57	1369.54	1346.17
3.	Chemical	418.31	430.80	522.95	22.17
4.	Miscellaneous input	16.33	17.23	32.95	22.17
5.	Interest on borrowing	150.00	158.13	168.75	158.96
<b>Total cost of cultivation (A+B)</b>		12521.60 (100.00)	12492.91 (100.00)	12471.63 (100.00)	12512.06

Figures in parentheses indicate percentages to totals

cultivation practices among the two viz., *karappadam* and *kayal* lands. In *karappadam*, *punja* crop and one additional crop during the *virippu* season are grown. But in *kayal* lands it is possible to grow only a single crop viz., *punja* .

At the pooled level, on an average, labour cost accounted for 78.42 per cent of the total cost of cultivation and the remaining was shared by material cost. A farm-wise comparison showed that the labour cost to total cost of cultivation had decreased and the share of material cost increased with the size of holding. The same trend was noticed in absolute figures both in the case of labour and material cost. Labour cost accounted for about 79 per cent on marginal farms, 78 per cent on small farms and 77 per cent on large farms. Material cost accounted for about 20 per cent on marginal farms, 21 per cent on small farms and 22 per cent on large farms. The table also reveals that the per hectare cost of cultivation was highest in marginal farms (Rs.12,746.79) followed by small farms (Rs.12,705.65) and large farms (Rs.12,651.73).

Comparing the two areas on the average level, there was a noticeable variation in labour cost while for material cost there was not much variation (Table 5.9 and 5.10). The variation among the two areas was due to the differences in cultivation practices followed. Cost involved in land

preparation for the Kainakary was found to be lower compared to Edathua. This was due to fact that in most of the *kayal* lands in Kainakary, zero tillage (no tillage) was practiced. In the *kayal*lands in order to check the intrusion of storm water, bunds have to be built more strongly as compared to *karappadam*, involving large bunding cost for Kainakary area. Comparatively large harvesting cost in Edathua was due to higher yield in that area. As already mentioned harvesting cost is paid in kind as a proportion to production.

In Edathua the labour and material cost followed the same relation with size of holding as that of pooled level. Location specific differences in the individual farms contributed towards variation in bunding cost in different type of farms. A local practice of flooding and de-watering in paddy lands was followed to reduce the labour incurred for weeding. This was done with a time gap of about 20 days before the sowing time. One additional crop of paddy is grown during the *virippu* season (April-May to September-October). The farmers growing *punja* and the additional crop will not get sufficient time gap to follow this local practice. Majority of the small and marginal farmers are raising two crops. This can be the reason for their comparatively high weed control cost. Most of the large farmers are raising only single crop. Interest on capital showed some variation among different

types of farmers due to the fact that an interest rate of 12 per cent per annum was charged upto Rs.7500/- and 13.5 per cent above this sum.

Inverse relation with size of holding for labour cost and direct relation for material cost was found in Kainakary also. Land preparation cost was found to be low among large farmers because most of them had *kayal* lands. A comparatively high bunding cost was incurred by small farmers. Weed control cost was high among marginal farmers because most of them are raising both *punja* and additional crop.

#### 5.2.2 Returns from cultivation

An attempt is made to estimate the net return over operational costs to examine the desirability of investment in paddy crop. Details about net returns over the cost of cultivation are shown in Table 5.11. It can be seen that net returns at the pooled level was Rs.9312.48 per hectare. Among the different types of farmers net return was found to be highest for large farmers followed by marginal farmers and small farmers. The same trend in net return was found with size of holding both in Edathua and Kainakary. For the sample as a whole input-out ratio was found to be the highest for large farmers (1.87) followed by marginal farmers (1.70) and small farmers (1.64). At the pooled level the input-output

Table 5.11 Return over cost of paddy cultivation (*punja* ) 1991-92 (Rs./ha)

Area	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
Edathua	Gross return	22503.33	21352.50	24832.33	22896.05
	Cost of cultivation	12971.97	12888.38	12831.82	12897.39
	Net return	9531.36	8464.12	12000.51	9998.66
	Input-output ratio	1.73	1.66	1.94	1.78
Kainakary	Gross return	20735.83	20290.61	22388.64	21138.36
	Cost of cultivation	12521.60	12492.91	12471.63	12512.06
	Net return	8214.43	7797.70	9917.01	8626.30
	Input-output ratio	1.65	1.62	1.80	1.69
Pooled	Gross return	21619.58	20821.55	23610.48	22017.21
	Cost of cultivation	12746.79	12705.65	12651.73	12704.73
	Net return	8872.92	8115.90	10958.75	9312.48
	Input-output ratio	1.70	1.64	1.87	1.73

ratio on an average was 1.73 whereas the values for Edathua and Kainakary were 1.78 and 1.69 respectively.

### 5.2.3 Credit requirement

Two criteria were employed for assessing the credit requirement viz., based on full paid out cost of cultivation and 75 per cent of paid out cost of cultivation. On the basis of these criteria, credit requirement of paddy growers for different holding sizes are given in Table 5.12 and 5.13. It clearly brings out the variation in credit requirement in relation to the size of holding. On an average, the per hectare credit requirement based on full paid out cost of cultivation was Rs.12,747/- for marginal farmers, Rs.12,706/- for small farmers and Rs.12,652/- for large farmers. Area-wise data shows that in Edathua credit requirement was Rs.12,972/- for marginal farmers, Rs.12,888/- for small farmers and Rs.12,832/- for large farmers. In Kainakary credit requirement was Rs.12,522/- for marginal farmers, Rs.12,493/- for small farmers and Rs.12,472/- for large farmers.

As it is reasonable to expect the borrower himself to contribute a part of the proposed outlay from his own resources in the form of margin money, an alternative estimation of credit requirement accounting to 75 per cent of

Table 5.12 Credit requirement, availability and its gap in paddy cultivation (based on 100 per cent paid out cost of cultivation) (Amount in Rs.)

Area	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
	Credit requirement	12971.97 (100.00)	12888.38 (100.00)	12831.82 (100.00)	12897.39 (100.00)
Edathua	Credit availability	5000.00 (38.54)	5000.00 (38.79)	5000.00 (38.97)	5000.00 (38.77)
	Credit gap	7971.97 (61.46)	7888.38 (61.21)	7831.82 (61.03)	7987.39 (61.23)
	Credit requirement	12521.60 (100.00)	12492.91 (100.00)	12471.63 (100.00)	12512.06 (100.00)
Kainakary	Credit availability	5000.00 (39.93)	5000.00 (40.02)	5000.00 (40.09)	5000.00 (39.96)
	Credit gap	7521.60 (60.07)	7492.91 (59.98)	7471.63 (59.91)	7512.06 (60.03)
	Credit requirement	12746.79 (100.00)	12705.65 (100.00)	12651.73 (100.00)	12704.73 (100.00)
Pooled	Credit availability	5000.00 (39.23)	5000.00 (39.35)	5000.00 (39.52)	5000.00 (39.36)
	Credit gap	7746.79 (60.74)	7705.65 (60.65)	7651.73 (60.48)	7704.73 (60.64)

figures in parentheses indicate percentages to totals

Table 5.13 Credit requirement, availability and its gap in paddy cultivation (based on 75 per cent paid out cost of cultivation) (Amount in Rs.)

Area	Items	Marginal farmer	Small farmer	Large farmer	Average farmer
	Credit requirement	9728.83 (100.00)	9666.28 (100.00)	9623.86 (100.00)	9773.04 (100.00)
Edathua	Credit availability	5000.00 (51.39)	5000.00 (51.73)	5000.00 (51.95)	5000.00 (51.69)
	Credit gap	4728.83 (48.61)	4666.28 (48.27)	4623.86 (48.050)	4673.04 (48.31)
	Credit requirement	9391.20 (100.00)	9369.68 (100.00)	9353.72 (100.00)	9384.04 (100.00)
Kainakary	Credit availability	5000.00 (53.24)	5000.00 (53.36)	5000.00 (53.45)	5000.00 (53.28)
	Credit gap	4391.20 (46.76)	4369.68 (46.64)	4353.72 (46.55)	4384.04 (46.72)
	Credit requirement	9560.09 (100.00)	9529.24 (100.00)	9488.80 (100.00)	9528.55 (100.00)
Pooled	Credit availability	5000.00 (52.30)	5000.00 (52.47)	5000.00 (52.69)	5000.00 (52.47)
	Credit gap	4560.09 (47.70)	4529.24 (47.53)	4488.80 (47.31)	4828.55 (47.53)

Figures in parentheses indicate percentages to totals



paid of cost of cultivation was also examined. Based on this criterion the average credit requirement estimated at the pooled level was Rs.9560/-, Rs.9489/- and Rs.9529/- for marginal, large and small farmers respectively. In Edathua, credit requirement was Rs.9729/- for marginal farmers, Rs.9666/- for small farmers and Rs.9624/- for large farmers while in Kainakary the credit requirement was Rs.9391/-, Rs.9370/- and Rs.9354/- for the marginal, small and large farmers respectively. The credit requirement estimated was found to be high in the case of marginal farmers for both the areas followed by small farmers and large farmers. This was in accordance with the result obtained by Ramesha (1990).

#### 5.2.4 Availability of credit

Credit forms a necessary aid to intensify agricultural activities. Availability of adequate, timely and cheap credit to the agriculturists and its proper use is an essential condition for agricultural development. Crop loans are available mainly for financing current expenditure in connection with the raising of crops. The per hectare credit availability to a farmer for raising a crop is in accordance with the scale of finance fixed for that crop. The scale of finance fixed for the crop loan are disbursed as two components. The cash component (A) which is disbursed in cash would help to meet the miscellaneous cash outlays of a

Table 5.14 Scale of finance for short-term agricultural loan 1991-92

Name of crop	Unit	'A' Compart- ment Rs.	'B' Compart- ment Rs.	Total Rs.	Period of issue	Due date
Paddy						
a. <i>Virippu</i>	Per ha	3250	750	4000	April 1st to May 15th	Last Friday of November
b. <i>Mundakan</i>	Per ha	3250	750	4000	August 1st to September 30th	Last Friday of April
<i>Punja</i>						
c. 1st crop lower Kuttanad and other regions	Per ha	3250	1750	5000	October 15th to January 31st	Last Friday of May
Upper Kuttanad						
d. Second crop	Per ha	3250	1750	5000	April 15th to June 15th	Last Friday of October

Source: Annual credit plan 1991-92, Alappuzha district, SBT.

cultivator during the production and the kind component (B) which includes improved seeds, fertilizers, pesticides etc. The scale of finance is fixed by a committee consisting of a compact group of knowledgeable persons. This committee fixes scale of finance for paddy for a particular area and for a particular season, taking into consideration the geographical condition, input recommendations given by the agricultural department and the prevailing market rates of inputs. This is fixed with reference to an average cultivator in that area<sup>1</sup>.

The scale of finance fixed for paddy in *punja* season for Alappuzha district during 1991-92 was Rs.5000/- per hectare with Rs.3250/- as 'A' component and Rs.1750/- as 'B' component. The scale of finance is shown in Table 5.14. This scale of finance fixed for the district was applicable to all the institutional sources such as government, co-operative banks, commercial banks, regional rural banks etc.

#### 5.2.5 Credit gap

✓ An understanding of the credit gap will be helpful for financing agencies to frame an appropriate credit policy which would enable them to bridge the existing gap and help in intensifying agricultural production activities. Here an

---

1. RBI. 1972. *Manual on Production Oriented System of Lending for Agriculture*. Reserve Bank of India, Bombay. p. 2-5

attempt is made to estimate the credit gap for different size groups of paddy growers. The credit gap is defined as the difference between the amount required and the amount borrowed/supplied. Table 5.12 deals with the credit gap for different types of farmers based on 100 per cent paid out cost of cultivation. At the pooled level the credit gap per hectare for an average farmer was found to be Rs.7705/-. Credit gap was estimated as Rs.7652/- per hectare for large farmers, Rs.7706/- for small farmers and Rs.7747/- for marginal farmers. Based on 75 per cent of paid out cost of cultivation per hectare credit gap was estimated as Rs.4560/-, Rs.4529/- and Rs.4489/- for marginal, small and large farmers respectively (Table 5.13). The per hectare credit gap was lowest for large farmers followed by small farmers and marginal farmers. The same trend was found in both Edathua and Kainakary regions. There was only negligible difference in the credit gap estimated between the different types of farmers.

By following the criterion of 100 per cent paid out cost of cultivation for assessing the credit requirement, the bank could meet only 39.36 per cent of the requirement of farmer, that is, the credit supplied by the bank was to the extent of 39.36 per cent of the credit requirement for an average farmer. The remaining 60.64 per cent was the credit

gap. At the pooled level the marginal, small and large farmers could meet about 39.23, 39.35 and 39.52 per cent of their credit requirements from the bank, leaving a credit gap of 60.77, 60.65 and 60.48 per cent respectively. Table 5.12 reveals that though the per hectare credit requirement is low on small and large farmers, the credit gap was found to be around 60 per cent for all type of farmers. Ramesha (1990) and Thomas *et al.* (1992) examined the credit gap existed in Thrissur district and observed that credit gap was to the extent of about 60 per cent based on 100 per cent paid out cost of cultivation.

Based on the criterion of 75 per cent of paid out cost of cultivation for the assessment of credit requirement, it was found that the bank could meet 52.47 per cent of the credit requirements of an average farmer at the pooled level. Marginal, small and large farmers could meet 52.30, 52.47 and 52.69 per cent of their credit requirements with the help of scale of finance, leaving a credit gap of 47.70, 47.53 and 47.31 per cent respectively. By insisting 25 per cent of margin money, the credit gap was to the extent of 47.53 per cent.

With the improvement in farming technology, advances in the intensity of cultivation, mounting input prices and operational expenses, the financial burden of farmers had

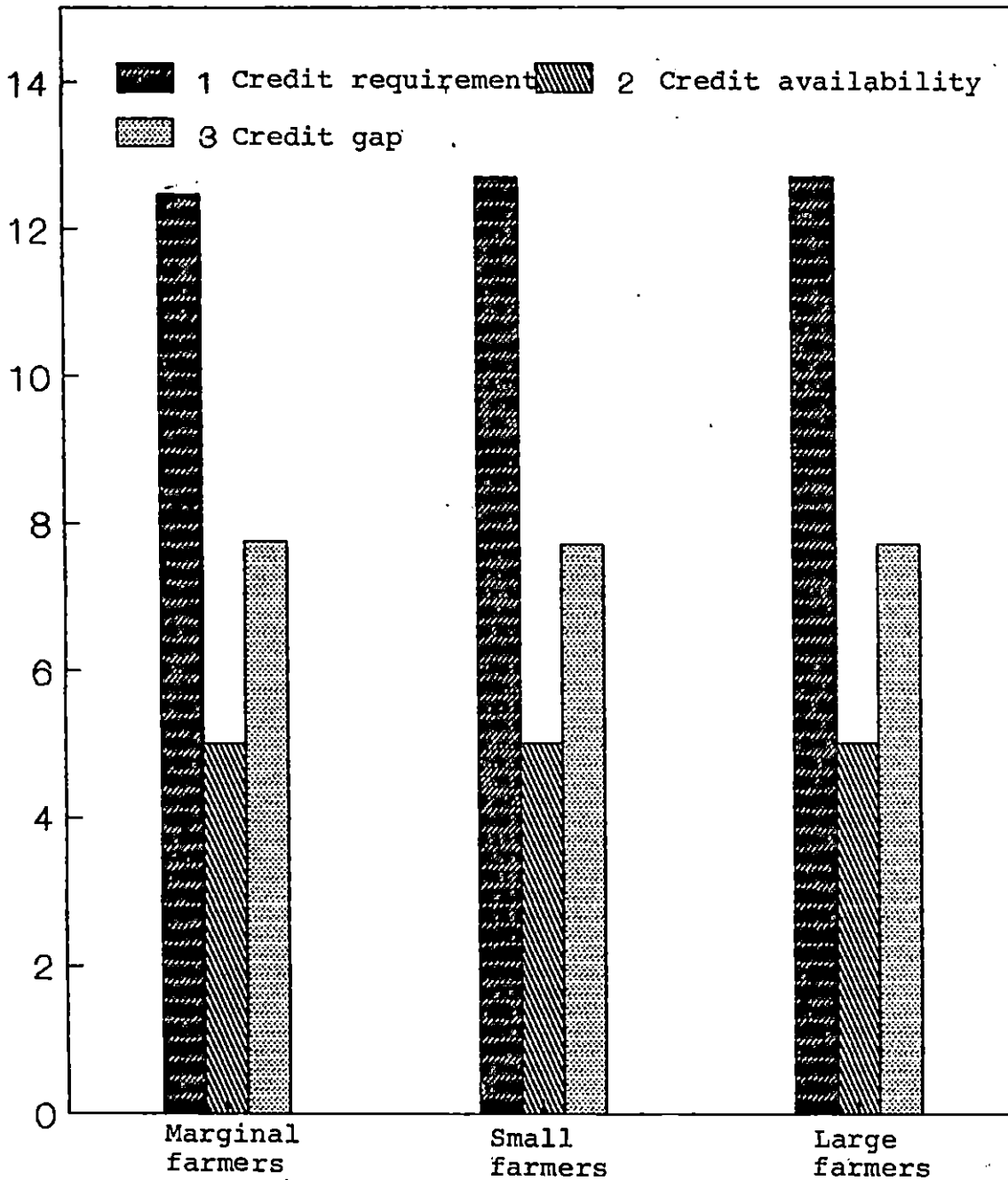
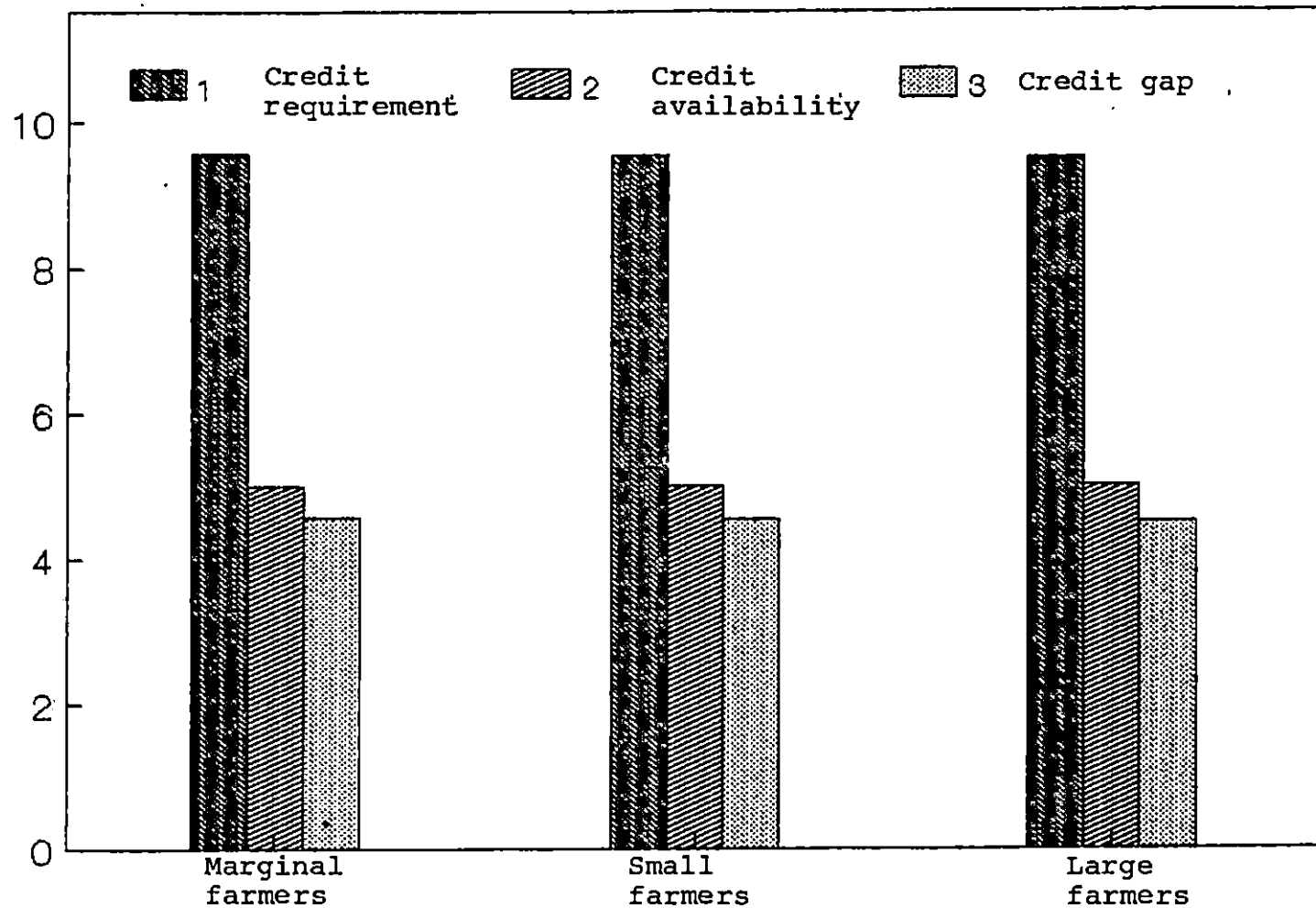


Fig.2 Credit requirement, availability and its gap in paddy cultivation - Pooled over area (based on 100 per cent paid out cost of cultivation)



2  
 Fig.3 Credit requirement, availability and its gap in paddy cultivation - Pooled over area (based on 75 per cent of paid out cost of cultivation)

increased considerably. The owned resources of the farmers may not be sufficient to meet the total financial needs of the farming operations and the amount of credit available was inadequate compared to their credit requirement. One reason responsible for this situation is the unrealistic estimation of the financial needs and its resultant impact on the scale of finance. To overcome this problem the scale of finance is to be fixed separately for service area of each bank by the technical committee for a crop, rather than for the district as a whole, taking into consideration of the area specific variations. General formulation regarding scale of finance and credit eligibility may have to be kept as broad criteria, but within this the credit supply should be elastic enough to satisfy the differing demands arising from different input requirements based on the soil-water-crop complex of individual holding.

### 5.3. Utilization of loan

An attempt is made in this section to find out whether the loans received were utilized for the purposes for which they were obtained or whether they were misutilized. The extent of utilization of crop loan in the study area is shown in Table 5.15.



Table 5.15 Utilization of crop loan for paddy cultivation by the borrowers

Area	Category	Utilized for the stipulated purpose	Utilized for purpose other than stipulated	Total
Edathua	Marginal farmers	8 (53.33)	7 (46.67)	15 (100.00)
	Small farmers	15 (50.00)	15 (50.00)	30 (100.00)
	Large farmers	7 (46.67)	8 (53.33)	15 (100.00)
	Total	30 (50.00)	30 (50.00)	60 (100.00)
Kainakary	Marginal farmers	8 (66.67)	4 (33.33)	12 (100.00)
	Small farmers	17 (45.94)	20 (54.06)	37 (100.00)
	Large farmers	8 (72.72)	3 (27.28)	11 (100.00)
	Total	33 (55.00)	27 (45.00)	60 (100.00)
Pooled	Marginal farmers	16 (59.26)	11 (40.74)	27 (100.00)
	Small farmers	32 (47.76)	35 (52.24)	67 (100.00)
	Large farmers	15 (57.69)	11 (42.31)	26 (100.00)
	Total	63 (52.50)	57 (47.50)	120 (100.00)

Figures in parentheses indicate percentages to totals



The analysis revealed that at the pooled level only 52.5 per cent of the borrowers utilized the loan for the stipulated purpose while the 47.5 per cent utilized it for the purposes other than stipulated. Eventhough this 47.5 per cent of the borrowers diverted the loan for other productive purposes, they had taken up the paddy cultivation with their own capital. Hence this cannot be treated as misutilization.

Analysis of the pattern of utilization by different categories of farmers reveals that 59.26 per cent of the marginal farmers utilized the loan for the purpose it was taken, while 47.76 per cent of small farmers and 57.69 per cent of large farmers utilized the loan for the stipulated purpose. It can be concluded that the extent of utilization was high among marginal farmers followed by large farmers and small farmers at the pooled level.

Area-wise analysis of utilization showed that in Edathua 50 per cent of the borrowers utilized the loan for raising the crop and the rest utilized it for purposes other than intended. This trend was noted in almost all the types of farmers. In Kainakary 55 per cent of the borrowers utilized the loan for the purpose it was taken. The extent of utilization was found to be high among large farmers (72.72 per cent) followed by marginal farmers (66.67 per cent) and small farmers (45.94 per cent). In both the areas

comparatively large proportion of marginal farmers utilized the loan for purposes other than actually meant for.

### 5.3.1 Timing of the loan

Timing of the flow of agricultural loans has an important role in their extent of utilization. Loans not obtained when required have a greater probability of being misutilized than loans obtained on time, that is, when the purpose for which loan is constructed is ready to be fulfilled. Table 5.16 shows the time of disbursement of the loan.

At the pooled level 62.5 per cent of the borrowers could avail of the loan at the right time, that is, at the time of sowing. Among the different types of farmers, 92.31 per cent of large farmers, 62.69 per cent of small farmers and 33.33 per cent of marginal farmers could avail of the loan at the right time. The untimely disbursement was found to be high among marginal farmers (60.67 per cent) followed by small farmers (37.31 per cent).

The analysis also reveals that majority of large farmers in both Edathua and Kainakary had availed loan at the right time. Untimely disbursement of credit was more in the case of marginal farmers in both the areas.

Table 5.16 Time of disbursement of the loan in the study area

Area	Category	Timely disbursement	Untimely disbursement	Total
Edathua	Marginal farmers	4 (26.67)	11 (73.33)	15 (100.00)
	Small farmers	17 (56.67)	13 (43.33)	30 (100.00)
	Large farmers	14 (93.33)	1 (6.67)	15 (100.00)
	Total	35 (58.33)	25 (41.67)	60 (100.00)
Kainakary	Marginal farmers	5 (41.67)	7 (58.33)	12 (100.00)
	Small farmers	25 (67.57)	12 (32.43)	37 (100.00)
	Large farmers	10 (90.90)	1 (9.10)	11 (100.00)
	Total	40 (66.67)	20 (33.33)	60 (100.00)
Pooled	Marginal farmers	9 (33.33)	18 (60.67)	27 (100.00)
	Small farmers	42 (62.69)	25 (37.31)	67 (100.00)
	Large farmers	24 (92.31)	2 (7.69)	26 (100.00)
	Total	75 (62.50)	45 (37.50)	120 (100.00)

Figures in parentheses indicate percentages to totals

When the disbursement of the loan was untimely, it can be taken as a reason for utilizing the loan for purposes other than stipulated. Eventhough the loan was disbursed in right time, if the borrower had utilized it for other purposes, then that would be a case of diversion of the loan. In order to find out if there is any relationship between the delay in receipt of the loan and its use for purposes other than stipulated, the 57 borrowers who utilised the loan for other purposes were classified into two on the basis of receipt of the loan viz., timely receipt and untimely receipt. It can be seen from Table 5.17 that 57.89 per cent of the borrowers who utilized the loan for the purposes other than stipulated obtained the loan untimely. For them untimely disbursement was a genuine reason for not utilizing the loan for the stipulated purpose. The remaining 42.11 per cent utilized the loan for other purposes, eventhough it was disbursed at the right time. Among the large farmers 20 per cent utilized for purpose other than stipulated because of untimely disbursement. In the case of marginal farmers diversion was only to the extent of 16.67 per cent. Among the small farmers 60 per cent utilized the loan for the purpose other than intended because of untimely disbursement. The same trend was noticed in both the areas viz., Edathua and Kainakary among different types of farmers.

Table 5.17 Relationship between delay in receipt of loan and its use for purpose other than stipulated

Area	Category	Untimely disbursement	Timely disbursement	Total
Edathua	Marginal farmers	6 (75.00)	2 (25.00)	8 (100.00)
	Small farmers	10 (66.67)	5 (33.33)	15 (100.00)
	Large farmers	1 (14.29)	6 (85.71)	7 (100.00)
	Total	17 (56.67)	13 (43.33)	30 (100.00)
Kainakary	Marginal farmers	4 (100.00)	0 (0.00)	4 (100.00)
	Small farmers	11 (55.00)	9 (45.00)	20 (100.00)
	Large farmers	1 (33.33)	2 (66.67)	3 (100.00)
	Total	16 (59.26)	11 (40.74)	27 (100.00)
Pooled	Marginal farmers	10 (83.33)	2 (16.67)	12 (100.00)
	Small farmers	21 (60.00)	14 (40.00)	35 (100.00)
	Large farmers	2 (20.00)	8 (80.00)	10 (100.00)
	Total	33 (57.89)	24 (42.11)	57 (100.00)

Figures in parentheses indicate percentages to totals

### 5.3.2 Composition of the loan

The composition of the loans also have an important bearing on its proper utilization. Loans disbursed in kind have a great probability of being utilized properly. The cash component of the crop loan is to meet the working capital expenditure and the kind component is given in the form of seeds, fertilizers and plant protection chemicals. It was found that 65 per cent of the loan amount (Rs.3250/-) was given in cash and the remaining 35 per cent (Rs.1750/-) in kind. Farm level comparison was also done with the components of the loan and the costs actually incurred to study the extent of utilization of credit. The results are presented in Table 5.18. The analysis showed that all types of farmers had incurred labour cost and material cost above the cash and kind components of the loan respectively. At the pooled level an average farmer incurred a labour cost almost three times that of the cash component of the credit disbursed.

### 5.4 Repayment of loan

Timely repayment of loan is of crucial importance to all credit institutions. For commercial credit institutions, repayment not only ensures recycling of money for development, but also builds up people's confidence amongst the credit

Table 5.18 Comparison of components of cost of cultivation with components of crop loan  
(Amount in Rs.)

Area	Components of cost	Marginal farmers	Small farmers	Large farmers	Average farmers	Components of the loan
Edathua	Labour cost	10306.82	10181.33	10087.46	10191.87	Cash - 3250.00
	Material cost	2665.15	2707.05	2744.36	2705.52	Kind - 1750.00
Kainakary	Labour cost	9874.15	9779.91	9578.80	9734.29	Cash - 3250.00
	Material cost	2647.45	2743.00	2892.82	2777.77	Kind - 1750.00
Pooled	Labour cost	10090.49	9980.62	9833.13	9963.08	Cash - 3250.00
	Material cost	2656.30	2725.03	2818.60	2741.65	Kind - 1750.00



institutions. People's attitude towards production credit generally influence the repayment position.

The recovery of loans is materialised after a certain period. The crop loans are to be repaid after a period of two months (for marketing the produce) of harvesting crops raised by the borrowers. The crop loan is realised soon after the harvest is marketed because it has given the financial strength of the farmer to enable him to repay the loan.<sup>2</sup> In the case of crop loans disbursed for paddy cultivation for *punja* season in Alappuzha district in 1991-92, the due date was last Friday of May, 1992. The borrower becomes a defaulter if he has not repaid the loan within the due date.

An attempt was made to classify the borrowers on the basis of their repayment performance in the study area. It can be seen from the Table 5.19 that at the pooled level 54.17 per cent of the borrowers were non-defaulters and 45.83 per cent were defaulters. Among the different types of farmers 57.69 per cent of the large farmers, 55.56 per cent of the marginal farmers and 52.24 per cent of the small farmer were non-defaulters.

---

2. Gupta, U.C. 1991. *Agricultural Financing in India*. Anmol Publications, Delhi. p. 283

Table 5.19. Classification of the borrowers on the basis of repayment of the loan

Area	Category	Non- defaulters	Defaulters	Total
Edathua	Marginal farmer	7 (46.67)	8 (53.33)	15 (100.00)
	Small farmer	16 (53.33)	14 (46.67)	30 (100.00)
	Large farmer	9 (60.00)	6 (40.00)	15 (100.00)
	Total	32 (53.34)	28 (46.66)	60 (100.00)
Kainakary	Marginal farmer	8 (66.67)	4 (33.33)	12 (100.00)
	Small farmer	19 (51.35)	18 (48.65)	37 (100.00)
	Large farmer	6 (54.55)	5 (45.45)	11 (100.00)
	Total	33 (55.00)	27 (45.00)	60 (100.00)
Pooled	Marginal farmer	15 (55.56)	12 (44.44)	27 (100.00)
	Small farmer	35 (52.24)	32 (47.76)	67 (100.00)
	Large farmer	15 (57.69)	11 (42.31)	26 (100.00)
	Total	65 (54.17)	55 (45.83)	120 (100.00)

Figures in parentheses indicate percentages to totals

In Edathua 53.33 per cent of marginal farmers, 46.67 per cent of small and 40 per cent of large farmers respectively were defaulters and the remaining were non-defaulters, while in Kainakary 33.33 per cent of marginal farmers, 48.65 per cent of small farmers and 45 per cent of large farmers were defaulters and the rest were non-defaulters. Area-wise comparison revealed that 46.66 per cent borrowers in Edathua and 45 per cent in Kainakary were defaulters.

In order to see whether the default is wilful or not repayment capacity was worked out by taking net income over consumption expenditure per annum. Repayment capacity of marginal farmers only (defaulters) were assessed. Repayment capacity of the marginal farmers at the pooled level was found to be Rs.20,777/- (by taking the difference between net income of Rs.36,160/- and consumption expenditure of Rs.15,383/-). Since the marginal farmers possess the repayment capacity, all the small and large farmers must had the repayment capacity. This result implies that none of the sample borrowers possess a genuine reason for non-wilful default.

To evaluate the repayment performance of borrowers, in the study area, a quantitative analysis of the loan repayment was done and the results are given in Table 5.20. At the pooled level 49.28 per cent of the total loan disbursed was

Table 5.20. Repayment position of the farmers in the study area (Amount in Rs.)

(Amount in Rs.)

Area	Category	Non-defaulters	Defaulters	Total
Edathua	Marginal farmer	57000 (50.78)	55250 (49.22)	112250 (100.00)
	Small farmer	284750 (54.39)	238750 (45.61)	523500 (100.00)
	Large farmer	217500 (36.71)	375000 (63.29)	592500 (100.00)
	Total	559250 (45.53)	669000 (54.47)	1228250 (100.00)
Kainakary	Marginal farmer	49000 (68.53)	22500 (31.47)	71500 (100.00)
	Small farmer	288850 (52.70)	259250 (47.30)	548100 (100.00)
	Large farmer	150000 (54.55)	127000 (45.85)	277000 (100.00)
	Total	487850 (54.41)	408750 (45.59)	896600 (100.00)
Pooled	Marginal farmer	106000 (57.69)	77750 (42.31)	183750 (100.00)
	Small farmer	573600 (53.53)	498000 (46.47)	1071600 (100.00)
	Large farmer	367500 (42.27)	502000 (57.73)	869500 (100.00)
	Total	1047100 (49.28)	1077750 (50.72)	2124850 (100.00)

Figures in parentheses indicate percentages to totals

repaid while 50.72 per cent was overdue. Among different types of farmers 57.69 per cent, 53.53 per cent and 42.27 per cent of the total loan disbursed to them was repaid by marginal farmers, small farmers and large farmers respectively.

In Edathua only 45.53 per cent of the total loan disbursed was repaid. Among different types of farmers 50.78 per cent of the loan was repaid by marginal farmers while 54.39 per cent and 36.71 per cent of the loan was repaid by small and large farmers respectively. A major share of the overdue (63.29 per cent) was the contribution of large farmers which implies that at least this much share of non-repayment was due to wilful default.

In Kainakary 54.41 per cent of the total loan disbursed was repaid. Among different types of farmers 68.53 per cent, 52.70 per cent and 54.55 per cent of the total loan disbursed to them were repaid by marginal farmers, small farmers and large farmers respectively. Comparatively a major share of overdue (47.30 per cent) was the contribution of small farmers and in this case one could infer that non-repayment was wilful.

The delay in repayment or non-repayment of the loan is generally influenced by certain external and internal factors

like low yield or sometimes total failure of crops due to adverse climatic conditions, diversions of crop income towards consumption requirements, failure to link the credit with marketing, lack of supervision of credit utilization etc. It has been observed that the absence of repayment of loans has resulted in mounting overdues over the years and has caused serious concern to the credit institution. In this context an attempt was made to investigate into the reasons attributed to non-repayment at the farmers' level. Taking into account of the desirability of the borrowers' investment in paddy crop, it is worth mentioning that all of them are capable of repaying the loan amount.

Among the various reasons attributed to non-repayment, it is worth mentioning reasons such as non-remunerative price for the produce, storage of the produce to fetch a high price, diversion and low yield due to crop failure (Table 5.21). Out of the total defaulters in the study area, only nine borrowers reported (16.36 per cent) crop failure as the reason for their default. Fourteen borrowers (25.45 per cent) confessed that they had diverted the loan for other purposes. Storage of the produce to fetch a high price was the reason for 38.18 per cent of the defaulters. For 20 per cent of the defaulters low price fetched for the produce was the reason for default.

Table 5.21 Reasons attributed to non-repayment by the farmers in the study area

Area	Reason	Marginal farmer	Small farmer	Large farmer	Total
Edathua	Low price	1 (16.67)	6 (42.85)	1 (12.50)	8 (28.57)
	Storage	5 (83.33)	5 (35.72)	4 (50.00)	14 (50.00)
	Diversion	0 (0.00)	2 (14.29)	3 (37.50)	5 (17.86)
	Crop failure	0 (0.00)	1 (7.14)	0 (0.00)	1 (3.57)
	Total	6 (100.00)	14 (100.00)	8 (100.00)	28 (100.00)
Kainakary	Low price	0 (0.00)	2 (11.11)	1 (25.00)	3 (11.11)
	Storage	1 (20.00)	6 (33.33)	0 (0.00)	7 (25.93)
	Diversion	3 (60.00)	4 (22.22)	2 (50.00)	9 (33.33)
	Crop failure	1 (20.00)	6 (33.33)	1 (25.00)	8 (29.63)
	Total	5 (100.00)	18 (100.00)	4 (100.00)	27 (100.00)
Pooled	Low price	1 (9.09)	8 (25.00)	2 (16.67)	11 (20.00)
	Storage	6 (54.54)	11 (34.37)	4 (33.33)	21 (38.18)
	Diversion	3 (27.28)	6 (18.75)	5 (41.67)	14 (25.45)
	Crop failure	1 (9.09)	7 (21.88)	1 (8.33)	9 (16.36)
	Total	11 (100.00)	32 (100.00)	12 (100.00)	55 (100.00)

Figures in parentheses indicate percentages to totals

## 5.5 Factors discriminating defaulters and non-defaulters

### 5.5.1 Tabular analysis

Percentage analysis was carried out to identify the factors which discriminate non-defaulters from defaulters. The variables selected are in both ratio and interval scale. For the variables which are in ratio scale percentage analysis was done and for variables which are in interval scale, average value was taken to identify the factors that contribute for discrimination.

#### 5.5.1.1 Educational level

Education is considered to be an important determinant of the progressive nature of the farmer, as it is supposed to affect his borrowing habit, intelligent use of credit and repayment of the loan taken. It is often hypothesized that a well educated farmer is likely to be a non-defaulter. The analysis as shown in Table 5.22 revealed that 63.08 per cent of the non-defaulters at the pooled level were educated upto matriculation and the remaining 36.92 above matriculation. In the case of defaulters 58.18 per cent were matriculated and 41.82 per cent have educational qualification above matriculation. This result implied that educational level is not an important factor which helps to discriminate between non-defaulters and defaulters.



Table 5.22. Educational level of the non-defaulters and defaulters

Area	Educational level	Non-defaulters	Defaulters	Total
Edathua	Upto SSLC	19 (59.37)	16 (57.14)	35 (58.33)
	Above SSLC	13 (40.63)	12 (42.86)	25 (41.67)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Upto SSLC	22 (66.67)	16 (59.26)	38 (63.33)
	Above SSLC	11 (33.33)	11 (40.74)	22 (36.67)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Upto SSLC	41 (63.08)	32 (58.18)	73 (60.83)
	Above SSLC	24 (36.92)	23 (41.82)	47 (39.17)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

### 5.5.1.2 Type of farmer

Farm size has an important bearing on the net income generated. The large farmers are supposed to generate more net surplus than small and marginal farmers. It is the net income that influences the borrowing and repaying capacity of the borrowers. Size-wise classification as shown in Table 5.23 revealed that at the pooled level 23.08 per cent of marginal and large farmers and 53.84 per cent of small farmers were non-defaulters. Whereas in the defaulter category 20 per cent were large farmers, 58.18 per cent were small farmers and 21.82 per cent were marginal farmers. These results suggest that the classification based on size of holding does not have much influential role in discrimination.

### 5.5.1.3 Main occupation

The total annual income of the borrower vary according to the nature of main occupation. The net income generated from agriculture had a bearing on the repayment of the loan taken. Classification of non-defaulters and defaulters on the basis of occupation is shown in Table 5.24. Agriculture and allied activities was the main occupation for 64.62 per cent of non-defaulters, while for 35.38 per cent, service/business was the main occupation. In the case of defaulters agriculture was the main occupation for 60 per cent and for

Table 5.23. Classification of non-defaulters and defaulters on the basis of size of holding

Area	Type of farmer	Non-defaulters	Defaulters	Total
Edathua	Marginal farmer	7 (21.88)	8 (28.57)	15 (25.00)
	Small farmer	16 (50.00)	14 (50.00)	30 (50.00)
	Large farmer	9 (28.12)	6 (21.43)	15 (25.00)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Marginal farmer	8 (24.24)	4 (14.81)	12 (20.00)
	Small farmer	19 (57.58)	18 (66.67)	37 (61.67)
	Large farmer	6 (18.18)	5 (18.52)	11 (18.00)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Marginal farmer	15 (23.08)	12 (21.82)	27 (22.50)
	Small farmer	35 (53.84)	32 (58.18)	67 (55.83)
	Large farmer	15 (23.08)	11 (20.00)	26 (21.67)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

Table 5.24 Occupation-wise classification of non-defaulters and defaulters

Area	Occupation-	Non- defaulters	Defaulters	Total
Edathua	Non-agriculture	11 (34.38)	11 (39.29)	22 (36.67)
	Agriculture	21 (65.62)	17 (60.71)	38 (63.33)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Non-agriculture	12 (36.37)	11 (40.74)	23 (38.33)
	Agriculture	21 (63.63)	16 (59.26)	37 (61.670)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Non-agriculture	23 (35.38)	22 (40.00)	45 (37.50)
	Agriculture	42 (64.62)	33 (60.00)	75 (62.50)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

127

the remaining 40 per cent, service/business was the main occupation. Thus, there was not much difference between non-defaulters and defaulters with respect to the main occupation. This implied that occupation of the borrower cannot be treated as a discriminating factor between non-defaulters and defaulters.

#### 5.5.1.4 Variety

Productivity of the crop vary depending on the type of variety used viz., high yielding or local. It is hypothicated that use of high yielding varieties which have higher productivity than local varieties, result in high production which help the farmer to generate a high net surplus which determines the repayment capacity of the borrower. Classification of non-defaulters and defaulters on the basis of variety used is given in Table 5.25. At the pooled level 64.62 per cent of the non-defaulters used high yielding varieties and the remaining 35.38 per cent used local improved varieties. Among the defaulters 60 per cent had adopted high yielding varieties. The result implied that a major share of the defaulters were growing high yielding varieties and hence this cannot be considered as an important discriminating factor between defaulters and non-defaulters.

Table 5.25 Classification of non-defaulters and defaulters on the basis of variety used

Area	Variety	Non- defaulters	Defaulters	Total
Edathua	Non-high yielding variety	11 (34.38)	11 (39.29)	22 (36.67)
	High yielding variety	21 (65.62)	17 (60.71)	38 (63.33)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Non-high yielding variety	12 (36.37)	11 (40.74)	23 (38.33)
	High yielding variety	21 (63.63)	16 (59.26)	37 (61.67)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Non-high yielding variety	23 (35.38)	22 (40.00)	45 (37.50)
	High yielding variety	42 (64.62)	33 (60.00)	75 (62.50)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

#### 5.5.1.5 Fertilizer consumption

A common practice in the study area is that majority of the farmers are using fertilizers above the recommended level. Incurring an expenditure higher than the incremental return may create a financial obligation for the farmer which may affect the repayment capacity of the borrower. Classification based on fertilizer consumption is shown in Table 5.26. The analysis showed that at the pooled level more than 90 per cent of both non-defaulters and defaulters applied fertilizers above the recommended levels. Hence fertilizer consumption may not be considered to have any influence on discrimination.

#### 5.5.1.6 Time of sowing

Time of sowing has considerable bearing on productivity of the crop. If the sowing was done a little early, then a high probability of getting a better price for the produce is there. Late sowing results in poor harvest and as a result there will be less chances for getting a better price for the produce due to the glut in the market during the peak harvest period which affect the repayment of the loan taken. Classification of the two groups on the basis of time of sowing is presented in Table 5.27 and it shows that at the

Table 5.26 Classification of non-defaulters and defaulters based on fertilizer consumption

Area	Fertilizer consumption	Non-defaulters	Defaulters	Total
Edathua	Below recommendation	2 (6.25)	2 (7.14)	4 (6.67)
	Above recommendation	30 (93.75)	26 (92.86)	56 (93.33)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Below recommendation	1 (3.03)	1 (3.71)	2 (3.33)
	Above recommendation	30 (96.97)	26 (96.29)	58 (96.67)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Below recommendation	3 (4.62)	3 (5.45)	6 (5.00)
	Above recommendation	62 (95.38)	52 (94.55)	114 (95.00)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals



Table 5.27 Classification of non-defaulters and defaulters on the basis of time of sowing

Area	Time of sowing	Non-defaulters	Defaulters	Total
Edathua	Late sowing	19 (59.38)	12 (42.86)	21 (35.00)
	Early sowing	13 (40.62)	16 (57.14)	39 (65.00)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Late sowing	20 (60.61)	11 (40.74)	31 (51.67)
	Early sowing	13 (39.39)	16 (59.26)	29 (48.33)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Late sowing	26 (40.00)	23 (41.82)	49 (40.83)
	Early sowing	39 (60.00)	32 (58.18)	71 (59.17)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals .

pooled level 60 per cent of the non-defaulters and 58 per cent of the defaulters had sown the crop timely.

#### 5.5.1.7 Incidence of pest/disease .

Crop failure due to the incidence of pest and disease will result in low yield of the crop. As a result of this low yield the farmer will not be in a position to generate sufficient net surplus to repay the loan. Classification of the two groups based on incidence of pest/disease is shown in Table 5.28 which indicates that the incidence was found to be normal for about 94 per cent of both non-defaulters and defaulters. Hence this cannot be treated as an influential variable in discriminating between the two groups.

#### 5.5.1.8 Natural calamities

Kuttanad area, where the study has been undertaken is high prone to floods. Crop failure due to floods naturally affect the repayment capacity of the farmer to a large extent. Classification of defaulters and non-defaulters on the basis of occurrence of natural calamities is shown in Table 5.29 which reveals that at the pooled level, the yield loss due to the occurrence of flood was very low, that is, only to an extent of 4.61 per cent and 10.91 per cent for non-defaulters and defaulters respectively. As the variation among the two groups was found to be meagre, it can be concluded that

Table 5.28 Classification of non-defaulters and defaulters on the basis of incidence of pest/disease

Area	Incidence pest/disease	Non- defaulters	Defaulters	Total
Edathua	Severe	3 (9.38)	1 (3.57)	4 (6.67)
	Normal	29 (90.62)	27 (96.43)	56 (93.33)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Severe	1 (3.03)	2 (7.41)	3 (5.00)
	Normal	32 (96.97)	25 (92.59)	57 (95.00)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Severe	4 (6.15)	3 (5.46)	7 (5.83)
	Normal	61 (93.85)	52 (92.54)	113 (94.17)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

Table 5.29 Classification of non-defaulters and defaulters on the basis of occurrence of natural calamities

Area	Natural calamities	Non-defaulters	Defaulters	Total
Edathua	Occurrence	0 (0.00)	0 (0.00)	0 (0.00)
	Normal condition	32 (100.00)	28 (100.00)	60 (100.00)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Occurrence	3 (9.09)	6 (22.22)	9 (15.00)
	Normal condition	30 (90.91)	21 (77.78)	51 (85.00)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Occurrence	3 (4.61)	6 (10.91)	9 (7.50)
	Normal condition	62 (95.39)	49 (89.09)	111 (92.50)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

occurrence of natural calamity was not an influencing variable for discrimination.

#### 5.5.1.9 Time of disbursement of loan

Time of disbursement of loan should coincide with the beginning of the crop season when farmers need cash. Otherwise there can be chances of misutilization of the loan taken which inturn affect the repayment. Two groups were classified on the basis of the time of disbursement of the loan and the data are presented in Table 5.30. Data reveals that at the pooled level 58.46 per cent of non-defaulters and 63.46 per cent of defaulters availed of the loan at the right time. This result implies time of loan disbursement does not have any influence in discriminating between non-defaulter and defaulter group.

#### 5.5.1.10 Input-output ratio

Input-output ratio is computed to find out the economic feasibility of any investment activity. A input-output ratio of above one indicated that net income generated is sufficient to repay the loan after meeting the cost incurred for obtaining that benefit. Table 5.31 depicts the classification of non-defaulters and defaulters based on the input-output ratio. The analysis showed that in both groups more than 96 per cent of the farmers were found to have a

Table 5.30 Classification of non-defaulters and defaulters based on time of loan disbursement

Area	Time of disbursement of loan	Non-defaulters	Defaulters	Total
Edathua	Untimely	12 (37.50)	13 (46.43)	25 (41.67)
	Timely	20 (64.50)	15 (53.57)	35 (58.33)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Untimely	15 (45.45)	7 (25.93)	22 (36.67)
	Timely	18 (54.55)	20 (74.07)	38 (63.33)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Untimely	27 (41.54)	20 (36.36)	47 (39.17)
	Timely	38 (58.46)	35 (63.64)	73 (60.83)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

Table 5.31 Classification of non-defaulters and defaulters on the basis of input-output ratio

Area	Input-output ratio	Non-defaulters	Defaulters	Total
Edathua	Below one	0 (0.00)	0 (0.00)	0 (0.00)
	Above one	32 (100.00)	28 (100.00)	60 (100.00)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Below one	1 (3.09)	2 (7.41)	3 (5.00)
	Above one	32 (96.97)	25 (92.59)	57 (95.00)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Below one	1 (1.54)	2 (3.64)	3 (2.56)
	Above one	64 (98.46)	53 (96.36)	117 (97.54)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

input-output ratio above one. This implies that input-output ratio does not have any role in discriminating between non-defaulters and defaulters.

#### 5.5.1.11 Marketed surplus

Marketed surplus is that quantity of the produce which the producer-farmer actually sells in the market, irrespective of his requirements for family consumption, farm needs and other payments. A high marketed surplus leads to prompt repayment of the loan. Classification based on marketed surplus shown in Table 5.32 reveals that 70 per cent of the defaulters and 97 per cent of the non-defaulters had marketed surplus which indicated that there was much variation among the two groups. Hence marketed surplus can be considered as an influential discriminating factor between non-defaulters and defaulters.

#### 5.5.1.12 Other selected variables

The selected variables such as operating area, percentage of crop production income to agricultural income, percentage of crop production income to total income, consumption expenditure and credit gap are on ratio scale. On the basis of the average value an attempt was made to explain their influence in discrimination. Results are shown in Table 5.33.



Table 5.32 Classification of non-defaulters and defaulters on the basis of marketed surplus

Area	Marketed surplus	Non-defaulters	Defaulters	Total
Edathua	Absent	0 (0.00)	11 (39.29)	11 (18.33)
	Present	32 (100.00)	17 (60.71)	49 (81.67)
	Total	32 (100.00)	28 (100.00)	60 (100.00)
Kainakary	Absent	2 (6.06)	6 (22.22)	8 (13.33)
	Present	31 (93.94)	21 (77.78)	52 (86.67)
	Total	33 (100.00)	27 (100.00)	60 (100.00)
Pooled	Absent	2 (3.08)	17 (30.91)	19 (15.83)
	Present	63 (96.92)	38 (69.09)	101 (84.17)
	Total	65 (100.00)	55 (100.00)	120 (100.00)

Figures in parentheses indicate percentages to totals

Operating area (paddy cultivating area) of the farmer is directly related with the productivity. High productivity results in relatively large net income which in turn help the farmer to repay the loan. Noticeable variation in average operating area was not found between the two groups viz., non-defaulters and defaulters.

Contribution of crop production income to total agricultural income and to total annual income of the farmer were found out to study their influence in discriminating between non-defaulter and defaulter. The analysis showed that these variables did not exhibit any role in discriminating between non-defaulters and defaulters. The percentage shares were only to the extent of 36.11 and 36.24, and 23.41 and 22.16 respectively of non-defaulters and defaulters.

Consumption expenditure is a direct outcome of the family size which considerably influences repaying capacity. The chances of default may be high among borrowers with large consumption expenditure. Analysis showed that there was not much difference between defaulter and non-defaulter on the basis of average consumption expenditure.

Credit gap for a borrower is actually the defference between the credit supplied and the credit requirement. As a result of credit gaps farmer may have to seek finance from

Table 5.33 Classification of non-defaulters and defaulters on the basis of mean values

Area	Non- defaulters	Defaulters	Total
Operating area (in ha)	1.20	1.23	1.26
Percentage of crop production income to total agricultural income	36.11	36.24	36.17
Percentage of crop production income to total income	23.41	22.16	22.83
Consumption expenditure (in Rs.)	20363	21310	20797
Credit gap (in Rs.)	8611	8645	8626

150

other sources on more onerous terms. There can be chances of sub-optimum utilization of inputs due to inadequate credit which results in depressed net income. The possibility of default will be more if the farmer had availed credit from other non-institutional agencies to meet the credit gap. Preference for repayment is often given to the loan taken from the non-institutional agencies. Analysis showed that there exist some difference in the credit gap between the non-defaulters and defaulters. Hence it can be considered as a discriminating factor.

#### 5.5.1.2 Discriminant function analysis

Discriminant function analysis has been used here to identify the factors discriminating between non-defaulters on the one hand and defaulters on the other. The set of independent variables used are based on the socio-economic characteristics of the borrowers.

The selected socio-economic characteristics of the borrowers are shown in Table 5.34 together with the means and F values for the two groups viz., defaulters and non-defaulters. The discriminant function of the following form was fitted to the data.

Table 5.34 Group mean with regard to selected variables of the non-defaulters and defaulters

Sl. No.	Variable	Mean		F ratio
		Non-defaulter (N <sub>a</sub> =65)	Defaulter (N <sub>b</sub> =55)	
1.	Educational level (X <sub>1</sub> )	0.3692	0.4182	0.2954
2.	Type of farmer (X <sub>2</sub> )	1.0000	0.9818	-0.2193
3.	Main occupation (X <sub>3</sub> )	0.6462	0.6000	0.2669
4.	Variety (X <sub>4</sub> )	0.7692	0.7090	0.5556
5.	Operating area (X <sub>5</sub> )	1.2929	1.2345	0.3648
6.	Percentage of crop production income to total agricultural income (X <sub>6</sub> )	36.1186	36.2440	-0.0126
7.	Percentage of crop production income to total income (X <sub>7</sub> )	23.4057	22.8358	0.2162
8.	Consumption expenditure (X <sub>8</sub> )	20363.3846	21310.1818	1.3810
9.	Fertilizer consumption (X <sub>9</sub> )	0.9538	0.9454	-0.4345
10.	Time of sowing (X <sub>10</sub> )	0.4000	0.5818	4.0100*
11.	Incidence of pest/disease (X <sub>11</sub> )	0.9385	0.9454	-0.2609
12.	Natural calamities (X <sub>12</sub> )	0.9538	0.8909	1.6970
13.	Disbursement of loan (X <sub>13</sub> )	0.5846	0.6364	0.3302
14.	Input-output ratio (X <sub>14</sub> )	0.9846	0.9636	0.5313
15.	Marketed surplus (X <sub>15</sub> )	0.9693	0.6909	19.9000**
16.	Credit gap (X <sub>16</sub> )	8611.3808	8645.0819	-0.1364

\*\* at 0.01 level of significance

\* at 0.05 level of significance

$$\begin{aligned}
Z = & 0.0970 X_1 - 0.0106 X_2 - 0.2048 X_3 + 0.0457 X_4 + \\
& 0.2539 X_5 - 0.5092 X_6 - 0.3132 X_7 - 0.1943 X_8 + \\
& 0.0829 X_9 - 0.3728 X_{10} + 0.1358 X_{11} + 0.2668 X_{12} - \\
& 0.1895 X_{13} - 0.0415 X_{14} + 0.9054 X_{15} + 0.3048 X_{16}
\end{aligned}$$

The discriminant function was tested for its significance to examine whether the characteristics considered together are significantly discriminating between defaulters on the one hand and non-defaulters on the other. As per univariate statistics the two groups differed significantly with respect to the variables, marketed surplus ( $X_{15}$ ) and time of sowing ( $X_{10}$ ).

Since the interdependence among the variables affect multivariate analysis, it is worth examining the nature of correlation of the predictor variables. High correlation was found with  $X_5$  (operating area) to  $X_2$  (type of farmer),  $X_6$  (percentage of crop production income to agricultural income) and  $X_7$  (percentage of crop production income to total income). These are to be expected since operating area is related closely with the type of farmers and percentage of crop income to agricultural income and total income. It is not possible to assess the importance of the individual variables because they are correlated.

To eliminate the interdependence among the variables, the step-wise selection was done using forward selection and backward elimination procedures. Mahalanobis distance  $D^2$  was the criterion for the variable selection. The variables with minimum  $D^2$  values are selected<sup>3</sup>. The result of step-wise selection revealed that the variables such as  $X_{15}$ ,  $X_{10}$  and  $X_{16}$  are the variables included in their respective order. Thus only three among the socio-economic characteristics viz., marketed surplus ( $X_{15}$ ), time of sowing ( $X_{10}$ ) and credit gap ( $X_{16}$ ) were the significant discriminators between non-defaulters and defaulters. All other variables did not have any influence to discriminate between the two groups.

When the three significant variables were included the relevant discriminant function was found to be

$$Z = -0.9023 X_{10} + 2.8184 X_{15} - 0.0078 X_{16}$$

$D^2$  and variance ratio were worked out as 0.8883 and 8.6714 respectively. The tabulated F was significant at one per cent level of significance showing that the three characteristics considered together were useful in discriminating the borrowers into defaulters and non-

---

3. Norusis, J.M. 1988. *SPSS/PC + Advanced Statistics TM V2.0 for the IBM PC/XT/AT and PS/2* : SPSS Inc., 444N, Chicago. p. B-17

defaulters. Thus the difference between the two groups were mostly oriented towards  $X_{15}$ ,  $X_{10}$  and  $X_{16}$ . The discriminating variables obtained here is quite contrary to the variables obtained in the study of Pandey and Muraleedharan (1977), Pradhan and Sharma (1981), Chand and Sindhu (1985) and Mehta and Prasher (1987).

The magnitude of the coefficients is the indicative of the relative importance of the variables. Variables with large coefficients are found to contribute more to the overall discriminant function which is shown in Table 5.35. The sign of  $l_i$ 's in the Z equation suggested that higher level of marketed surplus, lower credit gap and comparatively less chances of late sowing which is indicated by the lower value of time of sowing, contributed towards high values of Z, thus placing the borrower in the non-defaulter group. The Z score for non-defaulters was higher compared to defaulters (0.4320 for non-defaulters against -0.5105 for defaulters). On the other hand, the borrowers with large credit gap along with lower level of marketed surplus and comparatively high chances of late sowing contributed towards default.

In order to know the relative importance of the characteristics in their power to discriminate between the two groups of borrowers, the percentage of total distance measured was calculated. The percentage contribution of each selected



Table 5.35 Relative importance of the significant variables for non-defaulters and defaulters

Significant variable	Mean values		Mean of mean value for both groups	Coefficients ( $I_i$ )
	Non-defaulter	Defaulter		
Time of sowing ( $X_{10}$ )	0.4000	0.5818	0.4833	-0.9023
Marketed surplus ( $X_{15}$ )	0.9692	0.6909	0.8413	2.8184
Credit gap ( $X_{16}$ )	8611.3808	8645.0819	8626.8272	-0.0078

variable to the total distance measured was shown in Table 5.36. The marketed surplus was found to be the major characteristic which discriminated one group from the other followed by time of sowing and credit gap. The percentage contribution of these variables to the total distance measured was 77.78, 16.27 and 5.95 per cent respectively. The minimum  $D^2$  value in the case of each of the relevant variable was found to be significant at one per cent level.

The discriminant function can be used to predict whether any borrower is likely to be a defaulter or non-defaulter on the basis of the information on the above three characteristics of the borrower. The mean discriminant scores for the non-defaulters and defaulters were found to be 0.4320 and -0.5105 respectively. The critical mean discriminant score for the two groups was found to be 0.03925. So if the discriminant score for a borrower on the significant variable is found to be more than 0.03925, he can be predicted to be a non-defaulter, otherwise he is likely to be a defaulter.

The percentage of cases classified correctly is an indicator of the effectiveness of the discriminant function. When evaluating this measure, it is important to compare the observed misclassification rate to that by chance. Here 65 per cent of the respondents were correctly assigned to their groups by the discriminant function.

Table 5.36 Percentage contribution of significant variables to the total distance

Significant variable	Mean ( $d_i$ )	Coefficients ( $I_i$ )	Contribution of each variable $I_i \times d_i$	Per cent contribution	Minimum $D^2$
Time of sowing ( $X_{10}$ )	-0.1818	-0.9023	0.1641	16.27	0.6680*
Marketed surplus ( $X_{15}$ )	0.2783	2.8189	0.7844	77.78	0.8244*
Credit gap ( $X_{16}$ )	-33.7011	-0.0018	0.0607	5.95	0.8883*
			----- 1.0084	----- 100.00	

\* at 0.01 level of significance

# Summary

---

## SUMMARY

The present study on supply utilization and repayment performance of crop loans of commercial banks in Alappuzha district was undertaken with special reference to paddy on the basis of data pertaining to the year 1991-92. The main objectives of the study are to assess credit requirement, availability and its gap in paddy cultivation, to analyse the extent of utilization and repayment of loans and to identify the factors discriminating non-defaulters from defaulters. Data for the study were generated through a sample survey of borrowing households, conducted during 1992-93.

Two stage random sampling method was adopted for selection of samples, with branches of the lead bank as primary units and borrowers as secondary units. In the first stage two bank branches were randomly selected. These were located at Edathua and Kainakary. From the list of borrowers of each branch sixty were selected as random. Both the branches come under Champakulam block of Kuttanad, where the main paddy growing season is *punja* (October-January). Information on the costs and returns of paddy, credit requirements, and utilization and repayment of the loan were collected from the respondents. Post-stratification of the

sample based on size of holdings viz., marginal, small and large farmers was also done.

Paid out costs alone were taken into consideration for estimating the cost of cultivation. The criteria used for assessing credit requirement was based on entire paid out cost of cultivation and 75 per cent of paid out cost of cultivation. Tabular analysis and linear discriminant function were the tools used.

Cost of cultivation estimates showed an inverse relationship between the cost of cultivation and size of holding in both the areas viz., Edathua and Kainakary and also at the pooled level. Hence economies of scale of operation is a determinant factor influencing the cost of cultivation of paddy.

Input-output ratio was estimated to assess the desirability of investment in paddy crop. Highest input-output ratio was obtained for large farmers (1.87) followed by marginal farmers (1.70) and small farmers (1.64).

Based on the criterion of 100 per cent paid out cost of cultivation, the estimated credit requirement per hectare for the sample as a whole was Rs.12,747/- for marginal farmers, Rs.12,707/- for small farmers and Rs.12,652/- for large farmers. By following the criterion of 75 per cent of

paid out cost of cultivation the credit requirement per hectare was Rs.9560/-, Rs.9489/- and Rs.9529/- for marginal, small and large farmers respectively.

Credit availability to a farmer from the commercial banks is based on the scale of finance fixed for the crop. The scale of finance fixed for paddy in *punja* season for Alappuzha district during 1991-92 was Rs.5000/- per hectare with Rs.3250/- as 'A' component and Rs.1750/- as 'B' component.

Credit gap was estimated by finding the difference between the credit required for paddy cultivation and the credit supplied by the bank. Credit gap estimated per hectare of paddy was Rs.7652/- for large farmers, Rs.7706/- for small farmers and Rs.7747/- for marginal farmers, at the pooled level based on 100 per cent paid out cost of cultivation. The marginal, small and large farmers could met about 39.23, 39.35 and 39.52 per cent of their credit requirements from the bank, leaving a credit gap of 60.74, 60.65 and 60.45 per cent respectively. By following 75 per cent of paid out cost of cultivation the per hectare credit gap was Rs.4560/-, Rs.4529/- and Rs.4489/- for marginal, small and large farmers respectively. Marginal, small and large farmers could met 52.30, 52.43 and 52.69 per cent of their requirements with the help of bank finance.

Analysis of the extent of utilization of crop loan showed that at the pooled level 52.5 per cent of the borrowers utilized the loan for the stipulated purpose while 47.5 per cent utilized it for the purposes other than stipulated. Eventhough this 47.5 per cent of the borrowers diverted the loan for other purposes they had taken up paddy cultivation with their own capital. The extent of utilization was high among marginal farmers followed by large farmers and small farmers.

Taking into account the time of disbursement of the loan to explain the extent of utilization, it was found that 92.31 per cent of large farmers, 62.69 per cent of small farmers and 33.33 per cent of marginal farmers could avail of the loans coinciding with the beginning of crop season. Timely disbursement of credit coinciding with the beginning of crop season was more in the case of large farmers compared to small and marginal farmers.

Relationship between the delay in receipt of the loan and its use for purposes other than stipulated was analysed to see whether utilization of the loan for purposes other than stipulated was made wilfully or not. Diversion of the loan, even on timely disbursement was relatively more among large farmers followed by small farmers and marginal farmers. Whereas 83.33 per cent of the marginal farmers who diverted



their loans obtained the loan untimely, the corresponding percentages for small and large farmers were 60.00 and 20.00 respectively.

Farm level comparison done to study the extent of utilization showed that all types of farmers had incurred labour cost and material cost above the cash and kind components of the loan. An average farmer incurred labour cost almost three times that of cash component of the credit disbursed.

It was found that 54.17 per cent of the borrowers were non-defaulters and 45.83 per cent were defaulters. It was also found 55.56 per cent of marginal farmers, 52.24 per cent of small farmers and 57.69 per cent of large farmers were non-defaulters at the pooled level eventhough all of them had the repayment capacity.

A quantitative analysis of the loan repayment revealed that at the pooled level 49.28 per cent of the total loan disbursed was repaid while 50.72 per cent was overdue. Among the different holding size groups, 57.69 per cent, 53.53 per cent and 42.27 per cent of the total loan disbursed to them was repaid by marginal farmers, small farmers and large farmers respectively.

Various reasons attributed to non-repayment by the farmers in the study area were non-remunerative price for the produce, storage of the produce to fetch a high price, diversion and low yield due to crop failure.

Percentage analysis of the selected variables for discrimination which are in ratio scale and average value of the variable in interval scale revealed that factors such as marketed surplus, time of sowing and credit gap has some influential role in discrimination between the two groups viz., defaulters and non-defaulters.

Using linear discriminant function, factors discriminating non-faulters and defaulters were identified. The difference between two groups were mostly oriented towards marketed surplus ( $X_{15}$ ), time of sowing ( $X_{10}$ ) and credit gap ( $X_{16}$ ). The percentage contribution of these variables to the total distance measured was 77.78, 16.27 and 5.95 per cent respectively. The critical mean discriminant score to predict a borrower as non-defaulter or defaulter was 0.03925. About 65 per cent of the respondents were correctly assigned to their group by the discriminant function.

Based on the findings of the study, the following recommendations emerge.

Findings of the study revealed that the credit availability is a major constraint in all farms cultivating paddy in the study area. This calls for a greater expansion of institutional credit to the farmers. The present scale of finance which is found to be inadequate to meet the credit needs has to be updated. The factors like, seasonal as well as farm-wise differences in the cost of cultivation, profitability of the crop, owned investment of the farmer etc. should be given due weightage in determining the scale of finance. Instead of fixing scale of finance for the district as a whole, it should be fixed for the service area of each bank branch. In order to reduce the gap between the demand and supply of credit, it is suggested that atleast 75 per cent of the paid out cost of cultivation should be provided by the institutional agencies. The rest can be met by the farmers from their own savings. By computing 75 per cent of the paid out cost as the credit limit, the per hectare scale of finance should be fixed at Rs.9500/- for paddy (*punja*) cultivation in Alappuzha district. If possible a time-phased credit limit for each season should be fixed for each farmer borrower with reference to his production requirements and resource position.

Conceptually crop loan scheme is described as a production oriented lending system, but in practice it is

rather a security oriented one. Maximum efforts should be taken to disburse the loan on the security of standing crop. This may help to include the tenant farmers also in the beneficiary list. Technical officer of the bank should take maximum efforts for timely disbursement of the loan coinciding with the beginning of the crop season to avoid the chances of misutilization.

To arrest the growth of overdues, a recovery cell should be set up by each credit institution for monitoring the recovery process and undertaking suitable follow-up action.

## *References*

---

## REFERENCES

- Anandan, L. 1979. A study on pattern of agricultural financing by SBI in Alanduri - An adopted village in Coimbatore district. *Financing Agric.* 10 (4): 33-38
- Arunachalam, R. and Palaniswamy. 1991. Utilization and repayment of co-operative crop loan. *Indian Coop. Rev.* 29 (2): 180-185.
- Balishter and Singh, R. 1987. Crop loan overdues in co-operatives - A study of Agra district in Uttar Pradesh. *Financing Agric.* 19 (1): 16-20 ✓
- Banakar, B. and Suryaprakash, S. 1987. Borrowing and utilization pattern of crop production credit in Karnataka : A case study. *Prajan* 16 (1): 77-83
- Babu, C.V. 1992. Inter seasonal and inter farm demand for production credit and its gap in paddy cultivation - A micro level approach. *Agricultural Banker* 15 (3): 31-45
- Babu, K.S. 1990. Credit management in agriculture : Some qualitative issues. *Agricultural Banker.* 13 (3): 8
- Bhanja, P.K. 1971. Institutional credit and HYV programme. An analysis of credit requirement and economic feasibility : A case study in Birbhun, West Bengal. *Indian J. Agric. Econ.* 26 (4): 516-514

- Bhatia, M.S., Azad, M.P. and Singh, C.P. 1971. Quantum and form of credit needs of the farmers in Basti district of Uttar Pradesh. *Indian J. Agric. Econ.* 26 (4): 654
- Bhosale, S.R. and Danget, S.B. 1988. A study into the overdue of co-operative loans in Maharashtra. *Indian J. Agric. Econ.* 43 (3): 420
- Borthakur, N. 1988. Impact of short-term loan on farm productivity. *Financing Agric.* 20 (3): 6-8
- Bihari, V., Singh, R.I. and Singh, D. 1975. A study of requirement, availability, cost and sources of credit of small farmers in block Tanda, district Faizabad (Uttar Pradesh). *Indian J. Agric. Econ.* 30 (3): 246
- Borthakur, N. 1988. Impact of short-term loans on farm productivity. A case study of Lakshmi Gaonlia Bank in Jorhat district of Assam. *Financing Agric.* 20 (3): 6
- Chahal, T.S. and Chawla, J.S. 1978. Financing agriculture in Punjab - A case study. *Indian J. Agric. Econ.* 33 (4): 165
- Chand, R. and Sindhu, D.S. 1985. Characteristics of defaulters of agricultural credit in Punjab. A discriminant function approach. *Indian Coop. Rev.* 22 (3): 251-262
- Chatterjee, R.K. and Banerjee, S. 1978. Some aspects of credit for paddy cultivation - A study of selected farms. *Indian J. Agric. Econ.* 33 (4): 169

- Chengappa, P.G. 1990. Discriminant function as a tool in agricultural financial management. Paper presented at Summer Institute in Agricultural Financial Management, University of Agricultural Science, Hebhal, Bangalore, 21 May to 6 June, 1990
- \* Desai, B.M. and Desai, D.K. 1969. *Farm Production Credit in Changing Agriculture*. Indian Institute of Management, Ahmedabad
- Desai, S.S.M. 1979. *Agriculture and Rural Development Banking in India* (3rd Edn.). Himalaya Publishing House, Delhi. p. 219-226.
- DRDA. 1986. *Alleppey District Integrated Rural Development Programme, Annual Action Plan 1985-86*. District Rural Development Agency, Alleppey, Kerala
- Dhyani, B.L. and Tewari, S.K. 1988. Predicting good and bad risks in agricultural production credit - An application of numerical evaluation system. *Indian J. Agric. Econ.* 13 (2): 126-138
- Farm Information Bureau. 1993. *Farm Guide*. Farm Information Bureau, Government of Kerala
- Galgalikar, V.D. and Gadre, N.A. 1978. Structure of rural credit in Akola district (Maharashtra state). *Indian J. Agric. Econ.* 33 (4): 136-137
- Galgalikar, V.D., Gadre, N.A. and Bhole, B.P. 1975. Small farmers and institutional credit - A case study in Akola district (Maharashtra state). *Indian J. Agric. Econ.* 30 (3): 247



- Gard, J.S. and Shrivastava, H.L. 1971. Credit requirements for changing agriculture. *Indian J. Agric. Econ.* 26 (3): 581
- Gautem, V., Rai, K.N. and Chaudhary, K.S. 1988. Predicting crop acreage and short-term production credit requirement in Hissar district. *Indian J. Agric. Econ.* 40 (2): 140-148
- Gill, S.S., Khera, G.S. and Chowla, J.S. 1971. An assessment of short-term production credit needs of small farmers (A study in the district Amritsar, Punjab). *Indian J. Agric. Econ.* 26 (4): 562
- Goyal, S.K. and Panday, R.N. 1987. An analysis of factors affecting overdues of primary agricultural co-operative credit and service societies in Haryana. *Indian Coop. Rev.* 25 (1): 50-54
- Gupta, G.K. 1988. Institutional farm financing with special reference to problems of loan recoveries in Jabalpur district (Madhya Pradesh). *Indian J. Agric. Econ.* 43 (3): 432
- Gupta, L.N. 1978. Loan utilization pattern of farm in Rajasthan. An empirical study. *Indian J. Agric. Econ.* 33 (4): 168.
- Gupta, U.C. 1991. *Agricultural Finance in India.* Anmol Publications, Delhi. p. 43-55
- Guruswami, P.A. and Baluswami, P.N. 1975. Factors affecting credit from Canara bank. *Indian Coop. Rev.* 12 (3): 273-284

- Jain, H. 1988. Impact of institutional credit on tribal and non-tribal farmers in Mandla district of Madhya Pradesh. *Indian J. Agric. Econ.* 43 (3): 418
- Jain, H.C. 1980. A critical analysis of the performance of RRB with reference to small/marginal farmers in Madhya Pradesh. *Land Bank J.* 19 (1): 23-39
- Kalyankar, S. and Rajmane, K.P. 1987. Discriminant function analysis in the loans of co-operatives. *Indian Coop. Rev.* 25 (1): 38-42
- KAU. 1987. *Supply and Utilization of Short term Co-operative Agricultural Credit in Palghat District.* Kerala Agricultural University, Vellanikkara, Thrissur
- KAU. 1992. *Viability of Co-operative Credit - An Analysis of Crop Loans in Trichur District.* Kerala Agricultural University, Vellanikkara, Thrissur
- Khatry, R.S. and Chamola, S.D. 1982. Study of utilization pattern of loan advanced by primary agricultural credit societies in Haryana. *Agricultural Banker* 5 (1): 31-35
- Kumar, D. and Khalon, A.S. (1978). A critical study of farmers indebtedness in Ludhiana district. *Financing Agric.* 10 (2): 18-26
- Lavania, G.S., Bhalero, M.M. and Kalicharan. 1968. Utilization of co-operative credit. A regression study. *Indian Coop. Rev.* 5 (3): 355-361

- Lokanadhan, K. and Varadharajan, S. 1991. A study on the recovery of crop loan in primary co-operative banks of North Arcot district. *Indian Coop. Rev.* 29 (2): 108-112
- Mahlan, L.R., Bal, A.S. and Singh, B. 1986. Socio-economic characteristics of Indian farmers affecting repayment of loans. *Financing Agric.* 18 (3&4): 16-20
- Mehta, P. and Prasher, R.S. 1987. *Credit in Agriculture*. B.R. Publishing corporation, Delhi. p. 9-64
- Menon, M.S. 1972. Agricultural credit. *Indian Coop. Rev.* 10 (1): 37-46
- Menon, S.R. 1989. Demand and supply of agricultural credit - A case study of Madakathara panchayath. M.Sc. Co-operation and Banking thesis. Kerala Agricultural University, Vellanikkara, Thrissur.
- Mishra, R.S., Gupta, S.K. and Kalway, A.K. 1982. Impact of agricultural finance on farm income and employment pattern in Jabalpur district of Madhya Pradesh. *Agricultural Banker* 5 (1): 46-48
- Mohan, T.C., Veeraswami, T. and Sivaraman, S. 1984. Bayesian analysis of crop loan overdues in co-operative societies in Thanjavur district. Tamil Nadu. *Indian J. Agric. Econ.* 40 (4): 541-555
- Mohanan, N. 1978. Crop loan system in Cannanore district. *Financing Agric.* 10 (3): 60-68

- Murthy, H.G.S., Shekar, G.S.C. and Rebello, N.S.P. 1977. Crop loan requirements of farmers in Hoskote taluk of Bangalore district, Karnataka. *Financing Agric.* 8 (4): 12-17
- Muthiah, C. 1970. Co-operative credit and agricultural development : Cost and overdues in less developed rice region. *Indian J. Agric. Econ.* 25 (1): 91-102
- NABARD. 1989. *Potential Linked Rural Credit Plan, Alleppey District, Kerala State (1989-90 to 1994-95)*. National Bank For Agriculture And Rural Development, Regional Office, Thiruvananthapuram
- NABARD. 1991. *Potential Linked Plan for 1993-94*. National Bank For Agriculture And Rural Development, Regional Office, Thiruvananthapuram
- Naidu, M.R. and Reddy, D.D. 1986. Defaulter characteristics in agricultural finance. *Indian J. Agric. Econ.* 32 (2): 41-51
- Naidu, M.R., Reddy, D.D. and Prasad, J.V.S. 1986. Defaulters characteristics in agricultural credit use - A micro analysis. *Financing Agric.* 18 (3&4): 11-15
- Norusis, J.M. 1988. *SPSS/PC + Advanced Statistics TM V2.0 for the IBM PC/XT/AT and PS/2*. SPSS Inc., 444N, Chicago. p. B-1-B-23
- Palanisamy, P. 1989. Role of co-operatives in crop loan - A study of the Konganapuram (Salem dt.) agricultural service co-operative society. *Agricultural Banker* 12 (1): 33-35

- Pandey, U.K. and Muraleedharan, M.A. 1977. An application of discriminant function in agricultural finance. *Indian J. Agric. Econ.* 32 (2): 41-51
- Pandey, R.K. and Kumar, A. 1988. Study of growth and disparity in flow of co-operative credit in India. *Indian J. Agric. Econ.* 43 (3): 416
- Patel, A.D. and Singh, S.B. 1975. An appraisal of Deena Bank's crop finance in Sabarkantha district of Gujarat. *Indian Coop. Rev.* 12 (1): 84-100
- Patel, A.R. 1979. Agriculture Finance in Nepal. *Indian J. Agric. Econ.* 24 (3): 87
- Patel, K.A. 1989. Recovery performance of direct agricultural advances of scheduled commercial banks. *Financing Agric.* 21 (3): 3
- Patel, R.H., Patel, G.N., Desai, M.M. and Patel, R. 1987. A study of utilization of farm credit. *Indian Coop. Rev.* 25 (1): 93-101
- Patel, S.M. and Thakur, D.S. 1973. An appraisal of the crop loan system of a co-operative bank. *Indian Coop. Rev.* 10 (4): 527-535
- Pathania, K. and Varma, Y. 1991. Impact of size of loan and size of farmers in co-operative credit utilization. *Indian Coop. Rev.* 29 (2): 152-158
- Patil, S.M. 1967. A case study of repayment of crop loan and causes of their non-repayment in Maharashtra state. *Indian J. Agric. Econ.* 22 (2): 87-91

- Pradhan, T. and Sharma, S. 1981. Factors discriminating the borrowers in crop loan repayment of a branch of Allahabad bank. *Financing Agric.* 13(3): 24-29
- Prasad, G.N.S. and Sapate, B.G. 1977. Projection of short-term credit requirements for different districts of Vidarbha region for the period of 1978-83. *Indian J. Agric. Econ.* 30 (2): 136
- Radhakrishnan, V. and Mukundan, K. 1988. Supply and utilization of short-term co-operative agricultural credit in Palghat district. *Indian J. Agric. Econ.* 43 (3): 429
- Rajput, S.S., Singh, K.R. and Singh, K.P. 1980. Farm credit availability and its utilization - A case study. *Indian Coop. Rev.* 17 (3): 249-257
- Ramamoorthy, K. 1972. Credit needs and availability to farmers. *Financing Agric.* 4 (2): 12
- Ramesha, K. 1990. An assessment of the production credit gap on paddy farms. *Agricultural Banker* 13 (1): 29-38
- Rambabu, P., Daivadeenam, P. and Prasad, Y.E. 1991. Repayment pattern of agricultural credit - A study of Andhra bank in Guntur district, Andhra Pradesh. *Indian Coop. Rev.* 29 (2): 159-165
- \*Rao, B.P. and Rao, L.K.M. 1979. Overdues in institutional farm credit - A case study of co-operatives in India. *Agricultural Financing in India* (ed). Angrish, A.C. Junagh. p. 224-228
- Ratan, G. 1978. Demand for agricultural credit in rural Bengal. *Indian J. Agric. Econ.* 33 (4): 151

- RBI. 1972. *Manual on Production Oriented System of Lending for Agriculture*. Reserve Bank of India, Agriculture credit department, Bombay
- Reddy, S.R. 1976. Factors discriminating defaulters from non-defaulters in primary credit co-operatives. *Indian Coop. Rev.* 14 (1): 1-31
- SBT. 1992. *Annual Credit Plan 91-92, Alappuzha District, Kerala State*. State Bank of Travancore, Lead Bank Department, Thiruvananthapuram
- Sai, K.J.S.S. 1988. Flow of institutional credit to agriculture in deltaic regions - A case of West Godavari district, Andhra Pradesh. *Indian J. Agric.* 43 (3): 398-402
- Sai, K.J.S.S., Venkateswarlu, G. and Seetharaman, S. 1987. Overdue pattern of agriculture credit - A study in a progressive block of West Godavari district (Andhra Pradesh). *Indian Coop. Rev.* 24 (3): 296-305
- Saikia, A. 1988. Role of bank finance in Agriculture - Some findings. *Financing Agric.* 20 (2): 13-16
- Shaheena, P. and Rajitha, V. 1991. Utilization pattern and repayment performance of crop loan by co-operatives. *Indian Coop. Rev.* 28 (3): 245-248
- Sharma, B.M. 1968. Mode of utilization of agricultural credit. *Indian J. Agric. Econ.* 4 (1&2): 78
- Sharma, P. 1992. Crop loans and bank lending (A case of Nagulapalle). *Banker* 29 (3): 21-28

Singh, A.J. and Dhawan, K.C. 1978. Source, utilization and productivity of agricultural credit in Ludhiana district of Punjab state. *Indian J. Agric. Econ.* 33 (4): 164

\* Singh, B. 1979. The role of credit in agricultural development. *Agricultural Financing in India* (ed). Angrish, A.C. Junagh. p. 77-80

Singh, C.B., Sharma, S.P. and Prashad, R. 1982. Farm finance by banks in rural development project. *Financing Agric.* 14 (1): 37

Singh, G., Singh, J.S. and Singh B. 1985. A study on repayment performance of borrowers in Punjab. *Financing Agric.* 17 (2): 7

Singh, H. 1971. A study of credit requirements and advances to farmers in Patiala district. *Indian J. Agric. Econ.* 26 (4): 496-503

Singh, S.P., Balishter and Jain, A.K. 1988. A study of overdue loans in agriculture in Agra district of Uttar Pradesh. *Indian J. Agric. Econ.* 43 (3): 423

Singh, U.S. and Jha, D. 1971. A normative analysis of the impact of credit availability on farm income and demand for short-term credit on farms in Delhi. *Indian J. Agric. Econ.* 4 (2): 12

Sisodia, K.S. and Singh, R.K. 1987. Adequacy of short term finance in agriculture in Hathras block of Aligarh district, *Indian Coop. Rev.* 24 (3): 286-295

Subramanyan, K.V. (1975). Adoption of new technology in small farms. *Indian J. Agric. Econ.* 30 (3): 181-185



- Subramanian, S.R. and Ramamoorthy, K. 1971. Credit needs and availability to farmers. *Indian J. Agric. Econ.* 26 (4): 558
- Suryanarayana, P. and Chiranjeeoulou, P. 1985. A study of utilization of farm credit. *Indian Coop. Rev.* 22 (4): 425-432
- Suryawanshi, S.D. 1988. Credit requirement and its gap on the farmers in Bhima command area of Western Maharashtra. *Indian J. Agric. Econ.* 43 (3): 424
- Suryawanshi, S.D., Patil, R.G. and Kapse, P.M. 1978. Credit requirement, availability and its gap on the farms in Girna command area of Maharashtra. *Indian J. Agric. Econ.* 33 (4): 129
- Talukdar, K.C., Saitia, A. and Goswami, P.C. 1978. Availability and extent of utilization of rural credit - A case study in East Jorhat development block, Assam. *Indian J. Agric. Econ.* 33 (4): 166
- Tewari, A. 1990. *Financial Institution and Agricultural Development.* Chugh Publications, Allahabad. p. 2-26
- Vaikunthe, L.D. 1991. Agricultural co-operative credit utilization and recovery performance (A case study of K.C.C. bank, Dharwad). *Indian Coop. Rev.* 29 (1): 39-43

- Venkataram, J.V., Subramanian, R., Ramanna, R. and Sundararaj, N. 1979. Discriminant of loan applicants into defaulters and non-defaulters. *Mysore J. Agric. Sci.* 13 (2): 214-218
- Venkateswaran, S. 1981. Knowledge and attitude of farmers on crop loan system. *Financing Agric.* 13 (2): 24-27
- Venkateshwarlu, V. and Rao, M.M.B. 1980. Utilization pattern of credit Vis-A-Vis co-operative credit - A critical study in Guntur district of Andhra Pradesh. *J.* 19 (1): 1-10
- Waghmare, P.R., Kulkarni, S.N. and Ashturkar, B.W. 1978. Demand for crop loan in Parbhani district (Maharashtra). *Indian J. Agric. Econ.* 33 (4): 134.

\* Originals not seen

# *Appendix*

---

SUPPLY UTILIZATION AND REPAYMENT PERFORMANCE OF CROP LOAN OF  
COMMERCIAL BANKS IN ALAPPUZHA DISTRICT

QUESTIONNAIRE FOR DATA COLLECTION

1. Name and address of the farmer :
2. Date of interview :
3. Name of the village :
4. Name of the branch :
5. Religion :
6. Family details :

Sl. No.	Name	Relat- ion to the head	Sex	Age	Mari- tal status	Edn. level	Occupation	Income			
							Main	Subsi- diary	Main	Subsi- diary	
-----											

7. Land holding

- a. Area under non-agricultural purpose :
- b. Land uncultivated :

- c. Net area cultivated :
- d. Total area :
- e. Area leased in :
- f. Area leased out :

8. Family social status            )  
 Whether member of any        )  
 organization                    )

9. Family expenditure	Monthly	Yearly	Daily
1. Food			
2. Clothing			
3. Medicine			
4. Education			
5. Fuel			
6. Others			
Total			

10. Cropping pattern

Crop	Area/No.	Expenses	Income	Net income
1. Paddy				
a. Virippu				
b. Mundakan				
c. Puncha				
2. Coconut				
3. Tapioca				

Contd.

Crop	Area/No.	Expenses	Income	Net income
4. Banana				
5. Pepper				
6. Other tuber crops				

11. Details of livestock and poultry

Sl.No.	Item	No.	Expenses	Income
	Cow			
	Buffalo			
	Goat			
	Poultry			

12. Implements and machinery used

Particulars of the machinery	No.	Year of purchase	Original value	Present value

13. Details of paddy cultivation

- a. Crop season :
- b. Year :
- c. Duration :
- d. Variety used : HYV/Improved/Local.
- Name :
- e. Time of sowing :



3. Seeds & sowing

4. Plant protection

## II Main land

1. Preparation of land

a. Dewatering

i. Chakram

ii. Petti & Para

iii. Motor

b. Ploughing

c. Digging

d. Levelling

e. Bunding

i. Outer bunds

ii. Inner bunds

iii. Channel

---



2. Manures & fertilizers

a. Lime  
    (Ameliorant  
    applied)

    1. Transpor-  
        tation

    ii. Appli-  
        cation

b. FYM

c. Fertilizers

    1.

    2.

    3.

d. Application  
    of manures  
    and ferti-  
    lizers

e. Transporta-  
    tion

III Broadcasting

a. Uprooting of  
    seedlings

-----

b. Planting of  
seedlings

IV Irrigation/  
Drainage

V Weeding (first)

a. Manual  
weeding

b. Weedicides,  
if any

c. Application

VI Manures and  
Fertilizers

1. First top  
dressing

a. Fertilizers

i.

ii.

iii.

b. Application  
charges

-----

2. Second top  
dressing

Fertilizers

i.

ii.

iii.

VII Weeding  
(second)

a. Manual  
weeding

b. Weedicides,  
if any

c. Application  
charges

IX Plant  
protection

a. Chemicals

i.

ii.

iii.

---

-----  
1 2 3 4 5 6 7 8 9 10 11 12 13 14  
-----

b. Application charges

X Harvesting & processing

1. Harvesting

2. Threshing & winnowing.

3. Drying

---

14. Receipts

Area	Quantity		Price		Total value
	Paddy	straw	Paddy	Straw	

15. Storage

Type	Capacity	Cost
------	----------	------

16. Disposal of produce

Qty. given as wage	Qty. for family consumption	Qty. used for seed purpose	Qty. sold	Rate	Value
-----------------------	--------------------------------	----------------------------------	-----------	------	-------

17. Marketing costs

Mode of transportation	Cost of transportation	Loading & unloading	Total cost
---------------------------	---------------------------	------------------------	------------

18. Details regarding crop failure, if any

---

Reasons for failure	Approximate loss
---------------------	------------------

---

19. Details regarding crop loan

1. Total borrowing pattern of the farmers

---

Source	Purpose	Amount taken	Security
--------	---------	--------------	----------

---

2. Date of application of  
crop loan

3. Date of sanction :

4. Amount sanctioned

Cash :

Kind :

5. Rate of interest :

6. Margin money requirement  
for the loan :

7. Time of disbursement of  
loan :

- 8. Whether there is any field visit by AFO, if so at what time
- 9. Whether the loan sanctioned was sufficient, if no, how much
- 10. Whether the loan was used for some other purpose, if so what?
- 11. Details regarding repayment

Mode of repayment	Amount	Balance if any	Overdue if any

- 12. If not repaid, reasons for nonrepayment

**SUPPLY UTILIZATION AND REPAYMENT  
PERFORMANCE OF CROP LOANS  
OF COMMERCIAL BANKS IN  
ALAPPUZHA DISTRICT**

By

**LEKSHMI, S.**

**ABSTRACT OF A THESIS**

Submitted in partial fulfilment of  
the requirement for the degree

**Master of Science in Agricultural Economics**

Faculty of Agriculture  
Kerala Agricultural University

Department of Agricultural Economics  
COLLEGE OF HORTICULTURE  
Vellanikkara, Thrissur

**1993**



## ABSTRACT

An

The present investigation on the supply, utilization and repayment performance of crop loans of commercial banks in Alappuzha district with special reference to paddy was conducted on the basis of data pertaining to the year 1991-92. Data for the study were generated through a sample survey of borrowing households, conducted during 1992-93. The main objectives were to study the credit requirement, availability and its gap in paddy cultivation, to analyse the extent of utilization and repayment of loan, and to identify the factors discriminating the borrowers into non-defaulters and defaulters.

Two stage random sampling technique was used for generating primary data with branches of lead bank as first stage sample and borrowing farmers as second stage. From the list of branches with more than 60 crop loan accounts for paddy for *pusu* season, two branches viz., Idathua and Kainakary were selected at random. A sample size of 60 borrowers were selected at random from each branch. Linear discriminant function and tabular analysis were the tools used for analysis.

An inverse relation existed between cost of cultivation and size of holding in the two areas viz., Edathua and Kainakary and also at the pooled level.

Input-output ratio was highest for large farmers followed by marginal farmers and small farmers.

The credit requirement was Rs.12.747/- for marginal farmers, Rs.12,706/- for small farmers and Rs.12.652/- for large farmers based on the entire paid out cost of cultivation and Rs.9,560/-, Rs.9,489/- and Rs.9,529/- for marginal, small and large farmers respectively based 75 per cent of paid out cost of cultivation.

The scale of finance fixed for paddy in *punja* season for Alappuzha district during 1991-92 was Rs.5,000/- per hectare.

Credit gap estimated per hectare of paddy was Rs.7,652/- for large farmers, Rs.7,706/- for small farmers and Rs.7,747/- for marginal farmers based on 100 per cent paid out cost of cultivation and Rs.4,560/-, Rs.4,529/- and Rs.4,489/- for marginal, small and large farmers respectively based on 75 per cent of paid out cost of cultivation.

At the pooled level 52.50 per cent of the borrowers utilized the loan for the stipulated purpose while 47.50 per

cent utilized it for purposes other than stipulated. Coinciding with the beginning of the crop season 92.31 per cent of large farmers, 62.69 per cent of small farmers and 33.33 per cent of marginal farmers could avail of the loans.

Among the borrowers 54.17 per cent were non-defaulters and 45.83 per cent were defaulters. Out of the total loan disbursed in the study area, 49.28 per cent was repaid while 50.72 per cent was overdue. Various reasons attributed to non-repayment by the farmers in the study area were non-remunerative price for the produce, storage of the produce to fetch a high price, diversion and low yield due to crop failure.

The factors identified as significant discriminators between defaulters and non-defaulters were marketed surplus time of sowing and credit gap. The contribution of these variables to the total distance measured was 77.78, 16.27 and 5.95 per cent respectively. About 65 per cent of the respondents were correctly assigned to their group by the discriminant function.

