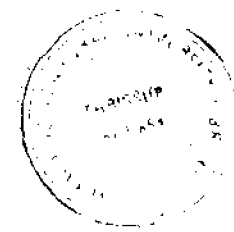
INVESTMENT PATTERN IN RURAL HOUSEHOLDS OF OLLUKKARA BLOCK PANCHAYATH IN THRISSUR DISTRICT



By

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THESIS

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DECLARATION

I hereby declare that the thesis entitled **"Investment Pattern in rural households of Ollukkara block panchayath in Thrissur district"** is a bonafide record of research work done by me during the course of research and 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.

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Certified that the thesis entitled **"Investment Pattern in rural households of Ollukkara block panchayath in Thrissur district"** is a record of research work done independently by Mr. Pratheesh under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, associateship or fellowship to him.

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To My Dearest

Achan & Amma

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

CHAPTER I

INTRODUCTION

Indian agriculture is now poised for a radical transformation. In spite of the fact that India has achieved self sufficiency in food production at aggregate level, Indian agriculture need to be diversified in production for income generation, employment expansion, poverty alleviation, export promotion etc. To achieve this diversified production investments in the field of agriculture is highly necessary.

When the green revolution technology was introduced in the mid sixties, great expectations were raised as to the beneficial effects it could induce into every class of farmers and other sectors of the population by increasing food production, employment opportunities and income levels. But its latter day performances have belied these expectations and it seemed that only those who have necessary absorptive capacity and base could benefit.

NATURE AND IMPORTANCE

Neglect of agriculture, an important sector of the Indian economy, is likely to have an adverse impact on the country. Such neglect has been observed as a fall in agricultural investment during the 1980s. Though shifting investment resources away from agriculture to non-agriculture may result in a faster growth in total gross domestic product, the growth across sectors is likely to be uneven, with non-agriculture likely to show a far higher growth than agriculture. However, slowing down agricultural growth would lead to growing income inequality in rural areas. If the present trends of investment policy are continued, large-scale cereal imports may become necessary and also, despite such imports, prices would go up substantially. Price increases of food grains are known to hit the poor most.

The gross capital formation at constant prices in agriculture reveals three distinct types of trends (i) a rising trend between 1960-61 and 1978-79 (ii) a falling

trend between 1978-79 and 1986-87 and finally (iii) an upward trend after 1986-87 (Mukherjee, 1996). When the proportion of investment directed towards agriculture was falling the output from agriculture did not fall but it stagnated. The Gross Capital Formation in Agriculture (GCFA) increased from Rs. 63 billion in 1960-61 to Rs. 182 billion in 1978-79 and the decreased to less than Rs 126 billion during 1989-90 and then recovered to a level of Rs.192 billion in 1998-99. (Gulati and Bathla, 2001)

The sources of finance for investment of individual farmers are from accumulated savings, current income, borrowed funds from institutions and individuals. This is termed as private capital formation, while the government expenditure in agriculture is called as the public capital formation. Private capital formation after 1982-83 has shown an upward trend while there is a downward trend in public capital formation.

OBJECTIVES

As agriculture enjoys a key share of Indian economy as a whole, investment in agriculture is of great concern as far as India is concerned. So from right after independence there were a lot of studies conducted on the various aspects of capital formation in the rural sector. Such studies were scarce in the Kerala context. The present study entitled "Investment Pattern in rural households of Ollukkara block panchayath in Thrissur district" is conducted with the following objectives.

1. To study the different sources of income of rural people
2. To examine the savings and expenditure pattern
3. To analyze the nature of investment
4. To identify the constraints associated with investment in rural areas.

SCOPE OF THE STUDY

The pace of agricultural development in India is an inspiring one. The agricultural development was slow during the earlier two decades after independence

but had picked up well during the late sixties. Remarkable developments have been taken place in Indian agriculture with green revolution and introduction of high yielding varieties. It is now widely known that for the betterment of agricultural production there should be more and more investments. i.e. mobilizing funds to boost up farm production. The total investment is contributed by investments in public and private sector (household sector).

Under this situation, it becomes essential to have knowledge about the income, savings and investment patterns of the rural households, as they are the primary producing and consuming unit. This study may help the farmers in implementing new practices in farm business by way of investing in agricultural machinery, land improvements, livestock development etc and they can create higher income and savings. This will help the policy makers to identify the areas, which require more attention

LIMITATIONS

The study is based on primary data from the households obtained through a well structured interview schedule and on the secondary data obtained through the published data obtained from government and non governmental institutions. The main limitation of the study is that many of the households may not have a well maintained data records and the data is strictly based on the memory of the people. As human beings, people are reluctant to say the correct data or information especially if the data is of financial concern. Despite these limitations good effort has been made to generate reliable information.

The thesis is divided in to six separate chapters such as Introduction, Review of literature, Materials and methods, Results, Discussion, Summary, References and abstract of the thesis.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

A complete review of the earlier studies in the same field is highly beneficial for any type of research work. This may help in formulating the concepts, methodology and methods of analysis for the study under concern. So in this chapter a brief review of the past studies and the concepts used in this study are depicted. The first section deals with the reviews regarding income, expenditure and savings while the second deals with the review concerning with the investment. The third section clears the concepts used in the study.

2.1 INCOME, EXPENDITURE AND SAVINGS

Pawar (1970) in a study to identify the distribution of farm income in Sangli district of Maharashtra found that farmers spent a lot for building up the fixed capital assets and for the adoption of modern technological inputs. The farm income rose from Rs.8676 to a higher level of Rs.21094 with in a period of six years. The farmer's savings were used to buy share certificates or to deposit in co-operatives or to repay the debts and loans. During this period there was an explosive increase in the expenditure for luxuries as revealed from the study.

In a comparative study of per capita distribution of income among farm families conducted in Ludhiana district by Bal and Singh (1970) observed that farm families were the highest income groups and farm cum labour families are the lowest income groups. The study also revealed that the distribution of income was more even in the case of non-farm families.

Nandal (1972) studied the extent of concentration in income distribution, average and marginal rates of savings, expenditure and investment of progressive farmers in different demonstration plots in Haryana state using simple random

sampling. The study showed that the percentage of total income increased with increase in farm size and level of mechanization.

Chauhan and Mundle (1972) studied the pattern of income, consumption savings and investment of small farmers of Sangli district of Maharashtra, where Integrated Area Development scheme (IAD) was launched. The data from 87 sample farmers were collected using simple random sampling technique. The respondents were categorized into participants and non-participants of IAD scheme. The result showed that the participant respondent had less income, savings and investment. The study also revealed that the marginal propensity to save was high for participants than non-participants.

Singh and Gugrani (1975) studied farm savings and their mobilization in Muzaffarnagar district of western Uttar Pradesh. The analysis was carried out separately for traditional farmers and modern farmers. The study revealed that the marginal propensity to save increased during the period from 1963-64 to 1973-74. The study also showed that the marginal propensity to save was more for traditional farmers than modern farmers. There was an increase in marginal and average rate of saving for both categories during this period.

Rao (1982) in a socio economic study of farmers in Ollukkara block in the command area of Peechi irrigation project had brought out the fact that there was no relationship between income and family size. The influence of income on consumption was found to be more conspicuous and the savings in the lower income group and small holding group was too low to meet the working capital requirements in crop production in the subsequent season.

Borah (1985) studied the nature of income distribution, savings and expenditure behaviour in rural areas of Assam. The study showed that there existed an inverse relationship between household size and per capita family expenditure. The asset pattern showed that the highest percentage share was for buildings, land, livestock and

household durable items. The capital expenditure was mainly on construction and repair of houses rather than that on the farm.

Bhatty and Vashishta (1987) in their study on rural household savings and investment behaviour at all India level, reported that the rate of physical savings had increased much faster for marginal land owner than for small and large ones. During the period from 1970-71 to 1981-82 there was an increase in savings from 4 per cent to 10 per cent which resulted in a reduction in the investment in physical assets.

Bagilal (1993) in a study on consumption pattern of rural households in Kallur village of Thrissur observed that salaried people spent more on food items whereas non-salaried people spent more on non-food items. The study also revealed that there was a direct relationship between household size and total expenditure of the family and an inverse relationship between household size and per capita expenditure.

Income, consumption and savings behaviour of tribal farmers in Andhra Pradesh was studied by Rao and Bathiah (1993). It was found that, with increase in the size of farm the net income per farm increased and family labour income decreased. Small farmers enjoyed more farm and non farm income than the farmers of other group. Marginal propensity to save and marginal propensity to consume were highest among medium farmers.

In an attempt to study the economic status of agricultural labourers in Trivandrum district, Unnikrishnan (1994) showed that the expenditure was significantly and directly related with the income. The study revealed that majority of the respondents were having nuclear family and 67 per cent of the labourers were under employed out of which 23 per cent were severely under employed. It was also found that more than half of the labour households had no savings.

Autkar *et al* (1996) in his study on the asset structure of rural households in Vidharbha region reported wide inequalities in income due to unequal distribution of land. The study was based on a sample of 150 cultivators selected at random. It was

also revealed that as the size of holding increased the asset position also increased. The study showed that investment in farm machinery was six per cent of the total capital assets of the holding and the overall per farm investment was found to be Rs. 68,380. The level of farm income showed a positive relation with the size of holding.

In an attempt to identify the distribution of income, expenditure and investment of farm households in Hisar district of Haryana, Singh and Singh (1996) found out a broad magnitude of disparity in income among the respondents. The study revealed that quite a few large and medium farmers have recorded substantial saving and investment. The domestic expenditure distribution indicated that a few among small and marginal farmers are unable to meet their domestic expenditure with their farm income. This difference i.e surplus with large farmers and deficit with marginal farmers suggests a process of differentiation among farmers in Haryana.

Kushwaha *et al* (1996) studied the income, savings and investment pattern in farming in Etawah district of Uttar Pradesh using the data collected from 100 farmers selected at random. The average net income per farm came to Rs.28569 in the project area. The family labour income and farm business income were worked out to be Rs.34031 and Rs.47872 respectively. The average savings per households per annum came to Rs.7291in the area. It was observed that saving is directly correlated with the level of income earned by the farm holdings. As the level of savings was very high for large farmers, they ploughed back a substantial amount of their savings for investing in capital goods.

In a study to identify the factors influencing the income and expenditure of agricultural labourers conducted in eight villages of Thane district of Maharashtra, it was reported that the average annual income and expenditure of agricultural labourer families during the year 1991-92 was found to be Rs 6310 and Rs 6905, respectively. Oot of the total annual income, the maximum percentage share was from labour earnings (83 per cent). Regarding expenditure, 87.31 per cent was spent on food, clothing and housing together. It was also found that the annual consumption expenditure was strongly influenced by adult units in the family and annual income.

For each additional rupee of annual income, 31paise was spent on food items. (Torane *et al*, 1998)

A quantitative estimation of the magnitude and pattern of income among farm households in Kodakara block of Trichur District, Kerala was undertaken using a 3-stage random sampling technique (Prema and Thomas, 1998). The results revealed that the total income and its constituents (farm and non-farm income) increased with the size of holding, while the relative share of non-farm income was inversely related to farm size. As the average holding size was only 0.17 ha, the respondents depended more on non-farm activities. Analysis of farm income showed that crops were the main source (78 per cent) followed by livestock (20 per cent) and sale and hiring out of farm implements (2 per cent). The smaller class farms relied upon livestock as a subsidiary enterprise to farming. Benefit-cost ratios were estimated to study the efficiency of the farms which showed an increasing trend as the farm size increased. Among the farm household categories, the disparity in non-farm income was found to be higher than the disparity in farm income and the disparity in farm income decreased with increase in farm size.

In order to examine caste and annual income and the association of these characteristics with other selected characteristics, Husain and Shilaja (1998) collected information from 100 coconut climbers in Thiruvananthapuram district, Kerala. It was observed that coconut climbing was considered as the traditional job of some scheduled castes, it was seen that 17 per cent of the respondents were from backward castes and 5 per cent from forward castes. About 61 per cent of respondents fell into the low earning group whereas 39per cent was high earning. However, an average annual income of Rs 25,055 could be considered high when compared to the annual income of other agricultural labourers. Annual income of the respondents was significantly positively associated with family size, farm size, housing facilities, family expenditure and savings.

Chakrabarty (1999) analyzed the data on income collected by the National Council of Applied Economic Research/Human Development Index survey

disaggregated by population groups such as Scheduled Castes (SCs), Scheduled Tribes (STs) and others in rural India and Gujarat in 1994 in order to assess the relative position of these communities in terms of income and its distribution. The estimated size distribution of income revealed that among SCs and STs, both in rural India and Gujarat; a high proportion of persons belonged to the lower income category and per capita income classes than others. SCs were generally at a lower level of income while STs and others had both rich and poor persons leading to wider income inequality among STs. About 50 per cent of SCs and STs and 33 per cent of others were poor in India and the corresponding figures for Gujarat are 48 per cent, 54 per cent and 30 per cent, respectively. There did not seem to be much difference in the per capita income among the poor across communities in rural India as well as in Gujarat. It was recommended that efforts should be made to improve the condition of these communities mainly by tackling the region and community specific factors, which inhibited their progress.

A study was conducted in the Chajawa watershed and adjacent villages in Baran district of Rajasthan, to assess the impact of watershed management efforts on the farmer's income. The average family income inside the watershed was 21.5 per cent higher than that outside the watershed. The contribution of the labour sector to the family income was more in the families residing outside the watershed while the contribution of service sector was 7.64 per cent more inside the watershed than that outside. The income from the agricultural sector was 21.89 per cent higher inside the watershed compared to that outside the watershed. The living expenditure incurred on different components was slightly higher inside the watershed as compared with expenditure incurred by farmers outside the watershed (Singh, 1999).

Halim *et al* (1999) examined the pattern of income and employment under pond fish culture in Nagaon district, Assam. Data were collected from 120 households with ponds ranging in size from 0.25 ha to over 1 ha. Income showed a positive relationship with the pond size. In the size group of above one hectare (group IV) approximately 50 per cent of the farm income was generated by pond fish culture. The farm family accounted for more than 40 per cent of the total employment under

pond fish culture. Employment of family labour was inversely related to the size group of ponds. Harvesting was the most labour intensive operation.

The performance of agriculture in the state of Karnataka was examined at the aggregate level in a study using data collected from a total of 760 farming households from 19 villages in four taluks (Koppal, Kanakapura, Belur and Belthangady) over the period 1955-56 to 1993-94. The results revealed that the net income from commercial crops was much higher than from food grain crops. There was a direct relationship between size of holding and the percentage of households availing loan facilities. And about 15.6 per cent of farmers received crop loans from institutions. Institutional finance was found to play a significant role in capital formation in agriculture. (Vivekananda, 1999)

Shekar *et al*, (1999) attempted to study the impact of cooperative credit on income and employment generation of the farmers of Karimnagar District, Andhra Pradesh. The analysis done was based on before and after the loan situation. After availing credit from the cooperatives, the increase in net income per hectare was the highest in the case of small farms, all the sample farmers were benefited in terms of increased human and bullock labour employment as well as net income from the farm business and the employment generation in terms of human labour was the highest in the case of medium farms while that of bullock labour employment generated was the highest in the case of small farms.

In a study to examine the income, consumption and saving pattern of agricultural labour households in Nayangar village in Hasanpur block of Samastipur district of Bihar, Prasad (2000) observed that about 74 per cent of agricultural labour households had an annual income of less than Rs 15000, and thus were below the poverty line based on the data collected from 50 agricultural labourers in the area. The study concluded that there was a need to create employment in the non-crop sector by diversifying agriculture through dairying, fish culture and agro-based activities.

The consumption pattern across various income groups in northern and southern regions of India was studied based on data collected from 300, 150 and 100 sample households from urban, semi-urban and rural areas, respectively. The overall average intake of energy and protein was relatively higher in all the three areas in the northern region as compared to the southern region. The intake of nutrients was highest for the high income group, followed by middle and low income groups. The low income group consumers in the urban and semi-urban areas of the northern region and low and middle income groups in all the three areas of the southern region had less than the minimum recommended energy intake and protein intake which could be due to low income group consumers. Milk and milk products was observed to be the second most important contributor to protein and energy intake in all the three areas of northern and southern regions. The magnitude of nutrient elasticity of protein and energy were relatively higher in high income group consumers. (Jain and Sharma, 2000)

The effects of soil and water conservation measures in watersheds on the socio-economic status of farmers was examined by Pendke *et al* (2000) ina astudy in Ghodegaon watershed, of Aurungabad district of Maharashtra, based on a socio-economic survey and impact analysis of 61 farm families.. The study revealed that income of farmers increased from Rs.6767 in 1990-91 to Rs.11109.16 in 1994-95. The watershed technology had a positive impact on various sources of income of farmers in the watershed. The changes in cropping patterns, increase in yield level and increase in input use were good indicators of development. Due to the increased availability of water in the area, the yield of cash crops increased.

Deshpande *et al* (2001) conducted a study in four villages of Bhopal district regarding the assessment of nutritional profile and expenditure pattern on food and non-food items in relation to the income of villagers. Out of the 204 families surveyed, about 19 per cent each belonged to the medium and marginal class, 21 per cent each to small and big class and remaining 20 per cent landless farmers. The average family size for all classes of families was more than the national average of 5.52. The average monthly expenditure on food and non-food items appeared to be

linearly dependent on the average monthly income for all family classes and a very high correlation was observed between income and expenditure.

A study to identify the income generation from IRDP schemes conducted in Kannur district of Kerala by Kareem *et al* (2001) revealed that there was a positive and significant correlation with net income from IRDP schemes and entrepreneurial ability. Only 66.2per cent of the Integrated Rural Development Programme (IRDP) beneficiaries had positive income generation. The average net income before and after repayment of loan was highest in fisheries, followed by tailoring and milch cattle schemes. The poorest income generator was forest-based industries, which was significantly inferior to all other schemes.

A study on the poverty level and management of resources in rural households of four villages of Dharwad district of Karnataka by Susheela *et al*(2001) revealed that 29.6per cent of the households were below the poverty line and 17.5per cent belonged to the poorest group. The percentage of households below the poverty line was found to be highest in the Shibaragatti village (34.6per cent). In landless, marginal, small, medium and large landholding households, 54.8, 39.5, 34.2, 29.8 and 2.1per cent of households, respectively, were below the poverty line. 39.5, 35.5 and 12.2per cent of the nuclear, extended and joint families, respectively, were below the poverty line.

2.2. INVESTMENT

Sen (1965) in his study on the investment on farm and capital formation in Bihar showed the importance of investments in private and public sector and the harmonious use of the labour and material inputs. He identified that household having size more than the average had contributed to the net capital formation. The study also revealed that in the public sector the majority of the investment was in irrigation schemes.

In a study of farm investment in Orissa, Misra et al (1965) reported that the investment in agriculture was highly insufficient. The majority of the investment was on buying lands in the agricultural sector and the people in non-farm sector spent more on ornaments and other luxuries. They identified that the major source of finance for the farmers was from the owned capital.

In an attempt to study the investment pattern of a tribal village in Madhya Pradesh, Patel (1965) reported that investment in agriculture was done more by the small farmers and obtained more gross income. While in the case of medium and large farmers the investment was based on the income obtained. The small farmers used the borrowed capital more for farm investment than consumption purpose.

Desai (1969) in a study to identify the pattern of investment in Baroda district of Gujarat observed that there was more investment in farm in progressive areas than in backward areas. In the progressive areas the investment was mainly on irrigation schemes, farm equipment etc. There was an inverse relationship between capital and family size in both areas. He also showed that the major source for investment was from owned fund in both the areas.

Galgalikar *et al* (1970) in their study on income, distribution, savings and expenditure in rural areas of families in Parbhani district, no definite pattern of investment was identified. The study revealed that gross income was mainly composed of wage income and that low and middle income groups resorted to borrowing from moneylenders for meeting their day to day consumption expenditures. The savings were mainly in co-operatives as it was compulsory to get the credit.

Tiwari (1970) in his study of investment pattern in hilly areas of Uttar Pradesh showed that the major part of investment was made on land. The data were collected from 120 farmers. The study revealed that out that 80 per cent of the total investment was made on land. The remaining 20 per cent were used for investing in physical structures like buildings, irrigation structures machinery, equipments, livestock etc.

In a study to identify the pattern of investment and savings of farm families of Ludhiana district of Punjab Bal *et al* (1972), reported that the farm families made heavy investments for buildings, infrastructure, household expenditure etc. The study showed that the adoption of modern technology had resulted in a greater gross income, which was spent for the purchase of modern inputs for crop production and for building up the fixed assets. This resulted ultimately in reduced savings by the farm families and the savings of the large farmers were higher than that of small farmers.

Government of Kerala (1981) had reported in a survey of household savings and investments in Kerala for the period 1977-78, that, of the total estimated household savings, as much as 44 per cent had been in the form of financial assets such as provident funds, bank deposits, insurance, shares and bonds. The balance 56 per cent was in the form of physical assets such as investment in plantations, cattle rearing, land development, building construction and maintenance, gold etc. Financial savings in the form of cash also formed a part of the savings.

In a study to identify the income, savings and investment pattern in rural India, Giriappa (1984) classified Kerala state along with Tamil Nadu in the states having low rate of investment. The study showed that the states of Haryana, Madhya Pradesh, Orissa and Utter Pradesh had very high rate of investment of more than 20 per cent. But in already developed areas the rate of investment be low and so the investment rate cannot be taken for comparing the performances of the states. The study concluded that high savings and investment rate reflect the competitive crop mix and land owned in the particular region and also propensity to save.

Mallick (1993) analyzed trends in capital formation in Indian agriculture and factors underlying the trends in capital expenditure using time series data for 1950-90. It was found that there had been a noticeab le deceleration in gross capital formation in the 1980s. To a large extent, public and private investment were complementary, rather than substitutes for each other, and thus falling public investment may be affecting . private capital formation. While it was unlikely that allocations to

agriculture could be increased, given India's fiscal crisis, there was considerable scope for improving the impact of public expenditure within the sector. Key actions would be to: (1) reduce subsidies; (2) focus expenditure on a smaller array of programmes and services; (3) target priority areas; (4) increase cost recovery; (5) control recurrent expenditures; and (6) strengthen sectoral management and budgeting.

Bhuvaneswari (1993) in her study on the role of credit on capital formation in Dindigul taluk of Madurai district of Tamil Nadu, estimated the capital formation as 4.49 per cent. The study was conducted by collecting data from 120 respondents selected randomly and it revealed that 70 per cent of the investment was on livestock and wells. The majority of farmers depended on the borrowed funds for making investment in farm and institutional credit was the major source.

A survey of 162 households in Amdahara village of West Bengal was conducted by Chaudhuri (1995), to determine the level of investment in agriculture, which showed that the investment capacity of households in agriculture was very low. The study discussed the social distribution within the village, the size of land holdings, and the range of agricultural tools and implements owned. Investment was divided into two categories: investment in agriculture and other productive assets, and unproductive investment (such as that spent on festivals or marriages). Two reasons suggested for the low level of investment were, i) sharecroppers and marginal farmers were too poor to invest much in land ii) large land owners had generally leased their land to small farmers, and did not invest in it themselves.

The behaviour of domestic saving and investment during the post reform period was studied by the Economic and Political weekly foundation (1995). The study showed that irrespective of the rise in GDP from 0.9 to 4 per cent there was a decline of savings and investment. They suggested that there should be provisions for relative price increases for goods and the estimated depreciation of assets to get a more realistic picture of gross or net capital formation.

Dhawan and Yadav (1995) in their study showed that Indian farmers allocated a rather small proportion of their total capital funds (self-owned, plus borrowed ones from institutional and non-institutional sources) towards fixed capital formation in agriculture. They examined the farmer's investment behaviour through an analysis of survey data on Indian farmers' total capital expenditure and the share of fixed capital formation in farm business. The analysis focused on cultivator households who accounted for more than three quarters of private fixed capital formation in Indian agriculture during 1981-82. However, it was not possible to exchange the thesis of complementarities between public and private investments in agriculture for one of a substitution thesis.

A study to examine the level and composition of gross domestic capital formation at the national level in India, with particular reference to the agricultural sector was carried out by Mani *et al* (1996). The analysis employed data for the period 1950-51 to 1990-91, split into four decades. The analysis revealed: (1) a continuous fall in public sector savings which constituted an integral part of gross domestic capital formation; (2) the share of gross capital formation in agriculture as a percentage of gross domestic capital formation declined; (3) public sector investment in agriculture had been declining and private investment was playing a major role; (4) cooperatives were emerging as a major source of capital formation; (5) even though institutional finance for agriculture had increased substantially over time, the share of long term finance in total institutional credit was very low (15 to 20 per cent); and (6) per hectare investment availability was much lower than the prescribed norms.

Dhawan (1996) examined the complementary hypothesis with regard to the impact of canal irrigation (public sector investment) on farmer's investment behaviour in India. The investment effects were discussed in a dynamic framework and an attempt was made to analyze available field survey data for the Punjab and Karnataka. Evidence at both the macro and micro levels lend support to the proposition that public investment in canal irrigation stimulates private investment in agriculture, including investments in the private means of irrigation. Given that development of

canal irrigation accounts for a major share of total public investment in Indian agriculture, this supports the complementary hypothesis in a wider sense.

In a study to analyze the real capital formation in Indian agriculture since 1951 Mishra (1996) made some explanation of the behaviour of public and private capital formation. He examined the changes in the rate of investment in agriculture and the pattern of capital accumulation in relation to land and labour and changes in the efficiency of capital use. The study showed that capital formation in Indian agriculture grew at an accelerated pace over the first three decades since independence. In the 1980s, agricultural GDP grew at a higher rate than that of capital accumulation. Accordingly, the efficiency of capital use, as indicated by the output to capital ratio, increased.

Sinha and Kumar (1996) examined the pattern of income, savings and investment on farm households of Nalanda district in Bihar. The study, which was based on the data collected from 60 farm households reveals that the average per farm and per hectare investment on fixed assets were high being Rs. 19650 and Rs.10767 respectively. The highest investment was for land improvement. The study highlighted the fact that increased income due to adoption of new technologies in the project area was used for capital formation in agriculture which lead to further increase in production.

The income, savings and investment pattern of farmers in Balaghat distict of Madhya Pradesh was studied by Shrivastava *et al* (1996) by taking 50 farmers selected by cluster sampling technique. The study showed that the farmers were less dependent on the wages obtained from agriculture and non agriculture labour and were more dependent on the assured source of income like agriculture and subsidiary occupations. The study also revealed that the large farmer group saved more money (44.59 per cent) than the medium (29.68 per cent) and small farmers (14.70 per cent). As compared to the small farmers, large farmers invested their surplus earnings largely in the non agricultural sector. Due to the limited family income the small

farmers spent 85 per cent of their earnings on necessities of life as compared to the medium (70 per cent) and large farmers (55 per cent).

The role of institutional credit in gross capital formation in agriculture and the different factors which have a bearing on the level of capital formation in agriculture have been examined in a study to identify growth trends in capital formation in agriculture in both the public and private sectors in India (Karmakar, 1998). The impact of economic reforms on investment in the agricultural sector was also examined. As public investment in agriculture has been declining, the private sector had also showed a declining trend. Private investment in agriculture was determined by three factors (i) public investment or complementarity between public and private investment, (ii) technology and (iii) terms of trade. It concluded that the falling role of public investment in agriculture was due to the falling sectoral allocation in the National Plans, increase in recurring expenditure, and partly due to under-use of irrigation potential created mainly through medium and major irrigation projects. The decline in capital formation in agriculture could partly be off-set through increased flow of institutional credit.

Gautham and Verma (1999) examined the income and investment pattern of farmers in northern Madhya Pradesh. The data were collected from 123 farmers selected by simple random sampling technique. The analysis indicated a wide variation in income and investment pattern in small and large farms. The net cash income generated by small, medium and large farmers varied between 40 and 50 per cent of total annual investment.

Determinants of private investment at country and state level, and impact of private investments on agricultural productivity and growth across states pertaining to the period 1974-75 to 1996-97 were studied by Chand (2000). The study explored the determinants of private agricultural investment since 1980/81, which represented the phase of declining public investment in agriculture. The study showed a widespread decline across the board in all states in public sector capital expenditure for agriculture. There existed a lack of complementarity between private and public

investment. Private investment in agriculture was determined by terms of trade for agriculture and flow of institutional credit. The private investment was more effective than public investment in promoting output. The declining trend in public sector agricultural investment should be reversed by increasing allocation in all the major states to check the adverse impact on agricultural output. The study also suggested that the amount and efficacy of public investment in agriculture was to be improved and private investment be encouraged by means of institutional credit support and favourable terms of trade for agriculture, especially for the eastern states.

While the importance of physical capital has long been recognized, economic research has identified human capital formation as a crucial and productive element of investment, both in its own right and as a complementary input to physical capital and other inputs. Human capital may be embedded in the inputs that go into production or may enhance the way inputs are utilized and combined. Current economic research also highlights the importance of taking into account the sustainability of agricultural production systems. Resource economists have identified the need to calibrate agricultural production for negative environmental externalities and resource depletion to represent the true value of agricultural output. The upshot of current economic thinking is that the analysis of investment in agriculture should encompass more than just physical capital formation. In order to examine the linkages between agricultural investment and agricultural production capacity and productivity, agricultural investment must include both human capital formation and environmental degradation (Zepeda, 2001).

The behaviour and structure of capital formation in Indian agriculture over the period 1960-98 was studied by Gulati and Bathla (2001). The detailed analysis showed that the situation was definitely not good, but not as alarming as was sometimes made out to be. This is because of the increasing share and role of private sector investment in agriculture over time. In this study, Indian System of National Accounts (ISNA) was juxtaposed to the UN System of National Accounts to delineate the deviations in the coverage and practice of capital formation estimation. Keeping in mind the objective of examining the relation between capital formation and growth in

agriculture, alternative concepts of public capital formation for the years 1974-98 were redefined and re-estimated.

Chand (2001) in his study to construct a new and broad series on public investment in agriculture and at state levels by taking into account all important heads of public investments in India from 1974-97 found that the terms of trade for agriculture and the flow of institutional credit were strong determinants of private investments in agriculture. The changes in composition of public investments during the last two decades were also discussed. The nature of the relationship between public and private investment was investigated using co-integration analysis. Both Cent' .' Statistical Organization series and the broad series constructed by the author were included to analyze the determinants of private investment. Determinants of private investment were analyzed using a multiple regression analysis framework. The study showed that there was a widespread decline across the board in all the states in public sector capital expenditure for agriculture. The study emphasized the need to improve the efficacy of public investments in agriculture.

2.3 CONCEPTS

Reviews of the some of the concepts used in the present study are described in this section.

2.3.1 Household

A household is a group of persons who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so. (Government of India, 1981)

According to Prema (1996), a household is one which consists of a group of persons usually living together for not less than six months and taking principal meals from a common kitchen.

2.3.2 Investment

Investment is the production or acquisition of real capital assets during any period of time. Gross investment is the total amount spent on new capital assets in a year while net investment is the gross investment minus depreciation (Jhingan, 1983).

Investment could be in physical or financial assets, physical assets comprises of agricultural assets, non agricultural assets, construction of houses and purchase of durables. Financial assets include deposits, provident fund, chit fund etc. (Giriappa, 1984)

Investment is the addition to the stock of real assets. Investments can be made by the households in the form of residential construction, by business firm in the form of plant and equipment and building associated with them (Rangarajan and Dholakia, 1986)

Investment has been defined as the expenditure necessary for maintaining and improving the productivity of land resources through reclamation of land, promotion of irrigation facilities; investments made in machinery and major implements; plant protection equipments and also investments made in livestock, farm building and structures (Varadharajan, 1995).

2.3.3 Income

Sanker (1985) defined income as the total income comprising of agricultural wage income, self employment income, salaries, remittances, grants etc if any.

The income of a labour household was defined by Unnikrishnan (1994) as the total earnings and receipts of the households for the past one year from agriculture, wages, livestock, pension, salaries, grant and other contributions.

Prema (1996) defined income of a household as the earnings both in cash and kind that has accessed to and realized by the members of the household during the reference period.

2.3.4 Expenditure

Desai (1970) defined expenditure as the mean expenses on various factors of production which are used to bring about the output.

Household expenditure is defined as the financial commitments involved typically in the manner of living by the households. It takes in to account food expenditure and non food expenditure (Unnikrishnan, 1994)

2.3.5 Marginal Propensity to Consume

Marginal propensity to consume is defined as the ratio of change in consumption to the change in income. (Rangarajan and Dholakia, 1986)

The slope of consumption function is called as the marginal propensity to consume; it specifies the function of each additional dollar of disposable income received that will be spent on consumption. (Glahe, 1977)

The marginal propensity to consume is defined as the ratio of the change in consumption to the change in income or as the rate of change in the average propensity to consume. (Jhingan, 1983)

2.3.6 Savings

Desai (1970) defined savings as the difference between current output and current expenditure. The term current denotes any period less than one year.

According to Giriappa (1984) savings is defined as S = (PA + FA) - (L+CT). where

PA = Change in physical assets

FA = Change in financial assets

L = Changes in liabilities

CT = Net flow of capital transfer

Sanker (1985) defined savings as the difference between current disposable income and current consumption expenditure.

2.3.7 Marginal Propensity to Save

Marginal propensity to save is defined as the ratio of change in savings to the change in income. (Rangarajan and Dholakia, 1986)

The slope of the savings function is called the marginal propensity to save, which specifies the fraction that will be saved out of each additional dollar of disposable income received. (Glahe, 1977)

2.3.8 Agricultural Labourers

Government of India (1955) defined agricultural labourer as a person who reports that he or she was engaged in agricultural operations as hired labour for wages for 50 per cent or more of the total number of days worked by him or her during the previous year.

An agricultural labourer is a person who is considerable of the wages payable to him by a land owner, works as or does any agricultural operations in relation to the agricultural land of the owner (Government of Kerala, 1976)

Government of India (1981) defined agricultural labourer as a person who worked in another person's land for wages in cash and or kind or both.

Unnikrishnan (1994) defined agricultural labourer as a person of age more than 18 and he or she was engaged in operations related to agriculture as hired labour for wages in cash or kind.

2.3.9 Farmers

Government of India, (1981) defined farmers or cultivators as the person who is engaged either as employer, single worker or family worker in cultivation of land owned or held from government or from private person or institution for payment in money, kind or both.

2.3.10. Service People

According to the Government of India, (1981) this category include persons who have been engaged in some economic activities during the last one year, who are not cultivators or agricultural labourers or engaged in any household industry. They include those in trade and commerce, business, transport, construction, government servants, municipal employees etc.

Materials and Methods

CHAPTER III

MATERIALS AND METHODS

The present chapter is divided in to two sections; viz, Area of study and Methodology

3.1 AREA OF STUDY

Agricultural production does not solely depend on the factors of production; it also largely depends on the geographical and agro-climatic conditions of the area. Agro-climatic conditions are of great importance not only in the case of agricultural production but also in examining the socio-economic conditions of any area. These agro-climatic conditions and the social background set the stage for agricultural, socio-economic and cultural development and so a brief knowledge about the study area is of high importance in all the stages of the research programme. This will help in analyzing the data appropriately and in attaining meaningful conclusions. Hence, the agro-climatic and socio-economic background for the study area is described.

3.1.1 Location

Thrissur district is located in the central region of Kerala, It lies between north latitude 10 ° and 10°4' and east longitude 75°57' and 76°54'. Malappuram district bounds the district on the north. Palakkad district forms the eastern boundary of Thrissur district. Ernakulam and Idukki districts form the southern boundary and Arabian Sea forms the western boundary. The district is distinct in having low land lying below sea level to high ranges in the Western Ghats. The map of the Thrissur district is given in figure 3.1

The district has a geographical area of 2993.90 km^2, which forms 7.8 per cent of the total area of the state. The district comprises of five taluks viz., Thrissur, Chavakkad, Kodungallur, Mukundapuram and Thalappily. There is one corporation, six municipalities, 17 community development blocks and 96 panchayaths.

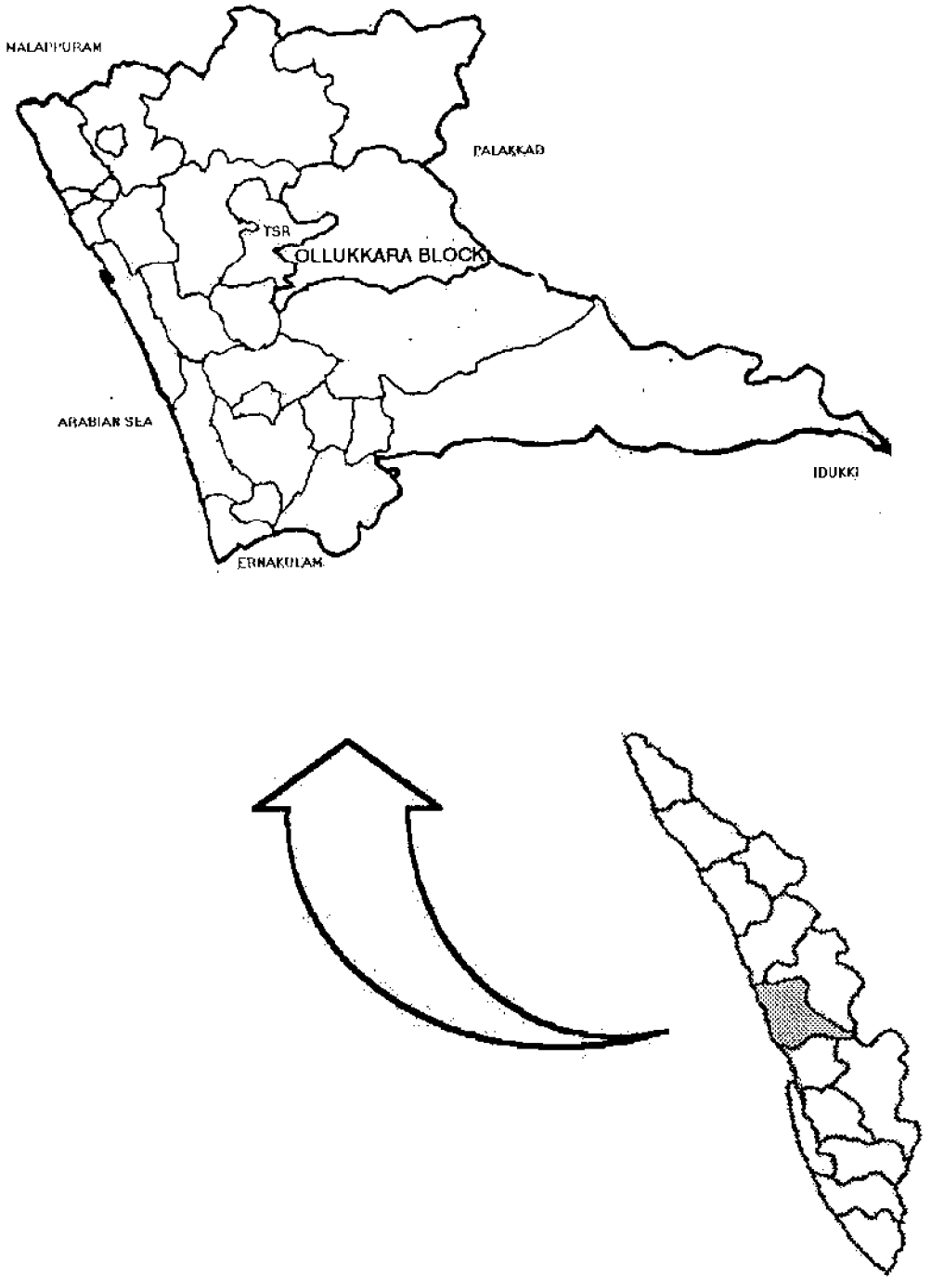


Fig. 1. Map showing the study area.

According to 2001 census there are 522,059 households in Thrissur district. Ollukkara block panchayath is having a geographical area of 315.72 Km^2 spread over 74 wards with 36000 households.

Based on the natural physiography, the district is divided in to high land, mid land and low land. The land utilisation pattern in Thrissur district is presented in Table.3.1. Nearly 35 percent of the total area of the district is under forest cover. Almost 66.31 percent of the geographical area is put under cultivation, and nearly 17.03 percent of the area is cropped more than once, making the cropping intensity 134.56 percent.

3.1.2. Population

According to the 2001 census report, Thrissur district has a total population of 29.75 lakhs, of this 14.22 lakhs are males and 15.53 lakhs are females. Density of population is 981 persons per square kilometre. The sex ratio of the district indicates that there are 1092 females per 1000 males. Literacy rate is 92.56 per cent. The literacy was low for SC population (78.82 per cent) and ST (51.40 per cent). The total population in Ollukkara block is 1,66,698 and the density of population is 712 with a literacy rate of 90.89 per cent.

The total working population of the district is 804378 of which 74064 are cultivators and 183588 are agricultural labourers. So agriculture provides employment to 32 per cent of the working population and contributes 42 per cent of the total income. Household workers and other workers number 35898 and 511188 respectively.

In the case of Ollukkara block the total working population is 54728 of which 13.5 per cent are cultivators and 33.44 per cent are agricultural labourers. Occupational distribution of population in Thrissur district is given in the Table 3.2.

Table 3.1 Land Utilisation Pattern in Thrissur District During the Year 2000

Description	Area (in ha)	As percentage to the total
Geographical area	299390	100.00
Forest	103619	34.60
Land put to non-agricultural use	32321	10.80
Barren and uncultivable land	494	0.17
Permanent pastures and grazing land	27	0.01
Land under miscellaneous tree crops not included in net area sown	821	0.27
Cultivable waste land	3087	1.03
Fallow other than current fallow	3555	1.19
Current fallow	7936	2.65
Net area sown	147530	49.28
Area sown more than once	50986	17.03
Total cropped area	198516	66.31
Cropping intensity	134.56	-

Source: Government of Kerala, 2002

Table 3.2 Occupational Distribution of Population in Thrissur District and Ollukkara Block in the Year 2001

Particulars	Thrissur district		Ollukkara Block	
	No. of persons	percentage to the total	No. of persons	percentage to the total
Total main workers	804738	100	54728	100
Cultivators	74064	9.2	7391	13.50
Agricultural labours	183588	22.8	18300	33.44
Household industry workers	35898	4.5	1700	3.11
Other workers	511188	63.5	27337	49.95

Source: Government of Kerala, 2002 and Block Development Office, Ollukkara

3.1.3.Climate and Rainfall

Thrissur district experiences tropical humid climate. Annual rainfall of 2177.3 mm was received during 2000 of which about 70 per cent was received during south west monsoon season. Average daily maximum temperature was highest (35.6^0C) in the month of May and lowest (21.9^0C) in the month of August. Rainfall was maximum in the month of June. The monthly average distribution of rainfall for the district during the year 2000 is given in Table 3.3. Relative humidity was found to be highest (86.50 per cent) in August and lowest in December (59.00 per cent).

3.1.4.Soil

The most abundant soil type in Thrissur district is laterite. But sandy, alluvial and forest soils are also seen in certain belts. The soil type of the study area is of laterite in nature. Forest soil is confined to parts of Thalappilly, Thrissur and Mukundapuram taluks. Alluvial soils rich in organic matter are generally seen in the low-lying areas of Thrissur and Mukundapuram taluks. Sandy soil is the major soil type in Chavakkad taluk.

3.1.5.Water Resources and Irrigation

The district has many water resources such as canals, tanks, ponds, wells, tube wells and major and minor lift irrigation projects. Important rivers flowing through the districts are Chalakkudy, Karuvannur and Kecheri rivers. Canoli, Shanmugham and Puthenthode are the three main canals in the district. Bharathapuzha flows westwards at the northern boundary and Periyar flows westwards at the southern boundary. Thrissur district has the highest area under irrigation in Kerala. Major irrigation projects operating in the district are Peechi dam, Mangalam dam, Chimmini dam, Chalakudy Diversification scheme, Vazhani scheme and Chalakudy irrigation project. Source wise irrigated area in the district is given in Table 3.4.

Table 3.3 Monthly Average Temperature and Rainfall Distribution in Thrissur District During the Year 2000

Month	Temperature (^{0}C)	Rainfall (mm)	Relative Humidity (%)
January	28.05	0.0	59.5
February	28.05	4.6	68.5
March	29.75	0.0	66.5
April	29.3	67.9	74.0
May	29.05	117.2	72.0
June	26.2	602.0	85.5
July	25.35	354.0	81.5
August	25.85	518.8	86.5
September	26.85	198.1	80.5
October	26.7	262.2	79.5
November	28.2	41.3	65.5
December	26.5	11.2	59.0

Source: Department of Agricultural Meteorology, College of Horticulture, Vellanikkara

Table 3.4 Source Wise Irrigated Area in Thrissur District During the Year 1999-2000

Particulars	Irrigated area (in hectares)	Percentages to total
Government canals	17409	20.07
Private canals	107	0.12
Government tanks	569	0.67
Private tanks	10069	11.61
Government wells	539	0.62
Private wells	40570	46.78
Minor lift irrigation	2900	3.34
Other sources	14565	16.79
Total	86728	100.00

Source: Government of Kerala, 2002

3.1.6 Cropping Pattern

The cropping pattern of the district is shown in Table 3.5. Major crops grown in the district are paddy, coconut, arecanut, vegetables, rubber and banana. Rice is cultivated in 42887 hectares of land, which is 21.60 per cent of the total cropped area. Coconut is grown in 88307 hectares of land, which is 44.48 per cent of the total cropped area, and is the main crop in the sandy coastal belt, which stretches over a length of 51.5 km from Kodungallur to Chavakkad. Seasonal crops like tapioca, banana and vegeTables are grown in the mid land regions where the soil is laterite in nature. In Ollukkara block the major crops grown are Rice, coconut, banana, rubber etc. The cropping pattern of Ollukkara block is given in Table 3.6

3.1.7.Land Holding Pattern in Ollukkara Block

Table 3.7 represents the land holding pattern in the block. About 71.22 per cent of the holdings belong to small farmers who own only 0.02 to 0.5 hectares per farm. 8.74 and 4.84 per cent of the holdings are with their farm size between 0.5 to 0.1 and 1 to 2 ha respectively. Only 15 households belong to large farmers with more than 10 hectares per farm, occupy 183 hectares of land.

3.2. METHODOLOGY

This section deals with the methods and tools used for data collection, analysis etc. The present study on" Investment pattern in rural households of Ollukkara block panchayath in Thrissur district" was conducted in Ollukkara block panchayath of Thrissur district, which consists of panchayaths such as Madakkathara, Pananchary, Nadathara, Puthur and Vilvettom.

3.2.1 Sampling Design

The study was conducted in Ollukkara block of Thrissur district. Multi stage sampling technique was employed for selection of the sample. Five wards out of the

Table 3.5 Cropping Pattern in Thrissur District During the Year 2000

Crop	Area (ha)	Percentage to total
Paddy	42887	21.60
Pulses	532	0.27
Sugar cane	261	0.13
Spices and condiments	14427	7.27
Fruits	27223	13.71
VegeTables	4811	2.42
Coconut	88307	44.48
Oil seed crops	295	0.15
Fibre, drugs and narcotics	40	0.02
Tea	530	0.27
Rubber	13372	6.74
Cocoa	169	0.09
Fodder crops	32	0.02
Green manure crops	1046	0.53
Others	4584	2.30
Total	198516	100.00

Source: Government of Kerala, 2002

Table 3.6 Cropping Pattern in Ollukkara Block Panchayath During the Year 2000

Crop	Area (ha)	Percentage to total
Paddy	1695	16.90
VegeTables	528	5.27
Coconut	3330	33.21
Rubber	3070	30.61
Pepper	1135	11.32
Others	270	2.69
Total	10028	100.00

Source: Block panchayath office, Ollukkara

Table 3.7 Land Holding Pattern in Ollukkara Block.

Size	No.of Holdings	Percentage	Area (ha)	Percentage
Below 0.02	5640	13.98	78	0.75
0.02-0.5	28725	71.22	3789	36.50
0.5-1.0	3525	8.74	2491	23.99
1.0-2.0	1950	4.84	2594	24.99
2.0-4.0	445	1.10	1093	10.53
4.0-10.0	30	0.07	154	1.48
10 & above	15	0.04	183	1.76
Total	40330	100	10382	100

Source: Block Developement Office, Ollukkara

total of 74 wards in Ollukkara block was selected by simple random method. From each ward selected, the list of the people belonging to each category viz., agricultural labourers, farmers and service sector people was collected. From the list ten sample households in each category was chosen by stratified simple random sampling technique. Thus a total of 30 sample households were selected from each ward and the total sample size is 150 (Table 3.8).

3.2.2 Period of Study

The reference period of the study under concern was the agricultural year 2001-2002 and the data collection was carried out during the period of June-July, 2002.

3.2.3 Data Collection

The primary data were collected using a well structured and pre-tested interview schedule. The secondary data mainly regarding with the demographic features, land utilization etc were collected from various publications. The primary data regarding the items such as the general socio economic information, income, expenditure, savings, assets were collected for the reference year.

3.3. ANALYTICAL FRAMEWORK.

The data regarding the items such as the general socio economic information, income, expenditure, savings, assets, investment etc are analyzed and studied using tabular analysis.

3.3.1 Operational Definitions

Some of the terms and concepts which are used in this study are defined in this section.

Table 3.8. Sampling Design Used for the Study

Wards	Farmers	Labourers	Service sector people	Total
1	10	10	10	30
2	10	10	10	30
3	10	10	10	30
4	10	10	10	30
5	10	10	10	30
Total	50	50	50	150

i) Household

A household is a group of persons who commonly live together and would take their meals from a common kitchen

ii) Investment

Investment means the expenditure necessary for maintaining and improving the production and productivity of land resources through reclamation of land, promotion of irrigation facilities; investments made in machinery and major implements; plant protection equipments and also investments made in livestock, farm building and structures

iii) Income

Here income of a household is taken as the earnings both in cash and kind that are realized by the members of the household during the reference period.

iv) Expenditure

Here in this study expenditure means the financial commitments of the households, which include both farm and family level.

v) Marginal Propensity to Consume

Marginal propensity to consume is taken as the slope of the consumption function, $C = a + b Y$ (Rao and Bathiah 1993)

Where,

C = Consumption

Y = Income

a = Intercept

b = Marginal propensity to consume

vi) Savings

Saving means the excess of income over total expenditure or the difference between income and expenditure on consumer goods

vii) Marginal Propensity to Save

Marginal propensity to save is taken as the slope of the savings function.

S = (Y- a) - b Y (Rao and Bathiah 1993)

Where,

S = Savings

Y = Income

a = Intercept

b = Marginal propensity to save

viii) Agricultural Labourers

Agricultural labourers are persons of age more than 18 and he or she was engaged in operations related to agriculture as hired labour for wages in cash or kind.

ix) Farmers

Farmer is considered as a person who is engaged majority of his time in cultivation of land owned by him or held from government or from private person or institution for payment in money, kind or both.

x) Service Sector People

These are people who do not belong to the above two categories or they are persons who are engaged in some economic activity other than farming, labour, industry etc.

xi) Cropping Pattern

Cropping pattern means the proportion of area under various crops at a point of time in a unit area.

xii) Net Sown Area

It indicates the total land area available with the farmer where he had grown crops in last year.

xiii) Gross Cropped Area

It is the area sown under different crops in different seasons in a year on the available land. It is the sum of net sown area and area sown more than once.

xiv) Cropping Intensity

$$\text{Cropping intensity} = \frac{\text{Gross cropped area}}{\text{Net sown area}} \quad X\ 100$$

xv) Farm Income

It is the gross income realized from the farming activities. It includes income from both crops and livestock.

xvi) Non Farm Income

This includes income from all other sources other than farm.

xvii) Farm Expenditure

This includes all expenses for cultivation of crops and raising of livestock.

xviii) Family Expenditure

It is considered as current expenditure on food, clothing, fuel and light, education, recreation, stimulants, social ceremonies etc.

xix) Asset

In this study assets include land, house, farm buildings, livestock, irrigation appliances, farm implements, household durables, transport equipments etc, which need some kind of investment for their making and maintenance.

3.3.2.Income Measures

The following income measures were associated with different cost concepts.

i) Gross Income

Cross income of a household represents the total of farm income and non farm income.

ii) Farm Business Income

The farm business income is computed by deducting cost A1 from gross income.

iii) Family Labour Income

It was arrived by subtracting cost B2 from gross income.

iv) Net Income

It was computed by subtracting the total cost (cost C3) from gross income.

3.3.3 Income Disparity

The farm and non farm income disparities were studied using Lorenz curve and Gini's concentration ratio.

i) Lorenz Curve

Lorenz curve shows the percentage of income received by 'X' per cent of the population of farmers with 'X varying from 0 to 400 (Chahal, 1990). These curves were plotted taking cumulative percentage of number of farmers on X-axis against cumulative percentage of total income received by them on Y axis.

ii) Gini's Concentration Ratio

The ratio was invented by Corradio Gini in 1913. The ratio could be approximated from Lorenz curve as

$$GR = A/A + B,$$

Where, A is the area inside the curve

B is area outside the curve

3.3.4 Asset Structure of Household

This was estimated by adding the values for all items listed below just before the period of the study. The items are,

i) Land

Land has been valued on the basis of market value prevailing in the area. This procedure was adopted owing to absence of records showing the actual cost of land.

ii). House

Houses were valued on the basis of the value that they fetch at the time of survey, based on their age, type etc.

iii) Farm Buildings

All structures belonging to farmers other than residential houses were evaluated as farm building. Reported present values were used to evaluate farm buildings

iv) Livestock

The values of the livestock were their reported present values.

v) Irrigation Appliances

These have been valued at their approximate cost of construction, net of depreciation.

vi) Farm Equipments

Farm equipments were evaluated at their reported present values as reported by Prema (1996).

3.3.5 Investment

Items of investment included viz, land improvements, purchase of livestock, implements and machinery, digging and repair of wells, purchase of irrigation appliances, purchase of farm implements and construction of farm buildings. Capital stocks at the beginning and end of the period of study were listed out and difference constituted the investment in the reference year (Bhuvaneswari, 1993). The total value

of all investments valued at the market rates reported by farmers was used as a summary measure of gross investment in farms.

Gross investment, $I_t = K_t - K_{t-1}$

Net investment $NCF_t = I_t - \beta$

Where,

K_t = Values of productive assets at the end of May, 2002

K_{t-1}= Values of productive assets at the beginning of June, 2001

I_t = Gross investment

β = Depreciation and other losses

3.3.5.1 Depreciation

In the present study, straight-line method was employed for working out the depreciation. It was calculated based on the following information.

i) Livestock

The purchase price was as reported by the farmer and the economic life period was assumed to be 6 years

ii) Wells

The life period was taken as 40 years and residual value is taken as 50 per cent of the initial cost

iii) Pumpsets

The life period was taken as 15 years with 66 per cent residual or salvage value.

Iv) Transport Equipments

The life period was taken as 12 years with a salvage value of 10 per cent of the capital cost

vi) Farm Buildings

The life period of permanent farm building is taken as 20 years and that of temporary buildings is taken as five years. The depreciation is taken as five and 10 per cent of the total value of the building for permanent and temporary buildings respectively (Varadarajan,1995)

vi) Light Implements

The light farm implements are given a total life period of only 5 years without a salvage value.

The amount of depreciation during a year is estimated as,

$$\text{Depreciation} = \frac{\text{(Purchase cost – salvage value)}}{\text{Life of the asset}}$$

3.3.5.2 Rate of Investment

It was calculated for the aggregate as (Prema, 1996).

$$RCF_t = \frac{NCF_t \text{ in rupees per farm}}{K_{t-1} \text{ in rupees per farm}} \times 100$$

Where,

RCF_t = Rate of investment in the year't'

NCF_t = Net investment in the year't'

K_{t-1} = Value of the productive assets at the end of May, 2001

Results

CHAPTER IV

RESULTS

The results of the study are presented in this chapter which is divided into five sections. The first section deals with the general socio economic condition of the selected area followed by the income and expenditure pattern of the selected households. The third section is constituted by savings and savings pattern forth by investment and the fifth constraints for investment in agriculture in the selected area.

4.1 GENERAL SOCIO-ECONOMIC CONDITIONS OF THE SAMPLE HOUSEHOLDS

It is of great importance to have a thorough knowledge about the socio economic backdrop of the area while we are carrying out the analysis and generalisation. So in this section an attempt is made to study the relevant social and economic condition of the sample households. The economic variables under study include family size, age, sex, community, literacy, occupation (primary and secondary) etc for different categories and at the aggregate level.

4.1.1. Family Size

The classification of respondents on the basis of family size are presented in Table 4.1. The results revealed that 54.67 per cent were having a nuclear family having a family size of 1 to 4 members. This nuclear families which constitute father, mother and two children were more prevalent among the service sector peoples (62.00 per cent) and are seen least among farmers (50.00 per cent). About 39.33 per cent of the total respondents were having a medium family size of 5 to 7 members which seen highest among the farmers (48.00 per cent) and lowest among the service sector people (32.00 per cent). Large and very large sized families constituted only about 6 per cent of the total sample size. Out of the total 50 agricultural labourers 52.0

Table. 4.1. Classification of Respondents Based on Family Size

Category	Family size				
	1-4	**5-7**	**8-10**	**>10**	**Total**
Ag. Labourers	26 (52.00)	19 (38.00)	4 (8.00)	1 (2.00)	50 (100.00)
Farmers	25 (50.00)	24 (48.00)	1 (2.00)	0 (0.00)	50 (100.00)
Service sector	31 (62.00)	16 (32.00)	2 (4.00)	1 (2.00)	50 (100.00)
All	82 (54.67)	59 (39.33)	7 (4.67)	2 (1.33)	150 (100)

Figures in parentheses show percentages to the total

per cent were having a family size of 1 to 4 and 38.00 per cent are having a family size of 5-7. A family size of having 8 to 10 members was seen with 8.00 per cent of the labourer category and a very large family with more than 10 members is seen only with 2.00 per cent of the labourer respondents. In the case of farmers 50.00 per cent of the respondents were having a family size of 1 to 4 and about 48.00 per cent are having a family of size 5 to 7. Only two per cent was having family with more than 8 members. With respect to the Service sector category about 62.00 per cent were having family size of 1 to 4 and 32.00 per cent are having a member strength of 5 to 7. In this category 4.00 per cent had family of size 8 to 10 and two per cent had more than 10 members in their families.

4.1.2.Age

The distribution of the members of the sample households in different age groups are given in Table 4.2. The results revealed that about 62.88 per cent of the total belonged to the age group of 19 to 59 and 17.27 per cent belong to the group of 60 and more than 60 years of age. It was found that the proportion of older people of age more than 60 years is higher than the younger people of age up to 10 years (12.95 per cent).

The highest proportion of people of age between 19 and 59 years seen higher among service sector people (63.51 per cent) than labourers (63.45 per cent) and farmers (61.70 per cent) have the least share. This shows that the working population less preferred farming. As a contrast the older people of age more than 60 years is seen more among farmers (18.30 per cent) than service sector (17.12 per cent) and labourers (16.39 per cent). Among farmer households, the adolescent people of age 10 to 18 years of age were seen more (9.36 per cent) than service sector (6.31 per cent) and labourer lead households (5.04 per cent). In labourer households 10.08 and 5.04 per cent of people were belonging to the age group of five to 10 years and less than 10 years respectively. This was 5.11 and 5.53 per cent in farmer households and 6.31 and 6.76 per cent in service sector people households respectively.

Table 4.2. Distribution of Family Members According to Age

Category	Age group and no. of persons					Total
	Less than 5	5-10	11-18	19-59	60 & above	
Ag. Labourers	12 (5.04)	24 (10.08)	12 (5.04)	151 (63.45)	39 (16.39)	238 (100.00)
Farmers	13 (5.53)	12 (5.11)	22 (9.36)	145 (61.70)	43 (18.30)	235 (100.00)
Service sector	15 (6.75)	14 (6.31)	14 (6.31)	141 (63.51)	38 (17.12)	222 (100.00)
All	40 (5.76)	50 (7.19)	48 (6.91)	437 (62.87)	120 (17.27)	695 (100.00)

Figures in parentheses show percentages to the total

4.1.3 Sex

Classification of the members of the sample households according to their sex is given in Table 4.3. It was observed that at the aggregate level 52.66 per cent were male and 47.34 per cent were females. Among service sector people and farmers males were dominant (54.95 and 54.47 per cent respectively) than females in number. But in the case of labourers, females (51.26 per cent) marginally out numbered males (48.74 per cent). It can also find that the average family size of the labourer family was the highest (4.76 persons per family) followed by farmers (4.7) and service sector people (4.44) making the average as 4.63 persons per family.

4.1.4 Community

Community wise distribution of the sample households is given in Table 4.4. It was observed that at the aggregate level 26 per cent was under backward class community followed by forward Hindus (25.33 per cent) and Ezhava community (17.33 per cent). Christians constituted about 16 percent of the total while Muslim constituted only to 4.67 per cent. SC/ST had an involvement of 10.67 per cent. Out of the total labourers, 34 per cent were belonging to backward classes followed by SC/ST (22 per cent). Ezhava community had representation of 20 per cent to the labourer category while forward Hindus and Christians had only 10 per cent each. Muslims were the smallest community as far as labourers are concerned. In the case of farmers forward Hindus are the largest community (36 per cent) followed by Christians (22 per cent). Ezhava and OBC contributed 20 per cent each to the farmer category while Muslims and SC/ST farmers were scanty (four and two per cent respectively). Out of the total service sector people 30 per cent were belonging to forward Hindu category and 26 per cent by other back ward classes. SC/ST had a reasonable involvement (22 per cent) while Ezhava and Christian category had constituted 17.33 and 16 per cent respectively to the total of service sector people. Muslims were the scarcest category (6 per cent) in all the categories.

Table 4.3. Distribution of Family Members According to Sex

Category	Sex and no. of persons			Average family size
	Male	Female	Total	
Ag. Labourers	116 (48.74)	122 (51.26)	238 (100.00)	4.76
Farmers	128 (54.47)	107 (45.53)	235 (100.00)	4.70
Service sector	122 (54.95)	100 (45.05)	222 (100.00)	4.44
All	366 (52.66)	329 (47.34)	695 (100)	4.63

Figures in parentheses show percentages to the total

Table 4.4. Community Wise Distribution of Sample Households

Category	Community and no. of households						
	Forward Hindu	**Ezhava**	**OBC**	**SC/ST**	**Muslim**	**Christian**	**Total**
Ag. Labourers	5 (10.00)	10 (20.00)	17 (34.00)	11 (22.00)	2 (4.00)	5 (10.00)	50 (100.00)
Farmers	18 (36.00)	9 (18.00)	9 (18.00)	1 (2.00)	2 (4.00)	11 (22.00)	50 (100.00)
Service sector	15 (30.00)	7 (14.00)	13 (26.00)	11 (22.00)	3 (6.00)	8 (16.00)	50 (100.00)
All	38 (25.33)	26 (17.33)	39 (26.00)	16 (10.67)	7 (4.67)	24 (16.00)	150 (100)

Figures in parentheses show percentages to the total

4.1.5.Education

The distribution of family members according to their level of education is given in Table 4.5. Here the children with age less than five years were not included as they affect the true picture of the data. On an average, out of the total majority (32.98 per cent) is only having an education up to secondary level while 23.73 per cent people have only primary level education. 19.85 per cent of the total got chance to have college education while 19.24 per cent have got upto higher secondary level and 4.43 per cent remain illiterate. Among labourers 35.40 per cent had primary education while the percentage of people with only primary education is less in farmers (19.82 per cent) and service sector peoples (14.49 per cent). The difference between the per cent of people having only secondary education in the three groups was much narrower as the value are 34.07, 31.98, and 32.85 per cent respectively for labourers, farmers and service sector peoples. The number of persons having education up to higher secondary level was highest among farmers (22.07 per cent) followed by labourers (18.48 per cent) and service sector people (16.91 per cent). The highest percentage of people with college education is under the service sector category (31.88 per cent) as against 25.53 per cent among the farmers and only 3.54 per cent among the labourers. Interestingly the lowest percentage of illiterates is with farmer category (0.90 per cent) than labourers (8.41 per cent) and service sector people (3.86 per cent).

4.1.6. Holding Size

The details regarding the holding size is depicted in Table 4.6. Agricultural labourers were having the lowest holding size (0.07 ha) as they were mainly living in colonies while in the case of farmers the average holding size is 0.62 ha and they contribute to 74.69 per cent (30.90 ha) of the total area. In the case of service sector people the average holding size is 0.14 ha making the overall average 0.28 hectares. Out of the total area (41.37 ha) available 3.31 ha (7.99 per cent) only was occupied by the labourer category and 7.16 ha (17.32 per cent) were in use by the service sector people.

Table 4.5. Distribution of Family Members According the Level of Education

Category	Education and no. of persons					
	Primary	**Secondary**	**Higher secondary**	**College level**	**Illiterate**	**Total***
Ag. Labourers	80 (35.40)	77 (34.07)	42 (18.58)	8 (3.54)	19 (8.41)	226 (100.00)
Farmers	44 (19.82)	71 (31.98)	49 (22.07)	56 (25.23)	2 (0.90)	222 (100.00)
Service sector	30 (14.49)	68 (32.85)	35 (16.90)	66 (31.88)	8 (3.86)	207 (100.00)
All	154 (23.72)	216 (32.97)	126 (19.23)	130 (19.85)	29 (4.43)	655 (100.00)

Figures in parentheses show percentages to the total

* children belonging to the age group of less than five years are not included.

Table. 4.6 Classification of Respondents Based on Their Holding Size

Category	Total area (ha)	No. of farmers	Average holding size (ha)
Ag. Labourers	3.31 (7.99)	50 (33.33)	0.07
Farmers	30.90 (74.69)	50 (33.33)	0.62
Service sector	7.16 (17.32)	50 (33.33)	0.14
All	41.37 (100.00)	150 (100.00)	0.28

Figures in parentheses show percentages to the total

4.1.7 Cropping Pattern

The cropping pattern of the sample households as shown in Table 4.7. showed that the most important crop in the area was coconut (44.80 per cent). Most of the area (16.18 ha) under coconut is owned by the farmers. The second important crop in the area was paddy with a total area of 10.34 hectares (20.75 per cent) distributed as 7.9 ha among farmers, 1.84 ha among service sector peoples and 0.60 ha among labourers. The third major crop in the area happens to be banana with a total area of 4.55 ha (9.13 per cent) with a majority of area with farmer category (4.28 ha). Arecanut was being cultivated in an area of 1.03 ha (2.07 per cent) and tapioca was cultivated in 0.30 ha (0.60 per cent) where as 0.64 ha was occupied by mango (1.28 per cent) and 0.34 ha (0.68 per cent) by cashew. Vegetables were cultivated only in 0.25 ha (0.50 per cent) and in 0.55 ha (1.10 per cent) some other crops like nutmeg, jack, tamarind etc are cultivated.

The gross cropped area worked out to be 40.07 ha, and net sown area was 49.82 ha. The area sown more than once was 9.62 ha. At the aggregate level the cropping intensity was 124.33 and it was highest for service sector peoples (126.55) than farmers (125.05) and labourers (111.27).

4.1.8 Livestock Ownership

The category wise livestock Ownership is depicted in Table 4.8. At the aggregate level, there were only 47 cows of which majority were with the farmers (53.19 per cent) followed by service sector people (34.04 per cent) than among labourers (12.77 per cent). Out of the five buffaloes, three were owned by the farmers and two by the service sector people. There were a total of two goats owned by the labourer category. Poultry was not a scarce item of livestock as far as the sample is considered because there were 92 birds of which bulk was with farmers (69.57 per cent) followed by service sector people (17.39 per cent) and labourers (13.04 per cent) accounted less. There was a single service sector family, which reared small rabbit farm consisting of ten rabbits.

Table 4.7. Category wise Cropping Pattern of the Sample Households

Crops	Area in hectares			
	Labourers	**Farmers**	**Service Sector**	**All category**
Paddy	0.60 (18.99)	7.90 (20.85)	1.84 (20.98)	10.34 (20.75)
Coconut*	1.80 (56.96)	16.18 (42.70)	4.34 (49.49)	22.32 (44.80)
Areca nut	0.01 (0.32)	0.79 (2.08)	0.23 (2.62)	1.03 (2.07)
Banana	0.18 (5.70)	4.17 (11.01)	0.20 (2.28)	4.55 (9.13)
Tapioca	0.01 (0.32)	0.29 (0.77)	0.00 (0.00)	0.30 (0.60)
Mango	0.10 (3.16)	0.28 (0.74)	0.26 (2.96)	0.64 (1.28)
Cashew	0.02 (0.63)	0.31 (0.82)	0.01 (0.11)	0.34 (0.68)
Vegetables	0.00 (0.00)	0.25 (0.66)	0.00 (0.00)	0.25 (0.50)
Other crops	0.12 (3.80)	0.38 (1.00)	0.05 (0.57)	0.55 (1.10)
Area used for other purposes	0.47 (14.87)	0.48 (1.27)	0.24 (2.74)	1.19 (2.39)
Net sown area	2.84 (89.87)	30.30 (79.97)	6.93 (79.02)	40.07 (80.43)
Area sown more than once	0.32 (10.13)	7.46 (19.69)	1.84 (20.98)	9.62 (19.31)
Gross cropped area	3.16 (100.00)	37.89 (100.00)	8.77 (100.00)	49.82 (100.00)
Cropping intensity (%)	111.27	125.05	126.55	124.33

* Standard hectare of 175 palms

Table 4.8. Category Wise Livestock Ownership of the Sample Households

Items	Livestock in numbers			
	Labourers	**Farmers**	**Service sector**	**All category**
Cow	6 (12.77)	25 (53.19)	16 (34.04)	47 (100.00)
Buffalo	0 (0.00)	3 (60.00)	2 (40.00)	5 (100.00)
Goat	2 (100.00)	0 (0.00)	0 (0.00)	2 (100.00)
Poultry	12 (13.04)	64 (69.57)	16 (17.39)	92 (100.00)
Rabbit	0 (0.00)	0 (0.00)	10 (100.00)	10 (100.00)

4.2. INCOME AND EXPENDITURE

In this section the various sources of income and the different kinds of expenditure are discussed in relation to the different categories of households under study.

4.2.1 Income of Households

At this juncture, the income of the sample farmers from all the sources is discussed. The details of the income of the sample households for the reference year are presented in Table 4.9. Income of households includes both farm income and non-farm income. From the Table it was observed that the total income was highest among service sector people (Rs. 82320.00) and was lowest among the labourers (Rs. 47568.00). Farm income was highest among the farmers (Rs. 50402.00) and lowest for the labourers (Rs. 3543.72). In the case of non-farm income the maximum was with the service sector people (Rs. 74801.96) and was least for the group of Farmers (Rs. 27717.80).

For labourers only 7.45 per cent of their total income came from farming. The rest of 92.55 per cent was derived from non-farm sources mainly as wages for labour. In the case of farmers the main source of income as it should be was from farming (65.52 per cent) and the rest (35.48 per cent) came from other secondary activities like business, service etc. As far as service sector people are concerned, the main source of income was from non-farm activities (90.87 per cent) which are the salary for their service and the rest is obviously from farming (9.13 per cent).

4.2.1.1. Distribution of Farm Income of Households

The distribution of average income in the farm is given in Table 4.10. The main source of farm income for farmers and service sector people was crops where as for labourers it was livestock.. This was mainly due to the fact that the land available

Table 4.9. Average Income of Households, Rs./Year

Source	Income of different categories			
	Labourers	**Farmers**	**Service sector**	**Average**
Farm income	3543.72 (7.45)	50402.20 (65.52)	7518.04 (9.13)	20488.00 (32.46)
Non-farm income	44024.28 (92.55)	27717.80 (35.48)	74801.96 (90.87)	42628.00 (67.54)
Total income	47568.00 (100.00)	78120.00 (100.00)	82320.00 (100.00)	63116.00 (100.00)

Figures in parentheses show percentages to total

Table 4.10. Distribution of Farm Income of Households, Rs./Year

Source	Income of different categories			
	Labourers	**Farmers**	**Service sector**	**Average**
Crops	1619.32 (45.70)	44060.8 (87.42)	4136.04 (55.01)	16605.38 (81.95)
Livestock	1924.4 (54.30)	6341.45 (12.58)	3382.00 (44.99)	3882.62 (18.95)
Total farm income	3543.72 (100.00)	50402.2 (100.00)	7518.04 (100.00)	20487.99 (100.00)

Figures in parentheses show percentages to total

with the labourer category was limited as compared to the other two groups and for livestock land cannot be considered as a deciding factor. On an average 81.95 per cent of the total farm income was derived from the crops and only 18.95 was from livestock.

As can be seen, livestock accounted for 54.30 per cent of farm income in labourers and the rest 45.70 per cent was accounted by crops. In the case of farmers 87.42 per cent was from crops and only 12.58 percent was from livestock. Service sector people had 55.01 per cent of their farm income from crops and only 44.99 per cent from livestock.

4.2.1.2. Distribution of Non-farm Income of Households

The source wise generation of non-farm income is presented in Table 4.11. It showed that salary from services was the major source of non-farm income when we take the average of all households. This constituted for about 56.02 per cent of the total non-farm income. But in the case of labourers the salary was replaced by the wages for their work. For sample households as a whole, the wages constituted for about 27.45 per cent of the total non-farm income. Business constituted only 11.86 per cent of the total non-farm income.

Among labourers, the major share of the non-farm income was from wages (88.32 per cent) followed by business (9.84 per cent). They also achieved 1.85 per cent of their non-farm income from selling their precious ornamentals and durables. Farmers had their major share of non-farm income from salaried activities (76.36 per cent). They also made 4.83 per cent of their non-farm income as wages for their labour. They had also adjusted an income from business (10.47 per cent) and by the sale of the durables, land etc (8.34 per cent). In the case of service sector people, the major share was from salary (81.46 per cent) followed by an income of Rs. 10147.00 from business (13.47 per cent) and the rest 4.97 per cent was adjusted from other sources such as the sale of land.

Table 4.11. Distribution of Non-farm Income of Households, Rs./Year

Source	Income of different categories			
	Labourers	**Farmers**	**Service sector**	**Average**
Salary	0 (0.00)	21164.72 (76.36)	60934.96 (81.46)	27366.56 (56.02)
Wages	38880.28 (88.31)	1340.10 (4.83)	0 (0.00)	13406.79 (27.45)
Business	4330.00 (9.84)	2901.70 (10.47)	10147.00 (13.57)	5792.90 (11.86)
Others	814.00 (1.85)	2311.25 (8.34)	3720.00 (4.97)	2281.75 (4.67)
Total Non-farm income	44024.28 (100.00)	27717.77 (100.00)	74801.96 (100.00)	48848.00 (100.00)

Figures in parentheses show percentages to total

4.2.2. Expenditure Pattern of Households

Expenditure of a household consisted of farm expenditure, which in turn included expenditure on crop and livestock and non-farm expenditure including consumption expenditure. Expenditure pattern of households as given in Table 4.12. showed that at the aggregate level, consumption expenditure accounted for 78.91 per cent, and the rest 21.09 per cent by farm expenditure. The total expenditure which includes both farm expenditure and consumption expenditure was highest for farmer category (Rs.68585.50) followed by service sector people (Rs.57723.46) and labourers (Rs. 38096.20). Consumption expenditure was the highest for service sector people (Rs. 53377.50), followed by farmers (Rs. 40178.00) and labourers (Rs.36171.60). The farm expenditure was highest for farmers (Rs.28407.50) as compared to service sector peoples (Rs.4345.96) and labourers (Rs.1924.60).

4.2.2.1. Farm Expenditure Pattern of Households

Split up of farm expenditure, as crop and livestock are given in Table 4.13. On an aggregate level 78.09 per cent of the total expenditure was incurred for crops and only 21.91 per cent was spent for livestock. Farmers were spending 83.93 per cent of their total expenditure on crops and 16.07 per cent on livestock. Laborers spent only 43.65 per cent on crops and the rest (56.35 per cent) was spent on livestock. Service sector people incurred 55.14 per cent of their total expenditure on crops as compared to 44.86 per cent expenditure on livestock.

4.2.2.1.1 Crop Expenditure Pattern of Households.

The crop expenditure pattern as shown in Table 4.14 revealed that at the aggregate level, among the various items of crop expenditure, labour accounted for 55.91 per cent followed by material cost (42.37 per cent) and others (1.74 per cent). Category wise analysis showed that labour cost accounted for maximum in farmers (56.11 per cent), followed by Service sector (55.74 per cent). Materials accounted for 43.45 per cent in labourers followed by farmers (42.45 per cent) and service sector pe-

Table 4.12. Average Expenditure Pattern of Households, Rs./Year

Item	Expenditure of categories			
	Labourers	Farmers	Service sector	Average
Farm expenditure	1924.60 (5.05)	28407.50 (41.42)	4345.96 (7.53)	11559.35 (21.09)
Family expenditure	36171.60 (94.95)	40178.00 (58.58)	53377.50 (92.47)	43242.37 (78.91)
Total	38096.20 (100.00)	68585.50 (100.00)	57723.46 (100.00)	54801.72 (100.00)

Figures in parentheses show percentages to total

Table 4.13. Average Farm Expenditure Pattern of Households, Rs/Year

Item	Expenditure of categories			
	Labourers	Farmers	Service sector	Average
Crops	840.00 (43.65)	23843.63 (83.93)	2396.16 (55.14)	9026.60 (78.09)
Livestock	1084.60 (56.35)	4564.10 (16.07)	1949.8 (44.86)	2532.83 (21.91)
Total	1924.60 (100.00)	28407.50 (100.00)	4345.96 (100.00)	11559.35 (100.00)

Figures in parentheses show percentages to total

Table 4.14. Average Crop Expenditure Pattern of Households, Rs/Year

Item	Expenditure of categories			
	Labourers	Farmers	Service sector	Average
Labour	426.00 (50.71)	13379.60 (56.11)	1335.72 (55.74)	5047.11 (55.91)
Materials	365.00 (43.45)	10121.68 (42.45)	986.50 (41.17)	3824.39 (42.37)
Others	54.00 (6.43)	342.12 (1.43)	73.94 (3.09)	156.69 (1.74)
Total	840.00 (100.00)	23843.40 (100.00)	2396.16 (100.00)	9026.52 (100.00)

Figures in parentheses show percentages to total

ople (41.17 per cent). Other costs which included hiring charges of implements, irrigation cess, electricity bills and other costs and interest on working capital were highest in labourers (6.43 per cent) followed by Service sector people (3.09) and was lowest for farmers (1.43per cent).

4.2.2.1.2 Livestock Expenditure Pattern of Households.

Details regarding the Livestock expenditure pattern are given in Table 4.15. It was found that at the aggregate level, feed accounted for the maximum expenditure; about 61.65 per cent, followed by labour (36.34 per cent) and other items like veterinary and medical charges (2.01 per cent). Category wise analysis showed that in all the categories feed was the major item of expenditure. It was 71.09, 59.54 and 61.35 per cent respectively for labourers, farmers and service sector people. The amount was relatively less for farmers was simply because of the fact that there was enough straw in the farm to feed them. Labour accounted for 38.96 per cent of the expenditure in farmers followed by service sector people (35.76 per cent) and labourers (26.37 per cent).

4.2.2.2 Household Consumption Expenditure

Contemporary consumption expenditure of the family included expenses for food, clothing, fuel and lighting, education, travel, medicine, social ceremonies, religious requirements, smoking and beverages etc. Table 5.16 gives the composition of consumption expenditure of the sample households. At the aggregate level food was the major item of consumption expenditure which comes to about 46.44 per cent of the total consumption expenditure of Rs.43242.37. 10.53 per cent of the total was for miscellaneous items like taxes, expenditure for telephone bills, cosmetics, lottery etc. Smoking and beverage wiped off about 9.99 per cent of total consumption expenditure. Fuel and lighting, traveling and clothing took away about 7.33, 6.66 and 5.55 per cent respectively. Education (3.95 per cent), Social (3.53 per cent), and medicine (3.31 per cent) religious (2.71per cent) were also partitioned the total consumption expenses.

Table 4.15. Average Livestock Expenditure Pattern of Households, Rs./year

Item	Expenditure of categories (Rs.)			
	Labourers	**Farmers**	**Service sector**	**Average**
Labour	286.00 (26.37)	1778.20 (38.96)	697.20 (35.76)	920.47 (36.34)
Materials/Feed	771.00 (71.09)	2717.50 (59.54)	1196.20 (61.35)	1561.57 (61.65)
Others	27.60 (2.54)	68.40 (1.50)	56.40 (2.89)	5.80 (2.01)
Total	1084.60 (100.00)	4564.10 (100.00)	1949.8 (100.00)	2532.83 (100.00)

Figures in parentheses show percentages to total

Table4.16. Average Consumption Expenditure Pattern of Households, Rs./year

Item	Expenditure of categories (Rs.)			
	Labourers	Farmers	Service sector	Average
Food	17144.00 (47.40)	17988.00 (48.06)	23795.00 (44.58)	20082.67 (46.44)
Clothing	2140.00 (5.92)	2246.00 (5.59)	2809.50 (5.26)	2398.50 (5.55)
Fuel and lighting	2172.00 (6.00)	3048.00 (7.59)	4284.00 (8.03)	3168.00 (7.33)
Education	426.00 (1.18)	1740.00 (4.33)	2964.00 (5.55)	1710.00 (3.95)
Travel	1422.00 (3.93)	2280.00 (5.67)	4932.00 (9.34)	2878.00 (6.66)
Medicine	1198.80 (3.31)	1584.00 (3.94)	1512.00 (2.83)	1431.60 (3.31)
Social	1284.00 (3.55)	1506.00 (3.75)	1788.00 (3.35)	1526.00 (3.53)
Religious	916.80 (2.53)	1350.00 (3.36)	1248.00 (2.34)	1171.60 (2.71)
Smoking and Beverages	5664.00 (15.66)	3558.00 (8.86)	3744.00 (7.01)	4322.00 (9.99)
Miscellaneous	3804.00 (10.52)	3558.00 (8.86)	6300.00 (11.80)	4554.00 (10.53)
Total	36171.60 (100.00)	40178.00 (100.00)	53377.50 (100.00)	43242.37 (100.00)

Figures in parentheses show percentages to total

The total consumption expenditure was highest for the service sector people (Rs. 53377.50) followed by farmers (Rs. 40178.00) and labourers (Rs. 36171.60). Farmers spent 48.06 per cent of their income (Rs 17988.00) for food while laborers and service sector people accounted for 47.40 (Rs.17144.00) and 44.58 (Rs. 23795.00) per cent respectively. Service sector people spent more for cloth (Rs. 2809.50) as compared to labourers (Rs. 2140.00) and farmers (Rs. 2246.00) did. Rs. 4284.00 (8.03 per cent) was used by the service sector people towards the fuel and lighting item whereas it was Rs. 2170.00 (7.59 per cent) and Rs. 3048.00 (6.00 per cent) for labourers and farmers. For meeting the educational expenditure only 1.18 per cent of total was used by the labourers while farmers (4.33 per cent) and service sector (5.55 per cent) people spent more. A similar pattern is seen also in the case of expenditure for travel. Farmers spent more for medicine (3.94 per cent) than labourers and service sector people (3.31 and 2.83 per cent). A more or less similar pattern is seen in the case of social and religious expenditure. In the case of smoking and beverages labourers spent about Rs 5664.00 (15.66 per cent) while farmers and service sector people had spent only 8.86 and 7.01 per cent of their total consumption expenditure. Miscellaneous expenditure was highest among service sector peoples (Rs. 6300.00) as compared to labourers (Rs. 3804.00) and farmers (Rs. 3558.00).

4.2.3 Income Measures in Relation to Different Cost Concepts

Gross income of a farm consisted of crop income and livestock income. Crop income consisted of value of the main product and by-product valued at their farm gate price and livestock income consisting of income from milk, dung and eggs valued at the prices prevailing in the area or as reported by the respondents, and sale of animals. Table 4.17 gives the various income measures of the sample households. Gross income of all farms was estimated to be Rs. 20487.99. It was highest for farmers which came to Rs.50402.20 followed by service sector peoples with Rs. 7518.04 and labourers with Rs.3543.72. Farm business income of households was estimated as the difference between gross income and cost A both at the aggregate level and for different categories of households. Farm business income at the aggregate level was Rs.8928.64. Category wise analysis revealed that farmers received the highest farm business income of Rs.21994.70 followed by service sector

Table 4.17. Farm Income Measures in Relation to the Cost Concepts of the Households, Rs./Year

Measures	Income of different categories (Rs.)			
	Labourers	Farmers	Service sector	Average
Gross income	3543.72	50402.20	7518.04	20487.99
Farm business income	1619.12	21994.70	3172.08	8928.64
Family labour income	1501.25	19513.56	2649.53	7888.117
Net income	952.79	9093.91	1198.47	3748.39
Benefit cost (cost C_3) ratio	1.37	1.22	1.19	1.22

people (Rs.3172.08) and labourers (Rs. 1619.12). Family labour income was worked out as the difference between gross income and cost B. At the aggregate level family labour income amounted to Rs. 7888.17. Among the different categories, farmers had the highest family labour income amounting to Rs. 19513.56 followed by service sector people (Rs.2649.53) and labourers (Rs.1501.25). Gross income, farm business income and family labour income were the lowest for labourers as it increased as holding size increased. Net income at the aggregate level worked out at cost C came to be Rs.3748.39 and it was the highest for farmers with Rs. 9093.91, followed by service sector people with Rs.1198.47. Net income registered the lowest value for labourer households amounting to Rs.952.79. Benefit-cost ratio estimated at Cost C basis worked out to 1.22 at the aggregate level. Category wise analysis showed that B-C ratio was the maximum for labourers (1.37) followed by farmers (1.22) and service sector people (1.19).

4.2.5 Disparity in Income

The Lorenz curve analysis and estimation of Gini's ratios were taken up for examining the levels of disparity in farm income and non-farm income. The curve depicted the relative position of different categories of households from the line of perfect equality. The diagonal line represented the equal distribution line, the curve close to the diagonal line indicated least disparity and the curve farthest to the diagonal line indicated greatest disparity in income distribution.

A value of zero for the Gini's ratio denoted a perfect equal distribution and a value of one indicated the worst possible distribution, hence the higher the estimates of Gini's ratio the more the disparity and vice versa. The estimates of Gini's ratios for non-farm income and farm income are presented in Table 4.18. It depicted that the disparity in farm income varied from 0.39 for farmers to 0.85 for labourers. For service sector people it was 0.72. The estimation of Gini's ratio for non-farm income varied from 0.18 in service sector people to 0.29 farmers. The disparity in farm income per farm was observed to be higher than the disparity in non-farm income as the some service sector and labourers do not have land under cultivation.

Table 4.18. Gini Ratios of Distribution of Income in Households

Category	Farm Income	Non-farm income
Labourers	0.85	0.22
Farmers	0.39	0.29
Service sector	0.72	0.18

4.3 SAVINGS OF HOUSEHOLDS

Savings is the excess of income over consumption or it is that part of the income which is left unused after consumption. Saving consists of funds that are dedicated financially or used to purchase capital goods. In this study only current savings are taken into consideration. Savings can be measured by two methods, namely, direct and indirect. In the direct method, savings is straight away estimated at the end of a particular period while in the indirect method, income and expenditure of the households are measured for estimating the savings. In this study, the indirect method has been followed to measure the savings of the farmers because the adoption of direct method presents a number of difficulties pertaining to accuracy.

4.3.1 Savings During the Period Under Study

Savings per households for different categories for the period under study is presented in Table 4.19. A scrutiny of the above Table indicated that there has been a continuous increment in per household savings, from labourers to farmers and then to service sector people. At the aggregate level 19.32 per cent of the total income was saved by the sample households. The percentage of savings to total income was highest for the service sector people (29.88 per cent) than labourers (12.74 per cent) and farmer category (12.20 per cent). Average savings of all the households amounted to Rs 13396.95. The Category wise analysis showed that per household savings was highest for the service sector people (Rs. 24596.54) followed by farmers (Rs. 9534.50) and labourers (Rs. 9471.80).

4.3.2 Agency Wise Saving Distribution of Sample Households

The saving pattern of the sample households are given in Table 4.20. From the Table it is clear that the majority of the respondents in all categories, preferred co-operatives, post offices and chit funds. On an average, of the total 50.00 per cent of the total respondents were savings in the co-operatives which played a useful role in mobilizing rural savings in the form of shares and were essential for enabling the far-

Table 4.19. Average Amount of Savings in the Households

Source	Savings of different categories (Rs.)			
	Labourers	**Farmers**	**Service sector**	**Average**
Amount saved	9471.80	9534.50	24596.54	14534.28
Total income	47568.00	78120.00	82320.00	69336.00
Savings as percentage of Total income	19.91	12.20	29.88	20.96

Table 4.20. Agency Based Savings Distribution of Households, Rs./Year

Items	Category			
	Labourers	**Farmers**	**Service sector**	**Average**
Co-operatives	22 (44.00)	34 (68.00)	19 (38.00)	75 (50.00)
Commercial banks	3 (6.00)	5 (10.00)	14 (28.00)	22 (14.67)
Post office	17 (34.00)	21 (42.00)	26 (52.00)	64 (42.67)
LIC	4 (8.00)	15 (30.00)	37 (74.00)	56 (37.33)
Kury/Chitty	13 (26.00)	18 (36.00)	29 (58.00)	60 (40.00)
Shares	0 (0.00)	0 (0.00)	2 (4.00)	2 (1.33)
Others	18 (36.00)	14 (28.00)	8 (16.00)	40 (26.67)

Figures in parentheses show percentages to total

mers to avail loans from them. About 42.67 per cent of the total respondents were having some amount of savings in the post offices. Kuries and chitties accounted for about 40.00 per cent while LIC acquired 37.33 per cent and commercial banks could collect only 14.67 per cent of the total savings at the aggregate level. Only 1.33 per cent was saved as shares while 26.67 per cent was bagged up by other sources like private money lenders as deposits.

About 68.00 per cent of the total respondent farmers (50) had membership in co-operatives while people with savings in cooperatives are only 44.00 and 38.00 per cent respectively for labourers and service sector people. The service sector people had a preference towards the secure savings in the post office (52.00 per cent). Labourers (34.00 per cent) and farmers (42.00 per cent) also had recognized the safety of the savings in post offices. The many attractive features of the chit fund schemes had made the service sector people (58.00 per cent) to save more with them. Labourers (26.00 per cent) and farmers (36.00 per cent) had fewer savings in the form of kury or chitty. LIC was more familiar with the service sector people (74.00 per cent) than with farmers (30.00 per cent) and labourers (8.00 per cent). Commercial banks have the same pattern of savings of having 28.00 per cent service sector people, 10.00 per cent farmers and 6.00 per cent labourers making it a way of making savings. Shares was also a system of making savings but was used only by 4.00 per cent of service sector people. Labourers had a habit to invest in the daily collection fund run by private parties. Including these parties there are many private financial institution which are keeping away about 36.00 per cent of the labourers for savings. Farmers (28.00 per cent) and service sector people had also believed in the private financial institution for making their savings. With respect to the Lorenz curve analysis of savings it was found that labourers showed a higher disparity than service sector people and farmers. The respective Gini ratio were 0.30, 0.29 and 0.31.

4.3.3 Marginal Propensities of Consumption and Saving

The marginal propensities of consumption and savings as detailed in Table.4.21, showed that marginal propensity to consume was higher for farmers (0.85) followed

Table.4.21. Least Square Estimation of Marginal Propensities of Consumption and Saving

Items	Categories					
	Labourers		Farmers		Service sector people	
	MPC	MPS	MPC	MPS	MPC	MPS
Constant	2185.69	-2185.69	-1889.80	1889.80	12701.29	-12701.29
Coefficient	0.82	0.18	0.85	0.15	0.52	0.48
R^2	0.95	0.47	0.80	0.12	0.54	0.50

by labourers (0.82) and was lowest for service sector people (0.52). The marginal propensity to save in converse was highest for service sector people (0.48) followed by labourers (0.18) and farmers (0.15).

4.4. INVESTMENT

This section deals with the study of the durable physical assets of the farmers and the amount spent by the farmers towards the formation of such durable items in the period of study. This is meant to provide a background for the subsequent study of gross and net investment of different categories.

4.4.1 Asset Structure of Sample Households

The average value of fixed investment per household along with their percentages on land, buildings, wells and tanks, livestock, farm machinery and implements and household durables for each category are given in Table 4.22. At the aggregate level, asset per household was Rs. 911624.57 of which 65.72 per cent was accounted for by land. It was followed by residential building (16.99 per cent) and household durables (13.02 per cent). Category wise analysis also revealed that 87.76 per cent of the total asset was contributed by land in the case of farmers and it was 70.30 and 39.10 respectively for labourers and service sector people. Residential building contributed about 22.07 per cent in the case of service sector people and 21.64 per cent in the case of labourers while it was only 7.26 per cent in the case of farmers. Household durables contributed about 30.75 per cent of total assets of service sector people which was only 5.41 and 2.90 per cent in the case of labourers and farmers respectively. Transport equipments constituted about 6.76 per cent of the total asset in the case of service sector people while it was only 0.40 and 0.79 per cent in the case of labourers and farmers. In the case of livestock, 0.43 per cent of labourer's asset and 0.22 per cent of farmer's asset was livestock while service sector people have only 0.17 per cent contribution from livestock to make the aggregate as 0.27 per cent. Irrigation appliances accounted for 1.16, 0.72 and 0.80 per cent of the asset of labourers, farmers and service sector people respectively. Farm implements accounted for only 0.11 per cent of asset of labourers and 0.04 and 0.02 per cent of asset of farmers and service sector people.

Table 4.22. Asset Structure of Households, Rs.

Items	Category			
	Labourers	Farmers	Service sector	Average
Land	165360.00 (70.30)	1456660.00 (87.76)	328420.00 (39.10)	650146.67 (65.72)
House	50900.00 (21.64)	120500.00 (7.26)	185400.00 (22.07)	118933.33 (16.99)
Farm buildings	1309.70 (0.56)	5015.00 (0.30)	2485.00 (0.31)	2936.58 (0.38)
Livestock	1000.00 (0.43)	3726.00 (0.22)	1422.50 (0.17)	2049.50 (0.27)
Irrigation appliances	2728.00 (1.15)	11966.00 (0.73)	6747.00 (0.81)	7147.00 (0.89)
Farm implements	254.70 (0.11)	681.70 (0.04)	134.10 (0.02)	356.83 (0.06)
Household durables	12725.00 (5.41)	48200.00 (2.90)	258460.00 (30.75)	106461.67 (13.02)
Transport equipments	933.00 (0.40)	13034.00 (0.79)	56812.00 (6.77)	23593.00 (2.65)
Total	235210.00 (100.00)	1659783.00 (100.00)	839880.60 (100.00)	911624.58 (100.00)

Figures in parentheses show percentages to total

To get the true picture of farm assets it is necessary to remove the items such as land, residential buildings household durables and transport equipments, which do not have direct influence on farming. Hence the asset structure of the farms, excluding the above four items is given in Table 4.23. At the aggregate level, the fixed capital on irrigation appliances had the highest contribution (56.95 per cent) of the total value of assets followed by farm buildings (23.74), livestock (16.50) and farm implements (3.08).

Analysing category wise it could be seen that out of the total asset of farmers (Rs. 21388.70), irrigation appliances accounted for Rs. 11966.00 (55.95 per cent) followed by farm buildings (23.45 per cent) and livestock (17.42) and farm implements (3.19). Out of the total assets possessed by the service sector people (Rs. 10788.60) 62.54 was accounted by irrigation appliances and 23.03 per cent by farm buildings while the contribution of livestock (13.19 per cent) and farm implements (1.24) was less. Regarding labourers 51.55 per cent of the total (Rs. 5292.00) was contributed by the irrigation appliances while farm buildings and livestock and farm implements accounted for 24.75, 18.90 and 4.81 per cent respectively.

4.4.2.Gross Farm Investment for the Period Under Study.

Details of investments made by the sample households during the year 2001-02 are presented in Table 4.24. When all farms were considered, purchase of livestock (26.57 per cent) evolved to be the most important item of investment followed by a 23.85 per cent investment for land improvement. Purchase of irrigation appliances was next with about 17.43 per cent of total investment (Rs. 2348.43) followed by construction and repair of farm buildings (14.25 per cent) and digging and repair of wells. Purchase of farm implements accounted for 4.28 per cent of the total investment.

Table 4.23. Asset Structure of Households Excluding Land, House and Household Durables & Transport Equipments, Rs.

Items	Category			
	Labourers	Farmers	Service sector	Average
Farm buildings	1309.70 (24.75)	5015.00 (23.45)	2485.00 (23.03)	2936.57 (23.74)
Livestock	1000.00 (18.90)	3726.00 (17.42)	1422.50 (13.19)	2049.50 (16.50)
Irrigation appliances	2728.00 (51.55)	11966.00 (55.95)	6747.00 (62.54)	7147.00 (56.68)
Farm implements	254.70 (4.81)	681.70 (3.19)	134.10 (1.24)	356.83 (3.08)
Total	5292.00 (100.00)	21388.70 (100.00)	10788.60 (100.00)	12489.90 (100.00)

Figures in parentheses show percentages to total

Table 4.24. Gross Farm Investment in Sample Households, Rs./Year

Items	Category			
	Labourers	**Farmers**	**Service sector**	**Average**
Land improvement	85.00 (7.69)	1125.00 (29.49)	470.00 (22.12)	560.00 (23.85)
Purchase of livestock	460.00 (41.61)	1132 (29.67)	280.00 (13.18)	624.00 (26.57)
Digging and repair of wells	210.00 (19.00)	430.00 (11.27)	320.00 (15.06)	320.00 (13.63)
Purchase of irrigation appliances	188.00 (17.01)	565.00 (14.81)	475.00 (22.35)	409.33 (17.43)
Purchase of farm implements	92.40 (8.36)	168.90 (4.43)	40.00 (1.88)	100.43 (4.28)
Construction and repair of farm buildings	70.00 (6.33)	394.00 (10.33)	540.00 (25.40)	334.66 (14.25)
Total	1105.40 (100.00)	3814.90 (100.00)	2125.00 (100.00)	2348.43 (100.00)

Figures in parentheses show percentages to total

Among the categories farmers made most of their investment in purchase of livestock (29.67 per cent) and land improvement (29.49 per cent). They invested about 14.81 per cent for the purpose of purchase of irrigation appliances, 10.33 per cent for the construction and repair of farm buildings and 4.43 per cent for the purchase of farm implements. In the case of labourers, 41.61 per cent out of the total of Rs.1105.40 was used for the purchase of livestock. They also made 19.00 and 17.01 per cent of the total investment in digging and repair of wells and purchase of irri-gation appliances respectively. The investment made on purchase of farm implements (8.36 per cent), construction and repair of farm buildings (6.33 per cent) and land improvement (7.69 per cent) were comparatively lesser. In the case of service sector people investment made was higher in construction and repair of farm buildings (25.41 per cent) followed by purchase of irrigation appliances (22.35 per cent) and land improvement (22.12 per cent). Digging and repair of wells accounted for 15.06 per cent of the total investment while purchase of livestock and purchase of farm implements took away only 13.18 and 1.88 per cent of the total investment respectively.

4.4.3. Net Farm Investment

Since all the physical assets are liable to wear and tear and this value depreciate over the years; it would be more reasonable to estimate the net investment than gross investment. Net investment showed a similar pattern to that of gross investment. Table 4.25 gives the break up of net investment in the sample households. When all farms were taken as like the early case, purchase of livestock (27.10 per cent) emerged to be the most significant item of investment followed by investment for land improvement (23.85 per cent). Purchase of irrigation appliances was next with about 17.43 per cent of total investment (Rs. 2348.43) followed by construction and repair of farm buildings (14.25 per cent) and digging and repair of wells. Purchase of farm implements took only 4.28 per cent of the total investment.

Table 4.25. Net Farm Investment in Sample Households, Rs./Year

Items	Category			
	Labourers	Farmers	Service sector	Average
Land improvement	56.67 (5.74)	750.00 (23.40)	313.33 (16.91)	373.33 (18.53)
Purchase of livestock	402.50 (40.80)	990.50 (30.90)	245.00 (13.22)	546.00 (27.10
Digging and repair of wells	204.75 (20.76)	419.25 (13.08)	312.00 (16.83)	312.00 (15.48)
Purchase of irrigation appliances	183.74 (18.63)	552.19 (17.23)	464.23 (25.05)	400.06 (19.85)
Purchase of farm implements	75.77 (7.68)	138.51 (4.32)	32.80 (1.77)	82.36 (4.09)
Construction and repair of farm buildings	63.00 (6.39)	354.60 (11.06)	486.00 (26.22)	301.20 (14.95)
Total	986.42 (100.00)	3205.04 (100.00)	1853.37 (100.00)	2014.94 (100.00)

Figures in parentheses show percentages to total

4.4.4. Gross Non-farm Investment

Distribution of non-farm investment as given in Table 4.26. depicts that majority (55.85 per cent) of the investment was made on residential building followed by household durables (35.26 per cent) and transport equipments (8.89 per cent). Among the categories the non-farm investment was maximum for service sector people category (Rs. 14005.00) followed by farmers (Rs.5509.00) and labourers (Rs. 3133.00). Service sector people made maximum investment on residential building (Rs.6489.00) as compared to farmers (Rs. 3615.00) and labourers (Rs. 2545.00). Labourers spent 81.23 per cent of their total investment in residential building, followed by farmers (65.62 per cent) and service sector people (46.33 per cent). In the case of household durables and transport equipments there follows the same pattern of investment in monetary terms. It was observed that 41.50 per cent of the total investment by the service sector people was utilized for the purchase of household durables while farmers used about 29.64 per cent and labourers used 17.27 per cent of their total investment. With regard to transport equipments, service sector people made 12.17 per cent of their total investment on transport equipments while it was only 4.75 and 1.50 per cent respectively for farmers and labourers.

4.4.5.Net Non-farm Investment

The distribution of net non-farm investment is shown in Table 4.26. It also followed a similar pattern to that of gross non-farm investment. The net investment was highest for the service sector people (Rs. 13152.49) followed by farmers (Rs. 5197.85) and labourers (Rs. 2965.81). On an average, 55.37 per cent of the total was made on residential building followed by 34.96 per cent investment on household durable and 8.66 per cent on transport equipments. Service sector people made 46.87 per cent of the total investment on residential building (Rs. 6164.55) followed by Rs. 5423.60 investment on household durables and a 11.89 per cent investment in transport equipment (Rs.1564.34). On the other hand farmers made an investment of Rs. 3434.25 on residential building (66.07 per cent), Rs. 1524.13 (29.32 per cent) on household durables and Rs.239.47(4.61 percent) on transport equipments. With regard

Table 4.26. Gross Non-farm Investment in Sample Households, Rs./Year

Items	Category			
	Labourers	**Farmers**	**Service sector**	**Average**
Residential Building	2545.00 (81.23)	3615.00 (65.62)	6489.00 (46.33)	4216.33 (55.85)
Household durables	541.00 (17.27)	1633.00 (29.64)	5811.00 (41.5)	2661.67 (35.26)
Transport equipments	47.00 (1.50)	261.00 (4.74)	1705.00 12.17)	671.00 (8.89)
Total	3133.00 (100.00)	5509.00 (100.00)	14005.00 (100.00)	7549.00 (100.00)

Figures in parentheses show percentages to total

Table 4.27. Net Non-farm Investment in Sample Households, Rs./Year

Items	Category			
	Labourers	**Farmers**	**Service sector**	**Average**
Residential Building	2417.75 (81 52)	3434.25 (66.07)	6164.55 (46.87)	4005.52 (55.037)
Household durables	504.93 (17.03)	1524.13 (29.32)	5423.60 (41.24)	2484.22 (34.96)
Transport equipments	43.12 (1.45)	239.47 (4.61)	1564.34 (11.89)	615.64 (8.67)
Total	2965.81 (100.00)	5197.85 (100.00)	13152.49 (100.00)	7105.38 (100.00)

Figures in parentheses show percentages to total

to the investment made by labourers, they made 81.52 per cent of their total non-farm investment on residential building (Rs. 2417.75) followed by Rs. 504.93 (17.03 per cent) on household durables and 1.45 per cent (Rs. 43.12) of the total on transport equipments.

4.4.6. Rate of Investment

Rate of investment of different categories are shown in Table 4.28. The rate of investment in total was highest for the service sector people (7.65 per cent) than for labourers (7.03 per cent) and farmers (5.92 per cent). When all farms were considered the overall rate of capital formation per farm worked out to 6.94. With respect to the rate of farm investment, it was highest for farmers (2.26 per cent) followed by labourers (1.76 per cent) and service sector people (0.94 per cent), which made the over all rate 1.53 per cent. 5.41 per cent was the average non-farm investment rate, which was highest for the service sector people (6.70 per cent), followed by labourers (5.28 per cent) and farmers (3.66 per cent).

4. 5. MAJOR CONSTRAINTS TO CAPITAL FORMATION

The analysis was carried out for the sample category wise for the identification of the constraints in capital formation. The representative constraints identified while conducting pilot survey were high cost of living, low product price, non-availability of labour, high wage rate, high input price, high educational expenditure, lack of employment, lack of irrigation facilities and incidence of pest and diseases. These constraints were included in the interview schedule for detailed study. Constraints were ranked and the percentages was worked out and given in Table 4.29, 4.30, 4.31 for different categories.

In the case of labourers, the majority of the sample (68 per cent) rated lack of employment as the most important constraint. Thirty two per cent of the samples were of the opinion that their important constraint was high cost of living followed by lack of employment (20.00 per cent) and high loan outstanding (20.00 per cent).

Table 4.28 Rate of Investment in Sample Households

Items	Category			
	Labourers	Farmers	Service sector	Average
Gross farm investment (Rs/farm)	1105.40	3814.90	2125.00	2348.43
Net farm investment (Rs/farm)	986.42	3205.04	1853.37	2014.94
Gross non-farm investment (Rs/farm)	3133.00	5509.00	14005.00	7549.00
Net non-farm investment (Rs/farm)	2965.81	5197.85	13152.49	7105.38
Total Gross Investment (Rs/farm)	4238.40	9323.90	16130.00	9897.43
Total Net investment(Rs/farm)	3952.23	8402.89	15005.86	9120.32
Value of capital excluding land and household durables (Rs.)	56192.00	141888.70	196188.60	131423.10
Rate of farm investment (per cent)	1.76	2.26	0.94	1.53
Rate of non-farm investment (per cent)	5.28	3.66	6.70	5.41
Rate of investment (per cent)	7.03	5.92	7.65	6.94

Table 4.29 Constraints Faced by the Labourers towards Investment

Constraints	Most important	Important	Some what important	Less important	Least important
High cost of living	3 (6.00)	16 (32.00)	17 (34.00)	24 (48.00)	4 (8.00)
Low product price	5 (10.00)	6 (12.00)	2 (4.00)	4 (8.00)	2 (4.00)
Lack of employment	32 (68.00)	10 (20.00)	4 (8.00)	0 (0.00)	0 (0.00)
Non availability of labour	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
High wage rate	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
High input price	0 (0.00)	3 (6.00)	13 (26.00)	2 (4.00)	1 (2.00)
High educational expenditure	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
High loan out standing	3 (6.00)	10 (20.00)	5 (10.00)	0 (0.00)	4 (8.00)
Lack of irrigation	3 (6.00)	1 (2.00)	2 (4.00)	10 (20.00)	7 (14.00)
Incidence of pest and diseases	0 (0.00)	0 (0.00)	2 (4.00)	2 (4.00)	15 (30.00)
Others	4 (8.00)	4 (8.00)	5 (10.00)	8 (16.00)	17 (34.00)

Table 4.30 Constraints Faced by the Farmers Towards Investment

Constraints	Most important	Important	Some what important	Less important	Least important
High cost of living	2 (4.00)	1 (2.00)	2 (4.00)	4 (8.00)	2 (4.00)
Low product price	20 (40.00)	5 (10.00)	10 (20.00)	1 (2.00)	2 (4.00)
Lack of employment	0 (0.00)	1 (2.00)	0 (0.00)	0 (0.00)	0 (0.00)
Non availability of labour	12 (24.00)	17 (34.00)	8 (16.00)	3 (6.00)	8 (16.00)
High wage rate	3 (6.00)	18 (36.00)	18 (36.00)	7 (14.00)	1 (2.00)
High input price	0 (0.00)	0 (0.00)	1 (2.00)	6 (12.00)	0 (0.00)
High educational expenditure	0 (0.00)	0 (0.00)	0 (0.00)	5 (10.00)	1 (2.00)
High loan out standing	1 (2.00)	1 (2.00)	0 (0.00)	0 (0.00)	5 (10.00)
Lack of irrigation	9 (18.00)	4 (8.00)	3 (6.00)	17 (34.00)	5 (10.00)
Incidence of pest and diseases	2 (4.00)	1 (2.00)	8 (16.00)	4 (8.00)	15 (30.00)
Others	1 (2.00)	2 (4.00)	0 (0.00)	3 (9.00)	11 (22.00)

Table 4.31 Constraints Faced by the Service Sector People Towards Investment

Constraints	Most important	Important	Some what important	Less important	Least important
High cost of living	18 (36.00)	3 (6.00)	3 (6.00)	9 (18.00)	4 (8.00)
Low product price	11 (22.00)	14 (28.00)	1 (2.00)	4 (8.00)	0 (0.00)
Lack of employment	3 (6.00)	1 (2.00)	0 (0.00)	0 (0.00)	0 (0.00)
Non availability of labour	2 (4.00)	15 (30.00)	17 (34.00)	4 (8.00)	4 (8.00)
High wage rate	2 (4.00)	9 (18.00)	18 (36.00)	8 (16.00)	0 (0.00)
High input price	0 (0.00)	2 (4.00)	4 (8.00)	0 (0.00)	3 (6.00)
High educational expenditure	0 (0.00)	4 (8.00)	1 (2.00)	3 (6.00)	0 (0.00)
High loan out standing	1 (2.00)	0 (0.00)	1 (2.00)	3 (6.00)	3 (6.00)
Lack of irrigation	1 (2.00)	1 (2.00)	1 (2.00)	12 (24.00)	6 (12.00)
Incidence of pest and diseases	4 (8.00)	1 (2.00)	2 (4.00)	1 (2.00)	16 (32.00)
Others	8 (16.00)	0 (0.00)	2 (4.00)	6 (12.00)	16 (32.00)

Constraint with some what importance attached to that were high cost of living (34 per cent), high input price (26 per cent) etc. while the 48 per cent of the sample considers high cost of living as less important constraint and 20 per cent considers lack of irrigation as less important constraint. The incidence of pest and diseases (30 per cent) and other (34 per cent) constraints like weeding, marketing etc were considered least important.

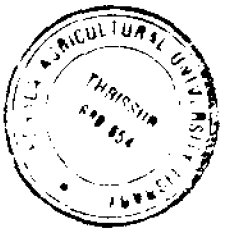
Quite contrastingly in the case of farmers, low product price (40 per cent), Non-availability of labour (24 per cent) and lack of irrigation (18 per cent) were most rated among the most important constraints. Thirty six per cent considers high wage rate and 34 per cent considers non availability of labour as the important constraints. High wage rate was also considered as some what important by another 36 per cent. According to the sample opinion low product price (20 per cent), non availability of labour (16 per cent), incidence of pest and diseases (16 per cent) etc were considered as some what important. Many of the samples (34 per cent) rated lack of irrigation as only a less important constraint. With regard to incidence of pest and diseases the majority (30 per cent) rated it as only a least important constraint.

With regard to service sector people, 36 per cent of the sample rated high cost of living as the major constraint and for 22 per cent low product price was the major constraint and some (16 per cent) have constraints such as lack of time etc. Low product price was considered as an important constraint by 28 per cent of the sample again non-availability was an important constraint for 30 per cent of the sample and 18 per cent considers high wage rate as important. Non-availability of labour (34 per cent) and high wage rate (36 per cent) were considered as some what important. High cost of living (18 per cent), high wage rate (16 per cent) and lack of irrigation (24 per cent) was also coming as less important constraint. Incidence of pests and diseases (32 per cent) and others (32 per cent) such as weeding and marketing were considered as least important.

Discussion

CHAPTER V

DISCUSSION



In this part a brief discussion about the results obtained in the previous section is carried out. This chapter is divided in to different sections like that of the previous chapter. The first part deals with a brief discussion about the socio economic background of the samples under study and the next about the income and expenditure pattern. The third part tries to have a brief discussion about the savings, savings pattern, asset etc while from the forth we get a brief idea about the investment and the constraints for investment.

5.1 GENERAL SOCIO-ECONOMIC CONDITIONS OF THE SAMPLE HOUSEHOLDS

5.1.1. Family Size

It was observed that, of all respondents majority was having a family size of 1 to 4 members. These are nuclear families constituting father, mother and two children and were more prevalent among the service sector peoples and farmers. Large and very large sized families constitute only about 6 per cent of the total sample. These large sized families were mainly seen among the "Ezhuthachan" and some forward Hindus where joint family system is still prevalent.

5.1.2. Age

The results revealed that majority of the respondents belonged to the age group of 18 to 59 and 17.27 per cent are old people. However, the younger people of age up to 10 years constitute less than thirteen per cent. This may cause severe problems as after a few years with a higher percentage of unproductive old people among the population. The results showed the preference of younger people to take up farming as an occupation was less preferred by the working population between 18-50

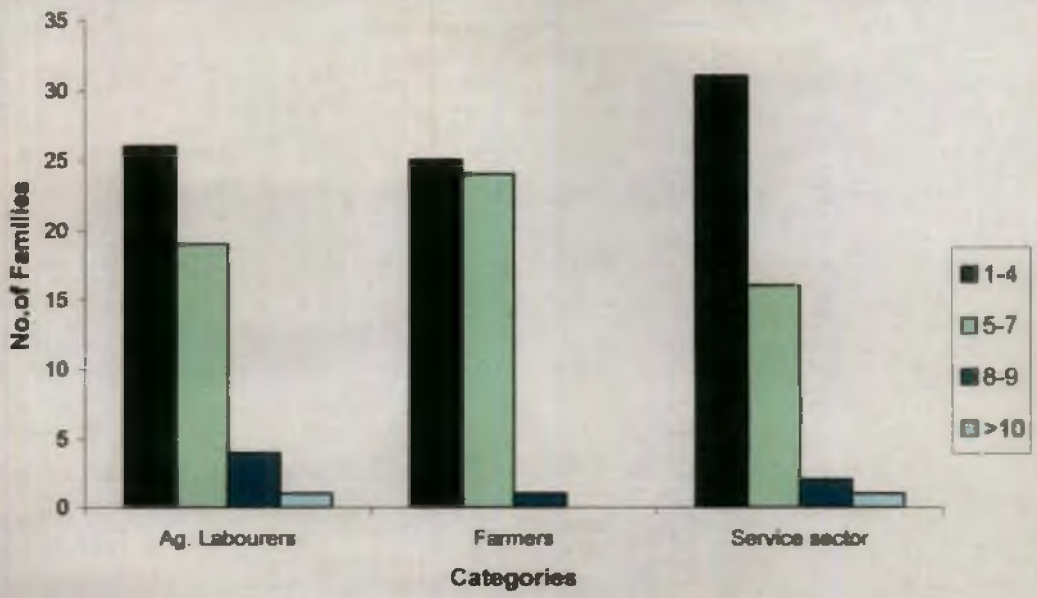


Fig. 2. Distribution of respondants based on family size

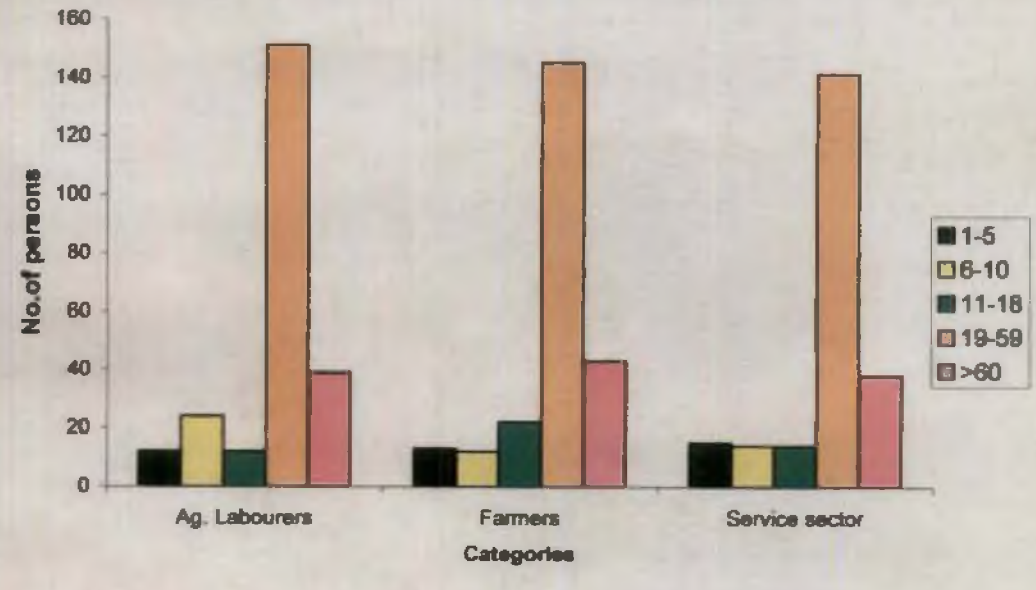


Fig. 3. Distribution of respondants based on age

years. Nevertheless, farming would appear to be a profession for older generation as indicated from the study.

5.1.3 Sex

It was observed that 52.66 per cent of the total population was male and only 47.34 per cent were females. The sex ratio was worked out to be 899 females for 1000 males but for the state as a whole; this was 1058 females for 1000 males (Government of Kerala, 2002). The average family size in the study area worked out to be 4.63.

5.1.4 Community

It was observed that major portion of households in the study area was constituted by backward class community. Forward Hindus and Christians were less in the population. Muslims and SC/ST constituted only a small portion of the population.

5.1.5. Education

As revealed from the study, majority were having education up to secondary level some had higher secondary education and college level education. About 4.43 per cent were illiterate and the literacy percentage was 95.57 per cent where the state average was 90.92 (Government of Kerala, 2002). So it could be inferred that the area is educationally forward.

5.1.6. Holding Size

Agricultural labourers were having the lowest holding size as they were mainly living in colonies and they have limited area, while in the case of farmers the average holding size was 0.618 ha and for service sector people the average holding size was 0.14 ha. The average holding size of the sample as whole was 0.28 hectares

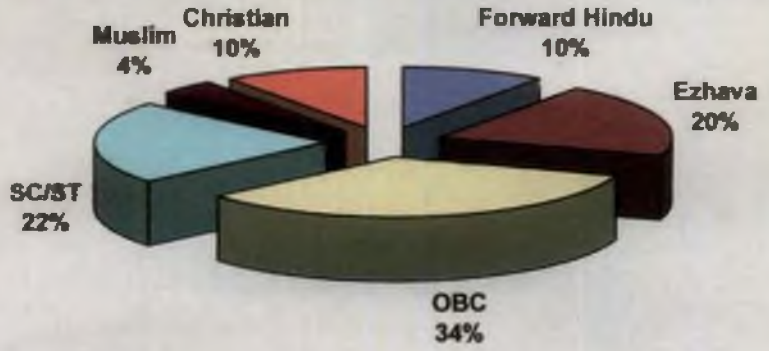


Fig. 4. Community wise distribution of labourers

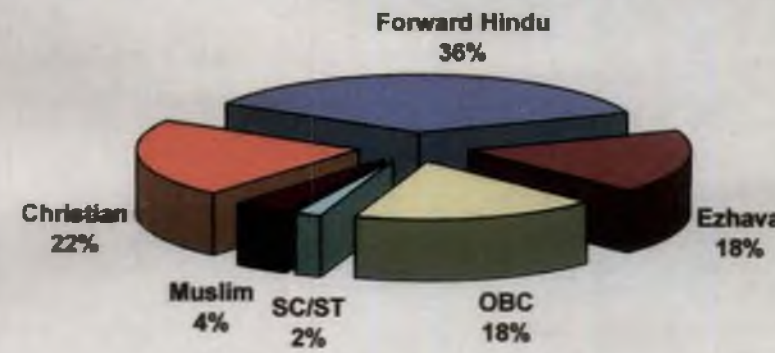


Fig. 5. Community wise distribution of farmers

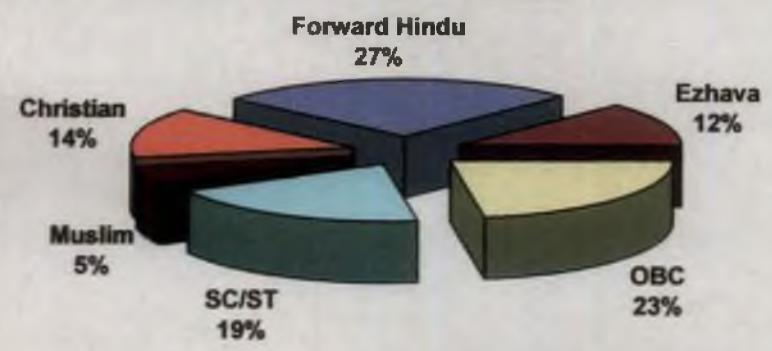


Fig 6.Community wise distribution of service sector people

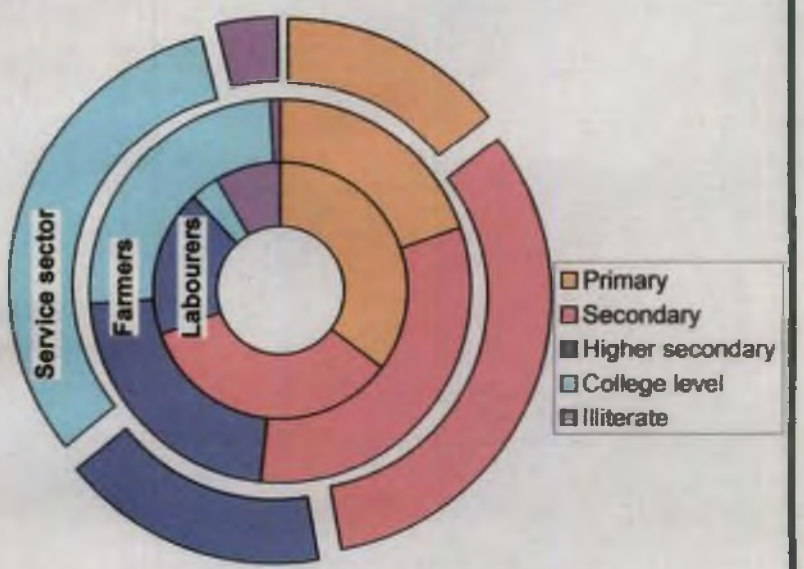


Fig. 7. Classification of sample based on education status

as compared to the state average holding size of 0.33 ha in Kerala state (Government of Kerala, 2002).

5.1.7 Cropping Pattern

The most prevalent crop in the area was coconut followed by paddy, banana and areca nut. Mango, cashew and vegetables were also cultivated in considerable amounts. The area under paddy cultivation was coming down year after year as farmers went for more remunerative crops mainly banana. The lack of water supply from the public irrigation channels also made farmers look for other crops, which had less water requirement. The cropping intensity of sample households was 124.33, indicating an optimum utilization of area available.

5.1.8 Livestock Ownership

The livestock was mainly a source of income for farmers rather than labourers and service sector people. But in contrast, goat was reared by a single labourer household and rabbit by a service sector household. The result showed that the study area was not rich as far as livestock was concerned.

5.2. INCOME AND EXPENDITURE

5.2.1 Income of Households

From the table it was observed that the total income was highest among service sector people than farmers and labourers. The non-farm income was more than the farm income except for the farmers. The farm income was highest among the farmers and lowest for the labourers. This was as in accordance with as found by Prema and Thomas, (1998) that is the farm income increases with increase in holding size. In the case of non-farm income, the maximum was with the service sector people for all are well employed. It was less for farmers than for labourers because the way of income for the labourers was wage through their labour.

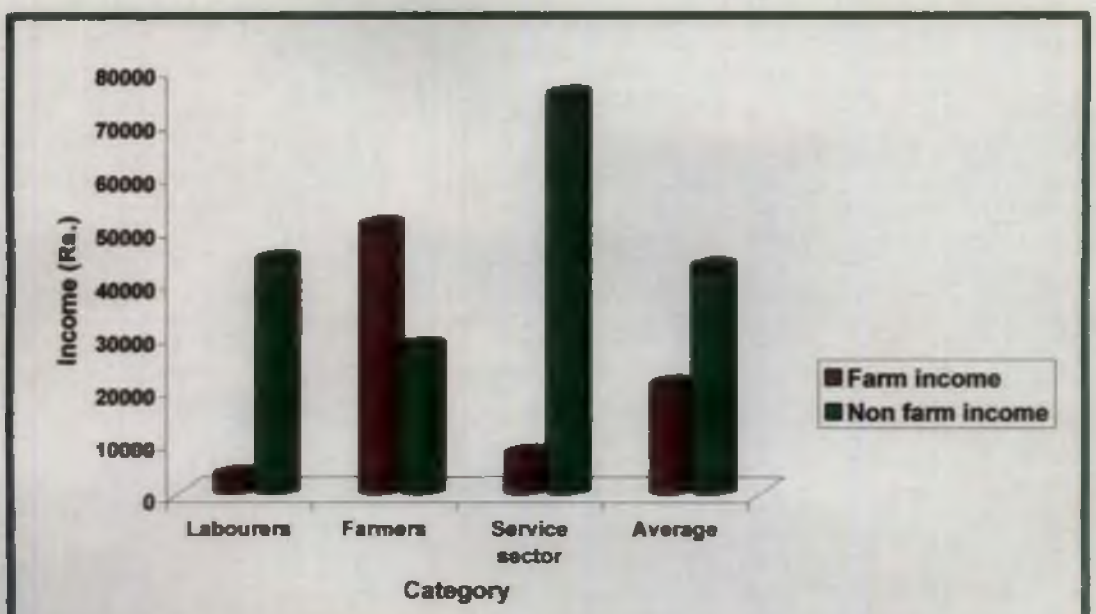


Fig. 8. Distribution income of sample households

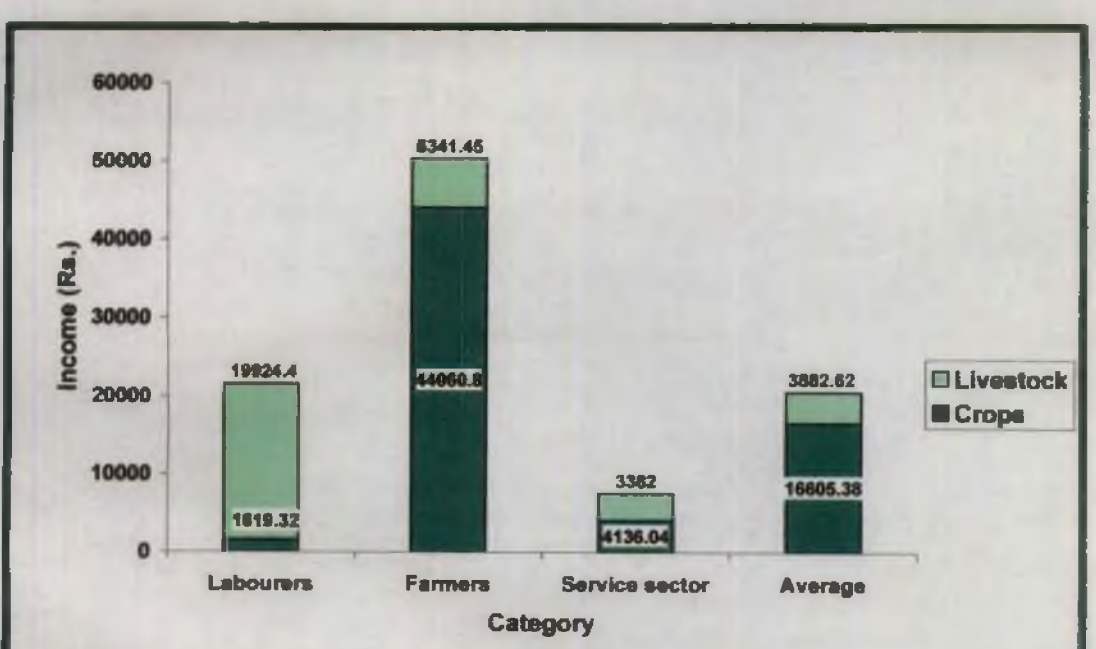


Fig. 9. Distribution of farm income

5.2.1.1. Distribution of Farm Income of Households

The main source of farm income in farmers and service sector people was crops where as for labourers it was livestock as the land available with the labourer category was limited as compared to the other two groups and for livestock, land cannot be considered as a deciding factor. On an average majority of the total farm income was derived from the crops than from livestock.

5.2.1.2. Distribution of Non-farm Income of Households

A detailed scrutiny of the various sources of non-farm income showed that salary from services and wages from labour was the major source of non-farm income when we take the average of all households. Service sector people enjoyed the major share of salary as they are the category were more people are in service. So also in the case of labourers for their wages while in the case of farmers, some are in service some are part time labourers and so they have all these together. Business also taken a considerable share especially wit the case of service sector people. Other sources of income include the rent obtained by the renting out the implements mainly sprayers and pumpsets, sale of household durables, ornaments etc.

5.2.2. Expenditure Pattern of Households

Expenditure of a household consisted of farm expenditure, which in turn includes expenditure on crop, livestock and non-farm expenditure or consumption expenditure. At the aggregate level, consumption expenditure accounted for the major share and then only comes farm expenditure. The total expenditure, which includes both these, was highest for farmer category as they have likely more expenditure in farm unlike labourers and service sector people. Consumption expenditure was the highest for service sector people followed by Farmers and labourers because as the standard of living come down the consumption expenditure also comes down.

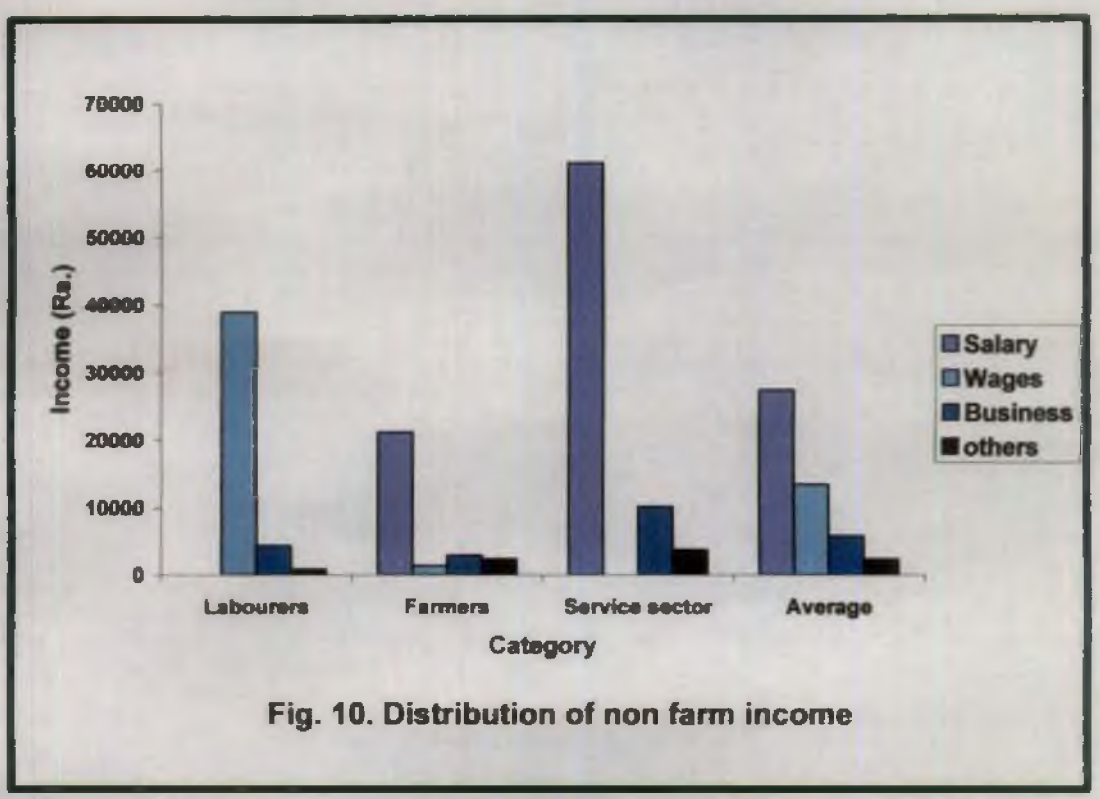


Fig. 10. Distribution of non farm income

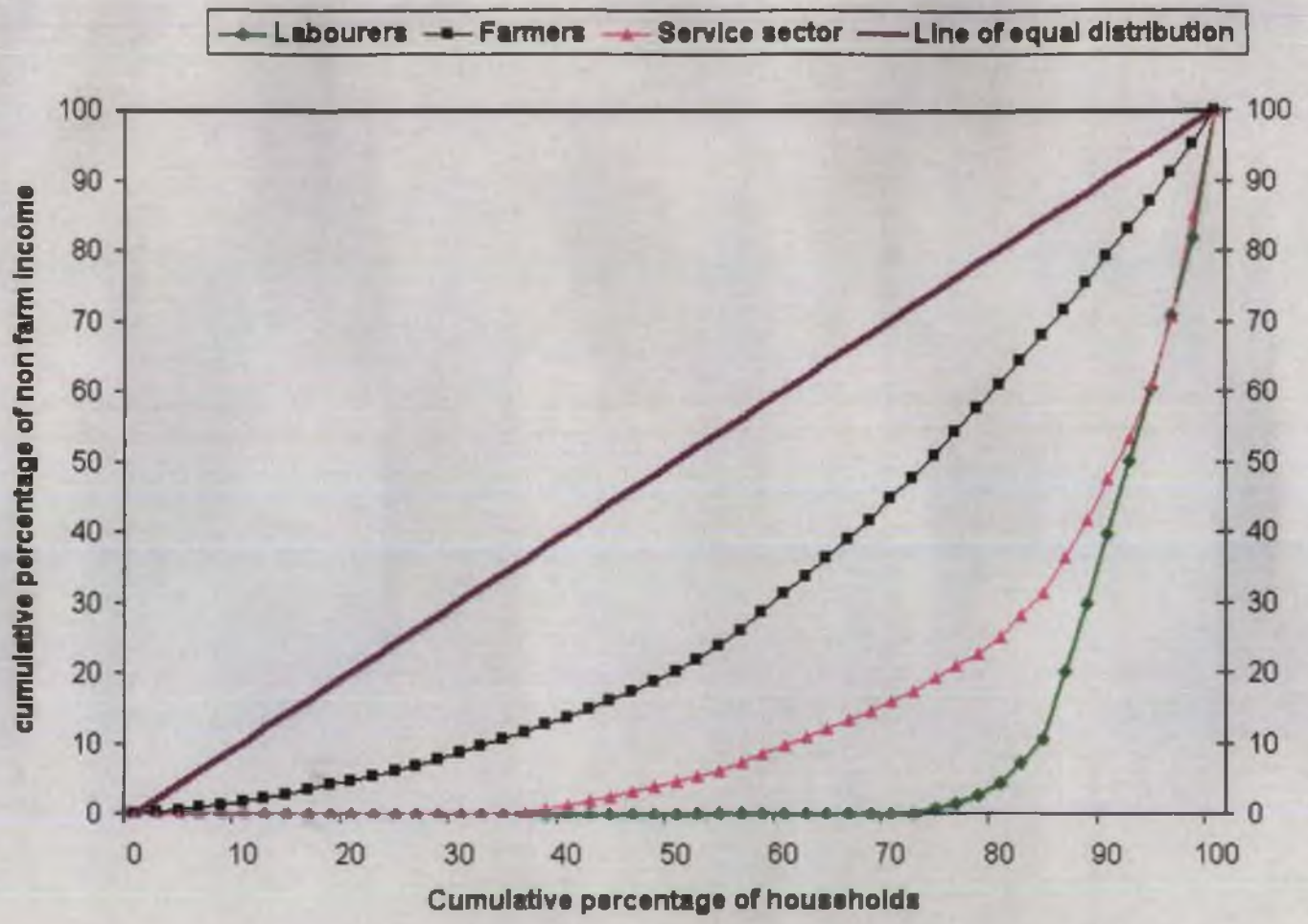


Fig. 11. Lorenz curve showing the farm income disparity

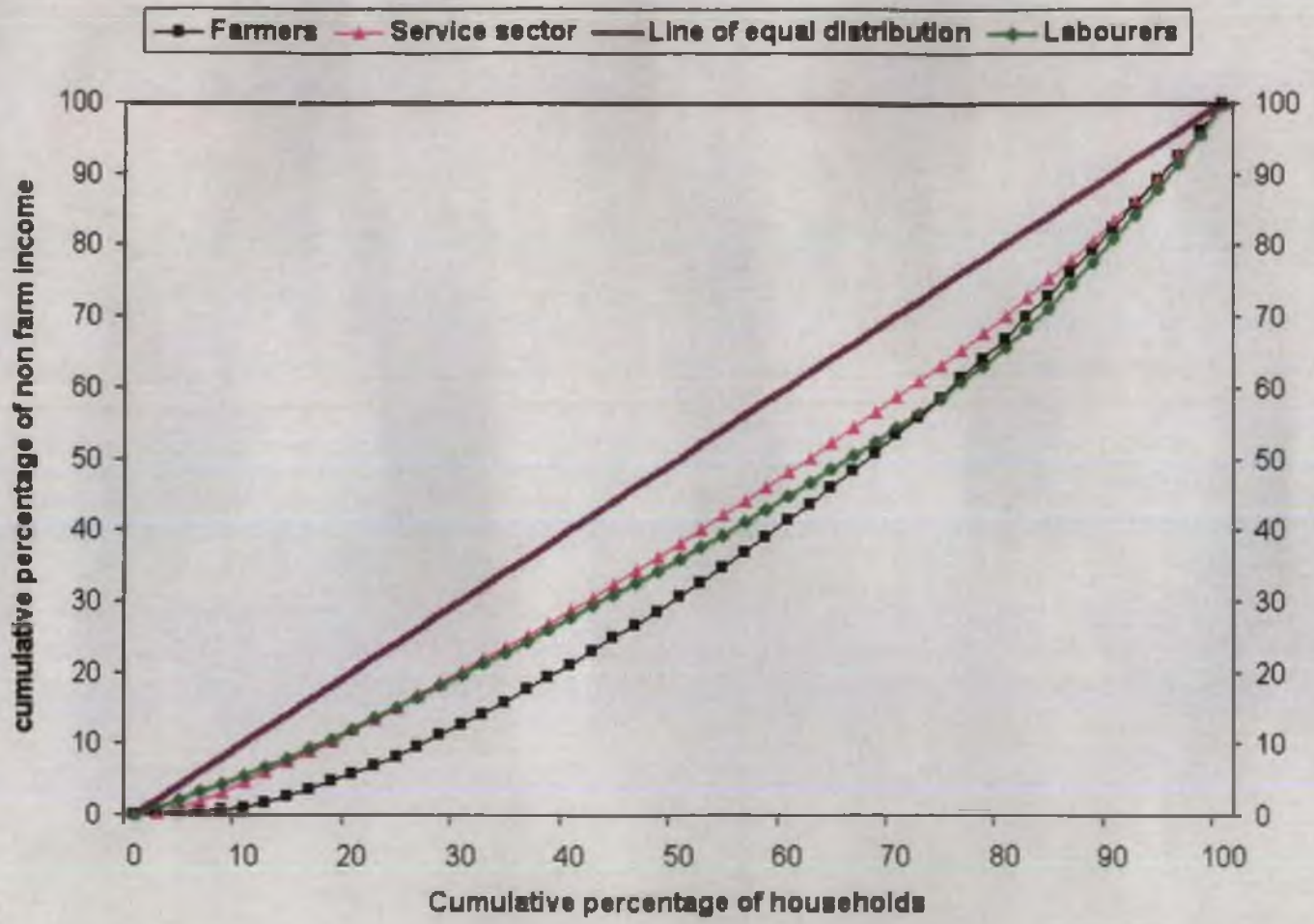


Fig. 12. Lorenz curve showing the non farm income disparity

5.2.2.1 Farm Expenditure Pattern of Households

In aggregate level bulk of the total expenditure was incurred for crops and only a considerably low amount was used up for livestock. Farmers spent larger volume of their total expenditure on crops than on livestock. Laborers spent in a reverse pattern because they have less area under cultivation and at the same time they are supporting a fair number of livestock than farmers and service sector people. It was seen that livestock was grown in households were availability of family labour was more.

5.2.2.1.1 Crop Expenditure Pattern of Households.

Among the various items of crop expenditure, labour accounted for bulk of the amount followed by material costs. This was agreeable to the results obtained in previous studies (Prema, 1996) which revealed that expenditure on labour formed major share of total crop expenditure. Labour cost was highest for farmer category and Service sector than labourers. The difference in material costs for the categories were negligible. Other costs included hiring charges of implements, irrigation cess, electricity bills and other costs and interest on working capital were taken away a considerable amount especially in the case of labourers.

5.2.2.1.2 Livestock Expenditure Pattern of Households.

With respect to the livestock, the maximum expenditure was incurred for feed followed by labour. Category wise analysis showed that in all the categories feed was the major item of expenditure. The percentage of expenditure for feed was relatively less for farmers since there was enough straw to feed them. Expenditure for labour is mainly not directly spent, as majority is family labour. Other items like veterinary and medical charges accounted comparatively less.

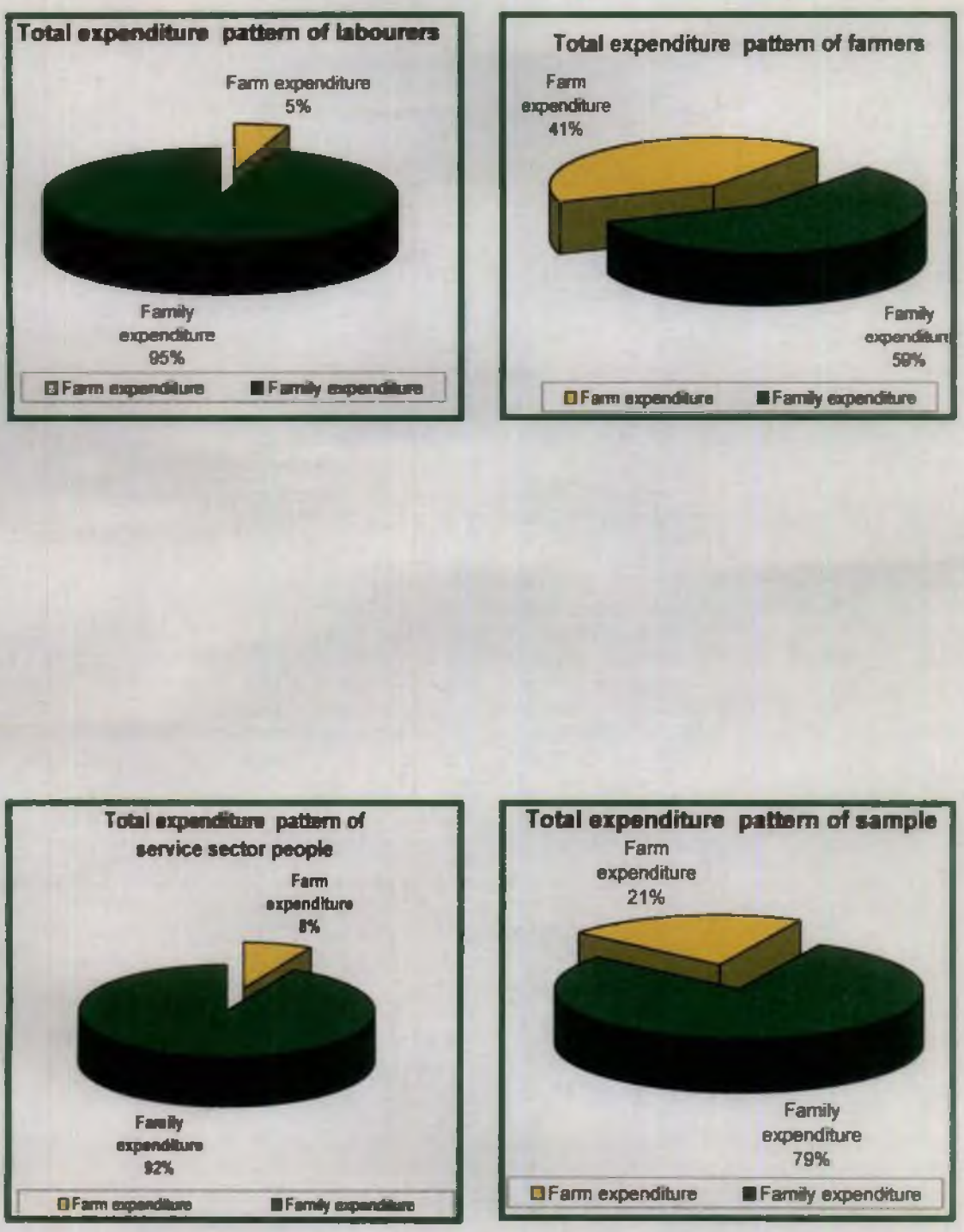


Fig. 13. Total Expenditure Pattern of Sample Households

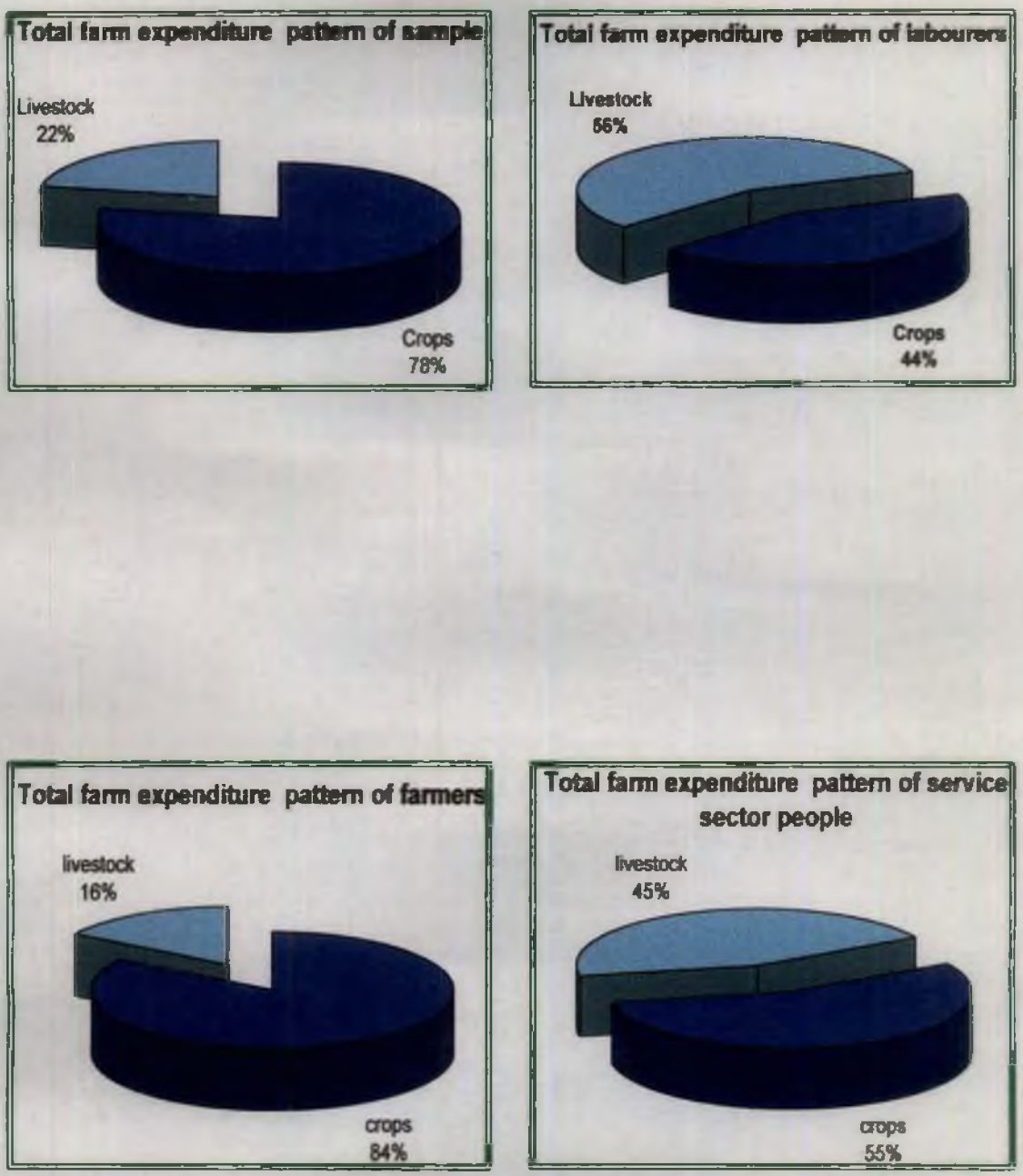


Fig. 14. Total Farm Expenditure Pattern of Sample Households

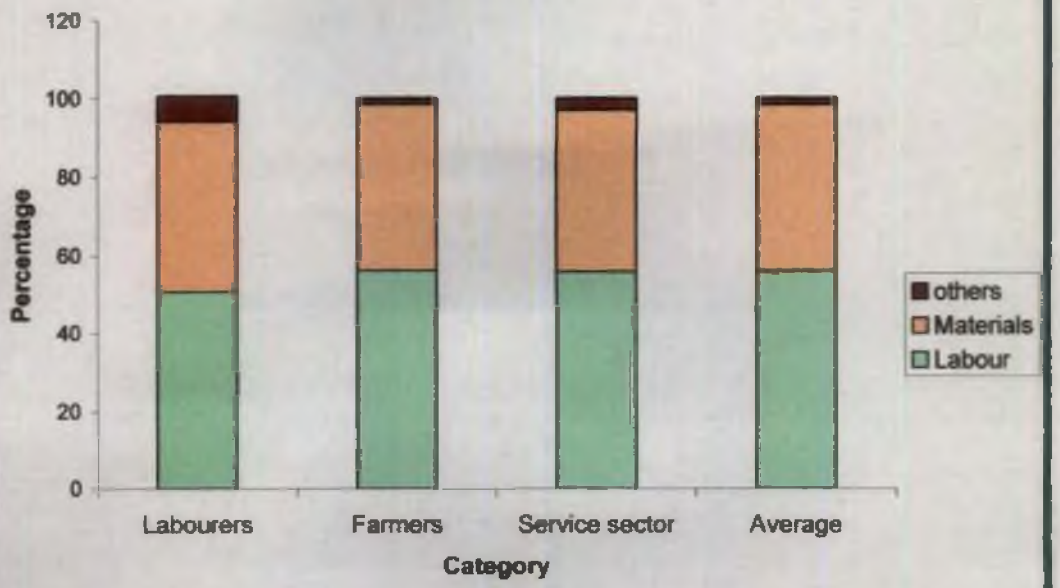


Fig. 15. Percentage distribution of crop expenditure

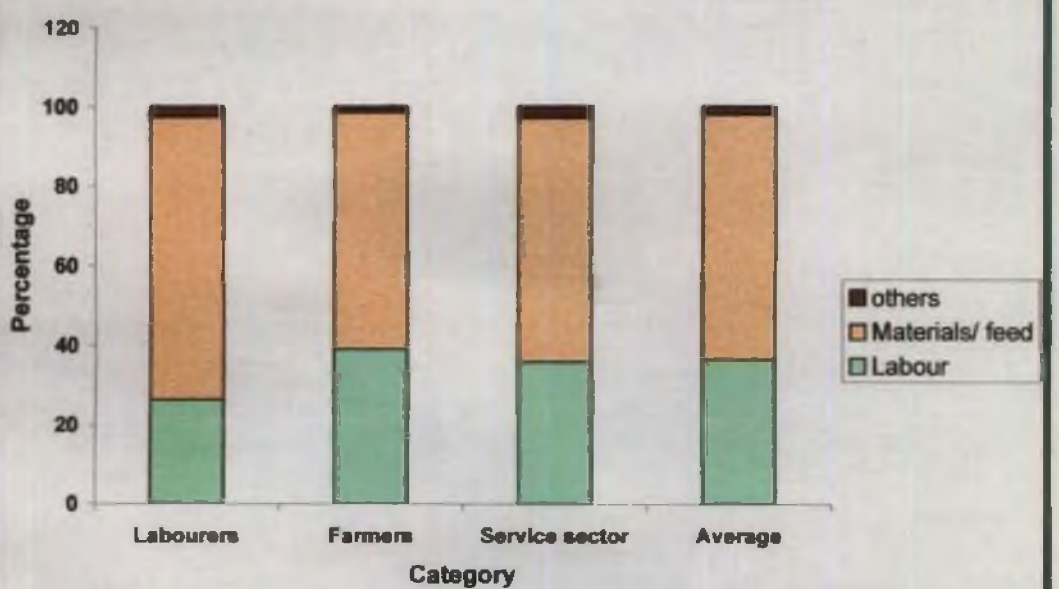


Fig. 16.Percentage distribution of livestock expenditure

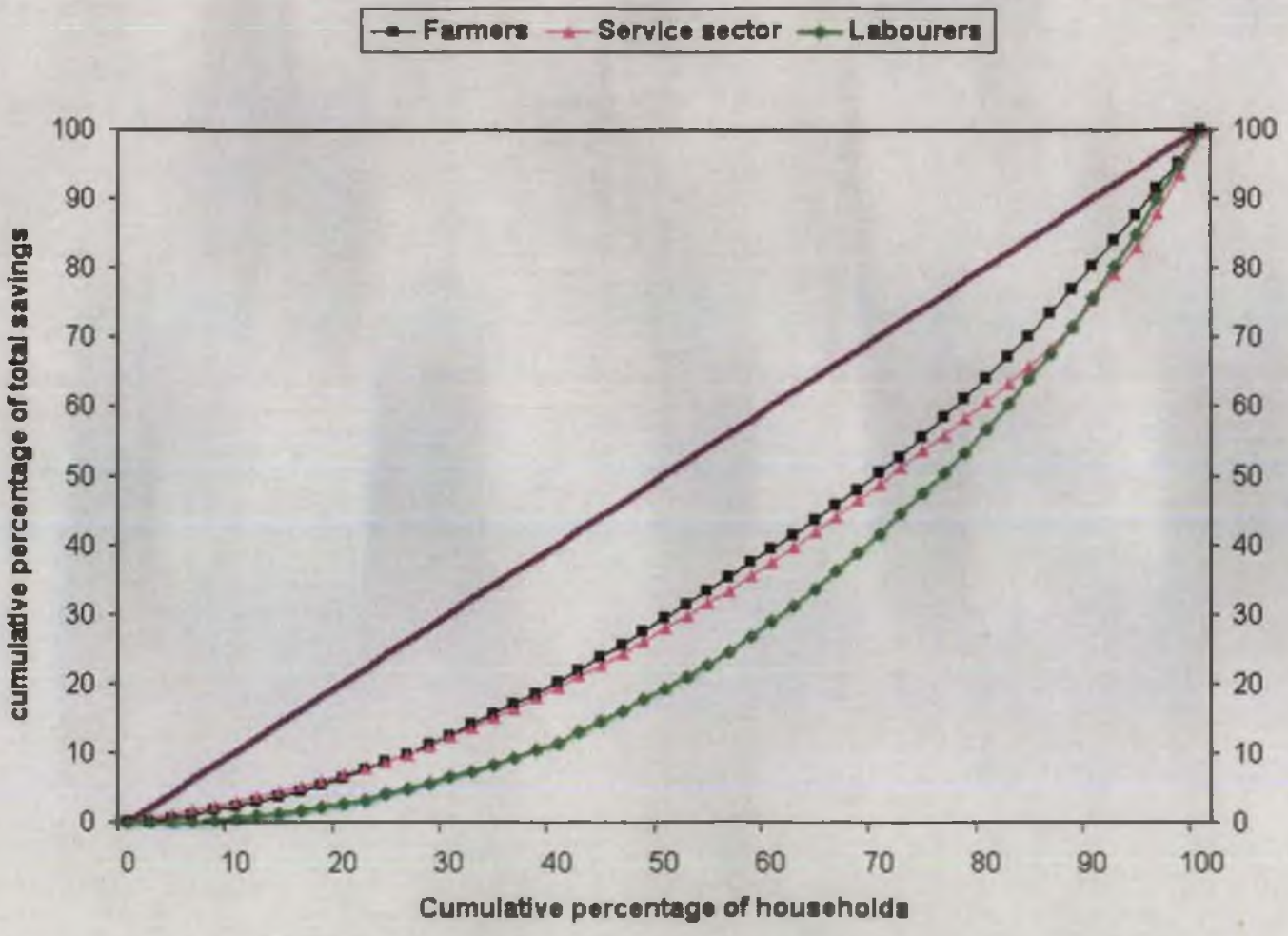


Fig. 17. Lorenz curve showing the savings disparity

5.2.2.2 Household Consumption Expenditure

The existing consumption expenditure of the family consisted of expenses for food, clothing, fuel and lighting, education, travel, medicine, social ceremonies, religious requirements, smoking and beverages etc. In aggregate level, food was the major item of consumption expenditure. This was in accordance with Engel's law of consumption expenditure. It had shown a decreasing trend from service sector people to labourers through farmers, the same is reported by Jain and Sharma (2000). Smoking and beverage wiped off about ten per cent of total consumption expenditure. Fuel and lighting, traveling and clothing had consumed a considerable amount. Education, Social and medicine religious expenses were in meager amounts. Educational expenditure was lowest for labourers followed by farmers and service sector people, who spent more on education, as they were more aware of the importance of education. A similar pattern is seen also in the case of expenditure for travel. In the case of smoking and beverages, labourers spent about 15.66 per cent of their total expenditure for this while farmers and service sector people had spent only about half of it. Miscellaneous expenditure included expenditure for cosmetics etc was highest among service sector peoples than labourers and farmers.

5.2.3 Income Measures in Relation to Different Cost Concepts

Gross income of a farm consisted of crop income and livestock income. Crop income consisted of value of the main product and by-product valued at their farm gate price and livestock income consisting of income from milk, dung and eggs valued at the prices prevailing in the area or as reported by the respondents and sale of animals. Gross income was highest for farmers than service sector peoples and labourers since they have more area under cultivation. Farm business income, family labour income followed the same path. Gross income, farm business income, family labour income and net income were the lowest for labourers as it increased as holding size increased. Benefit-cost ratio estimated at Cost C_3 basis worked out to 1.22 at the aggregate level, which indicates the profitability of agriculture in the study area.

5.2.5 Disparity in Income

The Lorenz curve analysis and estimation of Gini's ratios were carried out for examining the levels of disparity in farm income and non-farm income. Lorenz curves and the estimates of Gini's ratios for non-farm income and farm income showed that the disparity in farm income was more than the disparity in non-farm income. This was contrary to the observation made by Prema (1996) and Birthlal and Singh (1995) where the disparity in non-farm income was more than farm income. With the case of disparity in saving farmers were the group with minimum disparity and labourers were highly indifferent in their saving behaviour.

5.3 SAVINGS OF HOUSEHOLDS

5.3.1 Savings During the Period Under Study

The household savings was lowest for labourers than farmers and service sector people. It was directly proportional to the income of the respondent. This was similar to results obtained by Rao and Bathiah (1993) in which they revealed that the savings were proportional to the income. At the aggregate level, the sample households saved 19.32 per cent of the total income, highest by service sector people than labourers and farmer category.

5.3.2 Agency Wise Distribution Savings of Sample Households

Majority of the respondents in all categories, preferred co-operatives, post offices and chit funds for making their savings. On an average, of the total 50.00 per cent respondents were savings in the co-operatives, which played a useful role in mobilizing rural savings in the form of shares and were essential for enabling the farmers to avail loans from them as already identified by Galgalikar *et al* (1970) whose study revealed that the savings were mainly in co-operatives as it was compulsory to get the credit. Post offices, kuries and chitties, LIC, commercial banks

proved as major places to make savings. Other sources like private moneylenders etc also showed their hand strongly.

5.3.3 Marginal Propensities of Consumption and Saving

Marginal propensity to consume was highest for farmer category than labourers and service sector people. From the results it is clear that the marginal propensity to consume decreases with increase in income. With regard to the marginal propensity to save, it was highest for the service sector people, since they have the highest income.

5.4 INVESTMENT

5.4.1 Asset Structure of Sample Households

At the aggregate level, the majority was in the form of land, residential building household durables as revealed by Borah (1985), where he observed that the highest percentage share of assets was for buildings, land and household durable items. Category wise analysis also revealed that in the case of farmers bulk of the total asset was contributed by land higher than for labourers and service sector people. Residential building contributed more for service sector people than others did. Household durables followed the same path. Transport equipments constituted for the total asset in the case of service sector people than labourers and farmers. In the case of livestock, Irrigation, Farm implements etc. the contribution was meager. After removing the items such as land, residential buildings household durables and transport equipments, which do not have direct influence on farming, the fixed capital on irrigation appliances had the highest contribution of the total value of assets followed by farm buildings, livestock and farm implements.

5.4.2. Gross Farm Investment for the Period Under Study.

When all farms in the sample are considered, purchase of livestock was the most important item of investment followed by land improvement, purchase of irriga-

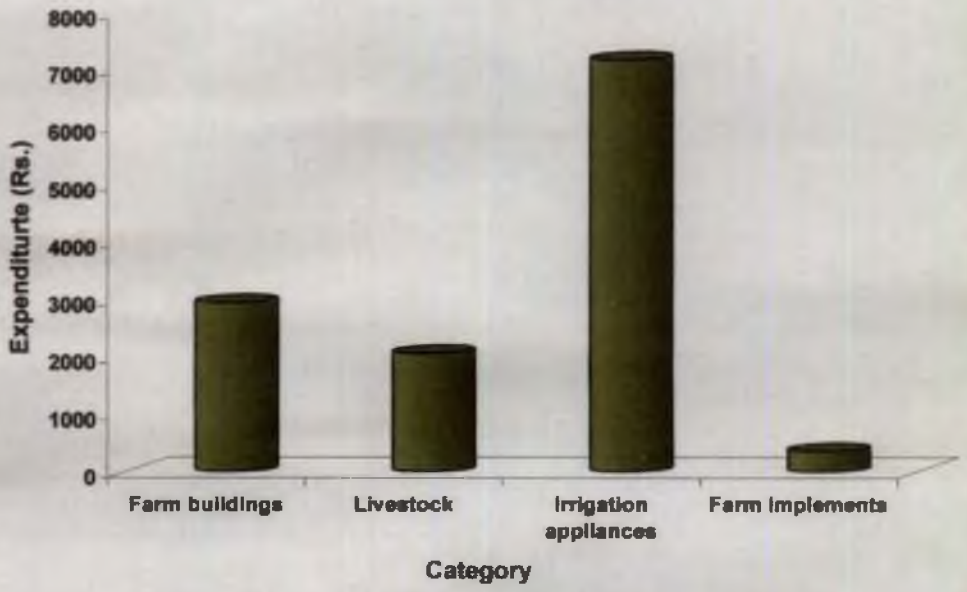


Fig. 18. Asset structure of households excluding land, house and household durables& transport equipments

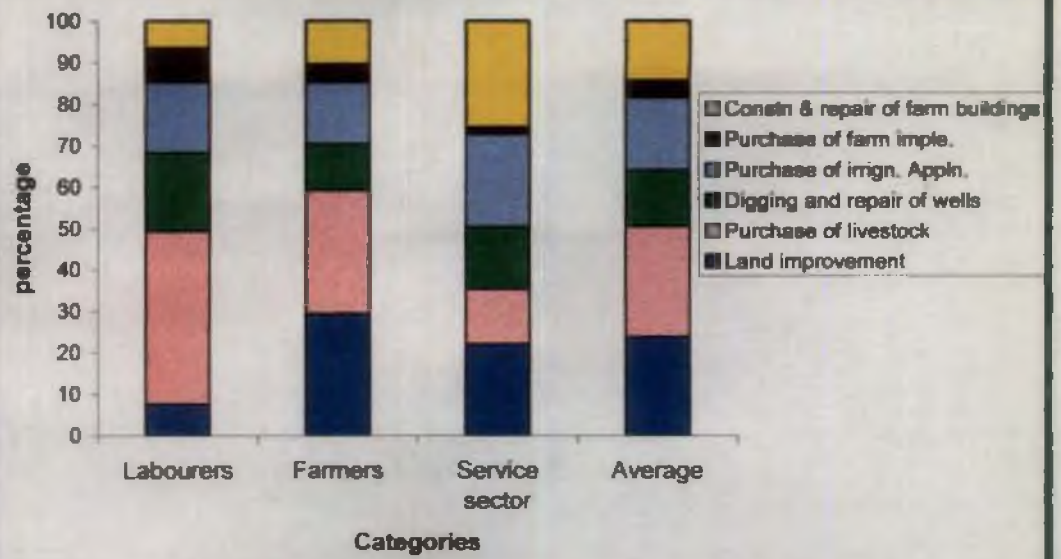


Fig. 19. Percent gross farm investment of different categories.

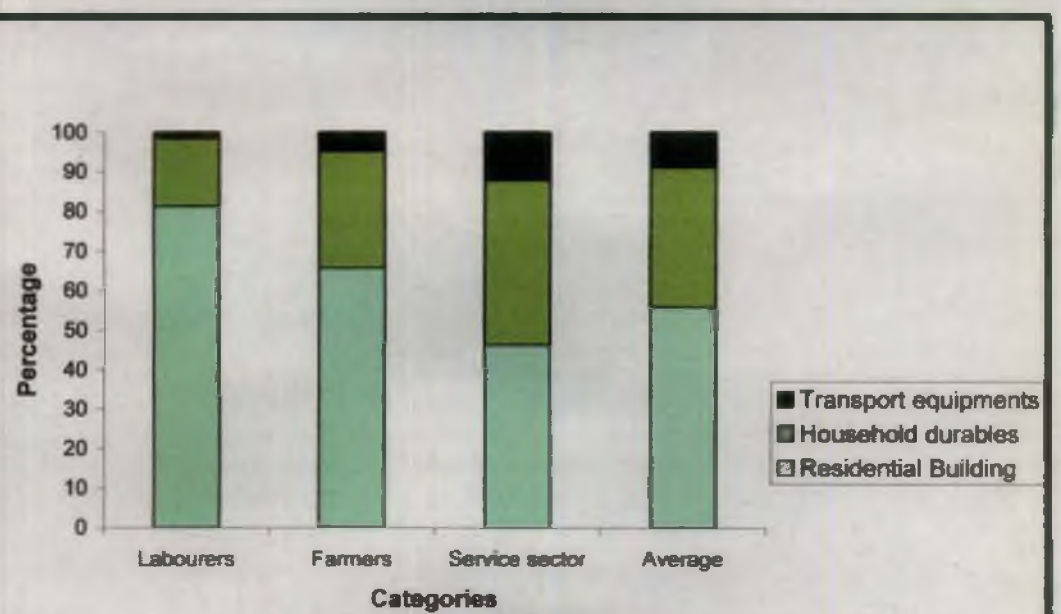


Fig. 20. Percent gross non farm investment of different categories.

tion appliances, construction and repair of farm buildings, digging and repair of wells and purchase of farm implements. Bhuvaneswari (1993) also revealed that is the major item of capital formation was irrigation appliances and livestock. Farmers made most of their investment in purchase of livestock, land improvement and purchase of irrigation appliances while labourers made on purchase of livestock, digging and repair of wells and purchase of irrigation appliances. In the case of service sector people investment made was higher in construction and repair of farm buildings, purchase of irrigation appliances and land improvement.

5.4.3. Net Farm Investment

Net investment showed a similar pattern to that of gross investment. When all farms were taken purchase of livestock emerged to be the most significant item of investment followed by investment for land improvement, Purchase of irrigation appliances, construction and repair of farm buildings, digging and repair of wells and purchase of farm implements.

5.4.4 Gross Non-farm Investment

Considering all the households, the gross investment in the non-farm sector was more than three times of the gross farm investment. The difference between farm and non-farm investment was least among farmers (nearly one half times), while it was more than six times in service sector households. More than ninety per cent of the gross investment was made for the house and household durables. This result was in accordance with the results obtained by Misra *et al* (1965), who reported that the people in non-farm sector spent more on house, household durables, ornaments and other luxuries.

5.4.5 Net Non-farm Investment

The amount of depreciation in the case of house, household durables, transport equipments etc are less and hence there is not much variation in the pattern of net non farm investment with the gross non-farm investment. Residential building emerged as

the main item of investment in the rural house holds than any other non farm investments and even farm investments taken together as already reported by Borah (1985).

5.4.6. Rate of Investment

The rate of capital farm investment was highest for the farmers than for labourers and service sector people because for farmers it was the source of income and for other it was only secondary. The rate of capital formation for farmers was in line with the results obtained by Prema (1996. This rate of capital formation is considered low in view of a developing agricultural economy. It is recommended to be 10 per cent for the sustainable development (Bhuvaneswari, 1992). When all farms were considered the overall rate of capital farm investment per farm worked out to 1.53. On the other hand, the non-farm investment rate was highest for the service sector people than labourers and farmers. In total, the investment rate was highest for the service sector people and farmers had the last place. That is farmers shy towards directing the saved money towards farm and non-farm activities (Misra *et al*, 1965).

5.5. MAJOR CONSTRAINTS TO CAPITAL FORMATION

In the case of labourers, the majority of the sample rated Lack of employment as the most important constraint. The next important constraints were lack of employment, high loan out standing, high cost of living, high input price etc. These were also considered as important constraints by Prema (1996). High cost of living, lack of irrigation and the incidence of pest and diseases are considered as less important constraints. Other constraints like weeding, marketing etc were considered least important. Farmers, on the other hand low product price, Non-availability of labour and Lack of irrigation were identified as the most important constraints. High wage rate, low product price, incidence of pest and diseases and lack of irrigation were considered as somewhat important. With regard to service sector people, high cost of living, low product price, non-availability of labour, high wage rate etc were considered as constraints towards capital formation.

Summary

CHAPTER 6

SUMMARY

The present study on "Investment pattern in rural households of Ollukkara Block panchayath of Thrissur district" was carried out based on the data obtained through a well structured interview schedule. The data collected pertains to the agricultural year 2001-'02. The study was taken up to assess the different sources of income, examine the savings and expenditure pattern, analyze the nature of investment and identify the constraints associated with investment in rural areas.

The study was conducted in Ollukkara block panchayath of Thrissur district, which consists of five panchayaths. The block was selected purposively because resource mapping had been carried out by the State Land Use Board in all the panchayaths, for which the bench mark information was readily available. Moreover the area is benefited by the Peechi irrigation project to a large extent and has a variety of crops like rice, coconut, areca nut, rubber, cashew, vegetables etc.

Five wards out of a total of 74 wards were selected by simple random method. From each ward selected, the list of the households belonging to each category viz., agricultural labourers, farmers and service sector people was collected. From the list, ten sample households in each category was chosen by stratified simple random sampling technique. Thus a total of 30 sample households was selected from each ward so that the total sample size becomes 150.

The data were collected using a well structured and pre-tested interview schedule, and it was tabulated and analysed using percentage analysis. Tabular analysis was done to study the socio-economic features, income and consumption pattern etc of the sample households. The various cost concepts in farm management studies were used to estimate the income measures. Disparity in income among the various classes was studied using Lorenz curve and Gini concentration ratio. The

asset structure of the farmers and the investment in farm households were studied using tabular and percentage analysis.

The total income was highest among service sector people which amounted to Rs. 82320.00/- and was lowest among the labourers which was Rs. 47568.00/-. Farm income was highest among the farmers (Rs. 50402.00) and lowest for the labourers (Rs. 3543.72). In the case of non-farm income, the service sector people had the highest with Rs. 74801.96 and was least for the group of farmers which came to Rs. 27717.80.

The main source of farm income for farmers and service sector people was crops where as for labourers it was livestock. On an average 81.95 per cent of the total farm income was directed from the crops and only 18.95 was from livestock. In the case of non farm income, salary from services constituted for about 56.02 per cent of the total non farm income wages constituted for about 27.45 per cent of the total non farm income. Business constituted only 11.86 per cent of the total non farm income.

The income measures in relation to different cost concepts among the farm households such as gross income, farm business income, family labour income net income at cost C and Benefit Cost ratio were Rs. 20487.99, Rs.8928.64, Rs. 7888.17, Rs.3748.39 and 1.22 respectively for the whole sample. Category wise analysis showed that net income and benefit cost ratio were much higher for labourer households and lowest for service sector people.

At the aggregate level, consumption expenditure accounted for 78.91 per cent, and the rest 21.09 per cent was for farm expenditure. The total expenditure was highest for farmer category which comes to Rs.68585.50 than service sector people who spent Rs.57723.46 and labourers who spent Rs. 38096.20. Consumption expenditure was the highest for service sector people (Rs. 53377.50), followed by farmers (Rs. 40178.00) and labourers (Rs.36171.60). Farmers had a farm expenditure of Rs.28407.50, while service sector people had Rs.4345.96 and labourers had Rs.1924.60. On an aggregate level, 78.09 per cent of the total expenditure was

incurred for crops and only 21.91 per cent was made for livestock. Input wise analysis of crop expenses revealed that the major input was human labour input followed by materials which accounted for 55.91 per cent and 42.37 per cent respectively of the total cost. Major item of expenditure for livestock was feed accounting to 61.65 per cent. This was followed by expenditure on human labour 36.34 per cent of the total cost. Food was the major item of consumption expenditure accounting to 46.44 per cent (Rs. 20082.67) followed by miscellaneous items which taken up11.25 per cent (Rs.4554.00). A considerable amount of Rs.4322.00 (9.99 per cent) was spent for smocking and beverages only.

The disparity in income was represented by the Gini ratio which in the case of farm income was lowest for farmer households, (0.39) and the ratio for non-farm income was lowest for service sector people (0.18). In the case of farm income Gini ratio ranged from 0.39 to 0.85 whereas ratio for non-farm income ranged from 0.18 to 0.29 i.e., the disparity was more for farm income.

Average savings of all the households amounted to Rs 13396.95 which was 19.22 per cent of total income. The Category wise analysis showed that per household savings was highest for the service sector people (Rs. 24596.54) followed by farmers (Rs. 9534.50) and labourers (Rs. 6059.80). About 50.00 per cent of the respondents had membership in co-operatives, followed by post offices (42.67 %), Kury and Chitty (40.00 %).

The asset per household was Rs. 911624.57 of which 65.72 per cent was accounted for by land which was followed by residential building (16.99 per cent) and household durables (13.02 per cent). Asset structure of the farms excluding land, residential building and household durables the fixed capital on irrigation appliances had the highest involvement (56.95 per cent) of the total value of assets followed by farm buildings (23.74), livestock (16.50) and farm implements (3.08).

With respect to the gross farm investment, purchase of livestock (26.57 per cent) was the most important item of investment followed by a 23.85 per cent

investment on land improvement. This was followed by purchase of irrigation appliances with about 17.43 per cent of total investment (Rs. 2348.43), construction and repair of farm buildings (14.25 per cent) and digging and repair of wells (13.63 per cent). Net farm investment showed a similar pattern to that of gross capital formation. In the case of non farm investment, 55.85 per cent of the investment was made on residential building, 35.26 per cent was made on household durables and 8.89 per cent on transport equipments.

Lack of employment was reported as the most important constraint for investment by 68 per cent of the respondent labourers in the study area. High cost of living was the second important constraint as explained by 32 per cent of the respondents followed by high loan out standing (20.00 per cent). According to farmers the major constraints were low product price (40 per cent), non availability of labour (24.00 per cent), lack of irrigation (18.00 per cent) etc. For service sector people the major constraints were high cost of living (36.00 per cent) and low product price (22.00 per cent)

Suggestions and policy implications

The results of the study convey some key issues for consideration.

1. The concerned institution should undertake systematic studies based on the data obtained through survey in all the districts to develop the socio-economic profile of rural households. This will help the policy makers for adopting suitable location specific development programmes.

2. The authorities should ensure that investments are made in a proper manner and for the right target. Government should encourage more investment for diversification in farming, for higher income generation.

3. Adopt sustainable agricultural practices for better production in a cost effective manner

4. Farm mechanization should be favoured in areas were there is economic loss due to the non availability of human labour

5. People should be encouraged to invest their savings and investment. Banking institutions should make efforts to formulate more remunerative and attractive deposit schemes so that savings are encouraged.

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INVESTMENT PATTERN IN RURAL HOUSEHOLDS OF OLLUKKARA BLOCK PANCHAYATH IN THRISSUR DISTRICT

By

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ABSTRACT OF THE THESIS

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ABSTRACT

Agriculture which is the back bone of Indian economy, is now heading towards a radical transformation. When the green revolution technology was introduced in the mid sixties, great expectations were raised as to the beneficial effects it could induce into every class of farmers and other sectors of the populations by increasing food production, employment opportunities and income levels. But its latter day performances have belied these expectations and it seemed that only those who have necessary absorptive capacity or infrastructure are only benefited. So for the betterment of agriculture there should be more and more investment both in the public and private sector. Under these circumstances the present study entitled "Investment Pattern in rural households of Ollukkara block panchayath in Thrissur district" is of high relevance and was conducted with the following objectives.

1. To study the different sources of income of rural people
2. To examine the savings and expenditure pattern
3. To analyze the nature of investment
4. To identify the constraints associated with investment in rural areas.

The study was conducted in the sample selected at random from 50 numbers of Agricultural labourers, farmers and service sector people from the five wards selected from the total 74 wards in the Ollukkara block panchayath of Thrissur district. The data for the agricultural year 2001-2002 were collected using a well structured interview schedule.

The study revealed that the main source of farm income in farmers and service sector people was crops where as for labourers it was livestock. On an average 81.95 per cent of the total farm income was directed from the crops and only 18.95 was from livestock. Category wise analysis showed that net income and benefit cost ratio were much higher for labourer households and lowest for service sector people.

At the aggregate level, consumption expenditure accounted for 78.91 per cent, and the rest 21.09 per cent was for farm expenditure. Of the total, 78.09 per cent of farm expenditure was incurred for crops and only 21.91 per cent was made for livestock. The Category wise analysis showed that per household savings was highest for the service sector people followed by farmers and labourers.

With respect to the gross farm investment, purchase of livestock was the most important item of investment followed by investment on land improvement, purchase of irrigation appliances, construction and repair of farm buildings and digging and repair of wells. The average rate of farm investment was only 1.53 per cent while the non farm investment was at the rate of 5.41 per cent.

Lack of employment, High cost of living, and high loan out standing were reported as the most important constraint for investment along with constraints like non availability of labour, lack of irrigation etc.